Guide2008

National Centres of Competence in Research

The NCCR brochure "Guide" will be updated every year. A complementary brochure ("The National Centres of Competence in Research NCCR – Cutting the Edge Research Made in Switzerland – Strategic Priorities in Research") informs about the visions, the research topics and the activities of the 20 NCCRs. It is addressed to a broad public and written in an easily understandable way. Both brochures can be ordered at the Swiss National Science Foundation (see address below).

Publishing details

Published and produced by
Swiss National Science Foundation
NCCR Office
Wildhainweg 3
CH-3001 Berne

phone: +41 (0)31 308 23 52
nccr@snf.ch
www.snf.ch

Production

Stefan Bachmann
Urs Christ
Thomas Griessen
Nuria Sturm
Matthias Wenker

Design, layout, typesetting

Beat Schenk, Werbeatelier, Berne
www.werbeatelierschenk.ch

Printing

marti media, Hinterkappelen

(The statistical data is based on the latest progress reports of the NCCRs.)

FNSNF
Swiss National Science Foundation

Content

National Centres of Competence in Research (NCCRs)
Goals and Implementation

In the year 2001 the Swiss National Science Foundation launched the National Centres of Competence in Research (NCCR). The main goal of the currently 20 NCCRs is the promotion of scientific excellence in areas of major strategic importance for the future of Swiss research, economy and society. NCCRs are managed by leading houses institutionally linked to universities or other distinguished research institutions (home institutions). In addition to the research teams at the home institution, an NCCR sets up a network of other research teams across Switzerland. The maximum duration of an NCCR is 12 years. The three underlying principles of NCCRs are:

- Research: NCCRs carry out research of excellent quality, spanning basic research to applications. There is a number of individual projects doing the actual research work in each NCCR. The NCCR director ensures the coherence and integration of the individual projects.

- Knowledge and technology transfer: NCCRs develop links with the potential users of their results, and involve them in project planning from the outset.

- Training and promotion of women: NCCRs create the necessary structures and implement measures required to train young scientists (doctoral and postdoctoral students). Particular attention is paid to the advancement of women in research.

From a research policy point of view, NCCRs should contribute to a better structuring of the Swiss research environment, and to optimised task assignment between research institutions.

NCCRs are funded by the Swiss National Science Foundation (SNSF), participating institutions - in particular the home institution - and third parties. The 20 existing NCCRs receive a total of CHF 250 million in SNSF funding for 2005 - 2008.

Calls for submissions to set up NCCRs were first made in January 1999. Priority was given to four areas of research: life sciences, social sciences and humanities, sustainable development and environment, and information and communication technologies. A share of the overall budget was also made available to projects involving promising topics from outside these priority areas. The SNSF assessed the projects in two stages: a pre-proposal stage, with 82 projects submitted, and a full-proposal stage, with 34 submissions. The SNSF presented 18 full proposals of outstanding merit to the Federal Department of Home Affairs, which made the final selection of 14 NCCRs according to federal research policy in December 2000.

A second call for NCCRs in the field of Social Sciences and Humanities was launched in October 2003. After a thorough evaluation of 44 pre-proposals and 17 full proposals 6 new NCCRs started in autumn 2005.

Within the SNSF, Division IV of the National Research Council is responsible for NCCRs. An international Review Panel is set up for each NCCR to assess its progress regularly.

The NCCRs
at a glance

1st Call of NCCRs

Short Name	NCCR-Director	Home Institution	Web Address
Climate	Prof. Stocker Thomas	University of Berne	www.nccr-climate.unibe.ch
CO-ME	Prof. Székely Gábor	ETH Zurich	co-me.ch
FINRISK	Prof. Gibson Rajna	University of Zurich	www.nccr-finrisk.unizh.ch
Genetics	Prof. Duboule Denis	University of Geneva	www.frontiers-in-genetics.org
IM2	Prof. Bourlard Hervé	IDIAP Martigny	www.im2.ch
MaNEP	Prof. Fischer Øystein	University of Geneva	www.manep.ch
MICS	Prof. Aberer Karl	EPF Lausanne	www.mics.org
Molecular Oncology	Prof. Aguet Michel	ISREC Epalinges	www.nccr-oncology.ch
Nanoscale Science	Prof. Schönenberger Christian	University of Basel	www.nccr-nano.org
Neuro	Prof. Schwab Martin	University of Zurich	www.nccr-neuro.unizh.ch
North-South	Prof. Hurni Hans	University of Berne	www.north-south.unibe.ch
Plant Survival	Prof. Rahier Martine	University of Neuchâtel	www.unine.ch/plantsurvival
Quantum Photonics	Prof. Devaud-Plédran Benoît	EPF Lausanne	nccr-qp.epfl.ch
Structural Biology	Prof. Grütter Markus	University of Zurich	www.structuralbiology.unizh.ch

2nd Call of NCCRs

Short Name	NCCR-Director	Home Institution	Web Address
Affective Sciences	Prof. Scherer Klaus	University of Geneva	www.affective-sciences.org www.sciences-affectives.ch
Democracy	Prof. Kriesi Hanspeter	University of Zurich	www.nccr-democracy.unizh.ch
Iconic Criticism	Prof. Boehm Gottfried	University of Basel	www.eikones.ch
Mediality	Prof. Kiening Christian	University of Zurich	www.mediality.ch
SESAM	Prof. Margraf Jürgen	University of Basel	www.sesamswiss.ch
Trade Regulation	Prof. Cottier Thomas	University of Berne	www.nccr-trade.ch

Output in 2001 - 2004
(1st Call of NCCRs)

Type	Number
Scientific papers	7 100
Presentations at congresses and fairs	6 700
Patents/licences	126
Start up companies[1]	17
Prototypes, demonstrators, processes	131
Cooperations with private and public sector	338
CTI projects[2]	28[3]

[1] Built up or encouraged by the NCCRs
[2] CTI: Innovation Promotion Agency of the Swiss Government funding cooperation projects with industry
[3] The total amount of the 28 projects is about CHF 31.7 Mio.

Total of funds in 2001 - 2004
(1st Call of NCCRs)

Funding source (CHF)	2001	2002	2003	2004	Total	%
SNSF funding	51 034 237	57 303 066	58 114 035	57 607 320	224 058 658	37
Self-funding from home institutions[1]	18 685 602	20 762 660	19 157 137	19 722 980	78 328 379	13
Self-funding from project participants	39 364 540	51 884 528	64 851 723	69 156 289	225 257 080	37
Third-party funding[2]	8 861 639	16 620 401	27 986 869	29 546 417	83 015 326	13
Total	117 946 018	146 570 655	170 109 764	176 033 006	610 659 443	100

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. above)

Total of persons involved in 2001 - 2004

(1st Call of NCCRs)

Personnel	Total of Persons	Female	%	Male	%	Swiss	Other Nations
Management	50[1]	86	44	111	56	141	80
Master students	172	83	48	89	52	80	98
Doctoral students	1 310	359	27	951	73	523	829
Postdoctoral students	654	161	25	493	75	161	505
Research associates	97	29	30	68	70	49	49
Senior researchers[2]	1 172	199	17	973	83	523	704
Other staff	758	398	53	360	47	471	297
Total	4 213	1 315	30	3 045	70	1 948	2 562

[1] Fulltime equivalent, including all NCCR-Directors, and persons in charge of knowledge and technology transfer, and education and training
[2] Including leaders of the individual projects and other organisational units of the NCCRs

Total of funds in 2005 - 2008

(1st and 2nd Call of NCCRs)

Funding source (CHF)	2005	2006	2007	2008	Total	%
SNSF funding	66 955 000	65 567 000	63 341 000	61 537 000	257 400 000	36
Self-funding from home institutions[1]	20 645 686	22 315 172	24 626 480	21 624 492	89 211 830	13
Self-funding from other institutions[2]	3 030 395	3 220 676	3 117 275	3 017 275	12 385 621	2
Self-funding from project participants	72 023 884	66 522 313	62 134 002	58 551 095	259 231 294	36
Third-party funding[3]	30 212 890	20 263 539	23 115 372	21 809 350	95 401 151	13
Total	192 867 855	177 888 700	176 334 129	166 539 212	713 629 896	100

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] See the NCCRs Molecular Oncology, Neuro and Structural Biology
[3] Not included is CTI funding (cf. page 6 and some NCCRs)

Total of persons involved in the NCCRs in the last reporting period (12 months)

(1st and 2nd Call of NCCRs)

Personnel	Total of Persons	Female	%	Male	%	Swiss	Other Nations
Management	92[1]	104	41	151	59	163	128
Master students	127	68	54	59	46	71	55
Doctoral students	1279	434	34	845	66	511	821
Postdoctoral students	520	144	28	376	72	121	425
Research associates	219	87	40	132	60	94	125
Senior researchers[2]	1139	202	18	937	82	518	714
Other staff	518	278	54	240	46	351	182
Total	3894	1 317	32	2 740	68	1 829	2450

[1] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[2] Including leaders of the individual projects and other organisational units of the NCCRs

Molecular Oncology – From Basic Research to Therapeutic Approaches

NCCR Molecular Oncology

Home Institution
EPFL, Lausanne

Start of the NCCR
May 1, 2001

NCCR Management
Director
Aguet Michel, Prof.

Associate Director
Deka Jürgen, Dr.
phone: +41 (0)21 692 58 41
jurgen.deka@epfl.ch

Office
Rossier Geneviève, Mrs.
phone: +41 (0)21 692 58 40
genevieve.rossier@epfl.ch

Public Relations
Rossier Geneviève, Mrs.

Knowledge and Technology Transfer
Aguet Michel, Prof.

Education and Training
Deka Jürgen, Dr.

Advancement of Women
Brisken Cathrin, Dr.

Address
NCCR Molecular Oncology
Institut Suisse
de Recherche Expérimentale
sur le Cancer, EPFL
Chemin des Boveresses 155
Case postale
1066 Epalinges sur Lausanne
phone: + 41 (0)21 692 58 58
nccr.oncology@epfl.ch

Web Address
www.nccr-oncology.ch

Public Relations
- Newsletter NCCR
- News and press coverage on website
- Press releases

Tumor Host Interactions - Research

Cell Signaling in Tumor Development and Metastasis

Signaling pathways important in breast cancer and breast development
Head: Brisken C.

Mechanisms controlling tissue homeostasis and their role in cancerogenesis
H: Hülsken J.

The role of the tumor stroma
H: Stamenkovic I.

Apoptosis-inducing MegaFasL as novel anti-tumor agent
H: Tschopp J.

Study of gene networks implied in cancer biology
H: Naef F.

Gene Expression Signatures in Tumors

Gene expression signatures in human glioblastoma and their implications for tumor biology and treatment of cancer
H: Hegi M.

Gene expression profiling of microdissected pigmented skin lesions and primary melanoma
H: Piguet V.

Microarray analysis of breast cancer
H: Iggo R.

Tumor Angiogenesis

Role of COX-2 and inflammatory cells in tumor angiogenesis and tumor progression
H: Rüegg C.

Unraveling the molecular regulation of tumor lymphangiogenesis and lymph node metastasis
H: Christofori G.

Tumor Immunity and Cancer Immunotherapy

Coordinator H: Romero P.

Antigen discovery and validation
H: Lévy F

T cell vaccination of cancer patients and cellular analysis of T cell responses
H: Speiser D.

Combining T cell vaccination with adoptive-cell-transfer (ACT) immunotherapy
H: Leyvraz S.

Molecular analysis of T cell immune responses
H: Rufer N.

Structural design of peptide/MHC and T cell › receptor interactions
H: Michielin O.

Technology Development and Support

Bioinformatics core facility
H: Delorenzi M.

Mouse facility
H: Beermann F.

Microscopy, imaging & morphology facility
H: Garin N.

Clinical tumor proteome analysis facility
H: Servis C.

Education

Oncology Online: Development of a web-based oncology teaching program
H: Kraehenbuhl J.-P.

Heads of Individual Research Projects

Aguet Michel, Prof.	Institut Suisse de Recherche Expérimentale sur le Cancer, EPFL, Epalinges
Beermann Friedrich, Dr.	Institut Suisse de Recherche Expérimentale sur le Cancer, EPFL, Epalinges
Brisken Cathrin, Prof.	Institut Suisse de Recherche Expérimentale sur le Cancer, EPFL, Epalinges
Christofori Gerhard, Prof.	Dept. of Clinical-Biological Sciences, University of Basel
Delorenzi Mauro, Dr.	Swiss Institute of Bioinformatics, Lausanne
Garin Nathalie, Dr.	EPFL, Epalinges
Hegi Monika, Dr.	Centre Hospitalier Universitaire Vaudois, Lausanne
Hülsken Jörg, Prof.	Institut Suisse de Recherche Expérimentale sur le Cancer, EPFL, Epalinges
Iggo Richard, Prof.	University of St Andrews, Scotland
Kraehenbuhl Jean-Pierre, Prof.	Health Sciences eTraining, Epalinges
Lévy Frédéric, Prof.	Ludwig Institut for Cancer Research, Epalinges
Leyvraz Serge, Prof.	Centre Pluridisciplinaire d'oncologie, Lausanne
Michielin Olivier, Prof.	Swiss Institute of Bioinformatics, Lausanne

Topics

Cancer cells are defective in basic processes controlling cell differentiation and proliferation, genome stability and programmed cell death. They acquire capacities to invade tissues, to stimulate angiogenesis, and to elicit innate and in some instances specific immune responses. The Swiss Institute for Experimental Cancer Research (ISREC) forms together with several partner institutes (Ludwig Institute for Cancer Research, Department of Biochemistry of the University of Lausanne, Swiss Institute of Bioinformatics) part of a biomedical research center in Epalinges near Lausanne. The research focuses on different aspects of basic tumor biology and the host response to cancer. Work at ISREC centers on the discovery of genes that play important roles in tumorigenesis, using genetic approaches in unicellular and multicellular organisms. A major project at the Department of Biochemistry of the University of Lausanne investigates the ways that permit tumor cells to evade programmed cell death. Other groups in the ISREC and the Ludwig Institute for Cancer Research elucidate the mechanisms that control immune responses to cancer. Research projects in external institutes and clinics, also in other parts of Switzerland, complement the research portfolio of this cancer research program.
The projects carried out in Epalinges form a basis for the design of novel approaches to cancer therapy, and the NCCR program provides us with the means to explore such prospects, through cooperation with our partners in different University hospitals. The NCCR is also essential for supporting technology development and core facilities necessary for such clinically oriented research. Finally, the program provides training opportunities for MD/PhDs to foster the development of translational oncology in Switzerland.

Naef Felix, Prof.	Institut Suisse de Recherche Expérimentale sur le Cancer, EPFL, Epalinges
Piguet Vincent, Prof.	Hôpitaux Universitaires de Genève
Romero Pedro, Prof.	Ludwig Institut for Cancer Research, Epalinges
Rüegg Curzio, Prof.	Centre pluridisciplinaire d'oncologie, Lausanne
Rufer Nathalie, Dr.	Centre pluridisciplinaire d'oncologie, Lausanne
Servis Catherine, Dr.	Department of Biochemistry, University of Lausanne
Speiser Daniel, Prof.	Ludwig Institut de Recherches sur le Cancer, Epalinges
Stamenkovic Ivan, Prof.	Centre Hospitalier Universitaire Vaudois, CHUV, Lausanne
Tschopp Jürg, Prof.	Department of Biochemistry, University of Lausanne

Partner Institutions

Ludwig Institute for Cancer Research LICR, Lausanne Branch
Department of Biochemistry of the University of Lausanne DB, UNIL
Swiss Institute of Bioinformatics SIB, Lausanne Branch
Centre Pluridisciplinaire d'Oncologie CePO
Centre Hospitalier Universitaire Vaudois CHUV
Hôpitaux Universitaires de Genève HUG

Members of the Advisory Board

Tumor-Host Interaction and Apoptosis

Ashkenazi Avi, Prof.	Genentech Inc., San Francisco, US
Carmeliet Peter, Prof.	Catholic University of Leuven, BE
Rommelaere Jean, Prof.	Deutsches Krebsforschungszentrum DKFZ, Heidelberg, DE

DNA-Microarrays, Bioinformatics and Tumor Specific Gene Expression

Ansorge Wilhelm, Prof.	European Molecular Biology Laboratory EMBL, Heidelberg, DE
Collins Peter, Prof.	University of Cambridge, GB
Guha Abhijit, Prof.	University of Toronto, CA
Liu Edison, Prof.	Genome Institute of Singapore, SG
Van't Veer Laura, Dr.	Netherlands Cancer Institute NKI, Amsterdam, NL

Immunotherapy

Greenberg Philip, Prof.	University of Seattle & Fred Hutchinson Cancer Research Center, US
Lanzavecchia Antonio, Prof.	Istituto di Ricerca in Biomedicina IRB, Bellinzona, CH
Melief Cees J. M., Prof.	Leiden University, NL

Third Party Cooperation

(in progress)

Programmes

- ACGT (FP6)
- EORTC
- EORTC + RTOG
- TRANS-BIG (FP6)
- TRANS-BIG (FP6)
- Vital - IT

Research Institutions

- Bute Medical School, University of St Andrews, Edinburgh, GB
- Cancer Research Inst., New York, US
- Centre Médical Universitaire de Genève, CH
- Dept. of Biochemistry, University of North Carolina, US
- Dept. of Diagnostic Radiology, CHUV, Lausanne, CH
- Dept. of Growth Control, Friedrich Mischer Inst., Basel, CH
- Dept. of Immunology and Oncology, University of Madrid, ES
- Dept. of Neurosurgery, Anderson Cancer Center, University of Texas, Houston, US
- Dept. of Signal Processing, EPF Lausanne, CH
- Dept. of Surgical Oncology, Erasmus University Hospital, Rotterdam, NL
- Inst. de Investigaciones Biomedicas, CSIC-UAM, Madrid, ES
- Lab. of Physical Chemistry, ETHZ, Zürich, CH
- Molecular Cancer Biology Lab., University of Helsinki, FI
- Service de dermatologie et vénéréologie, Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, CH

Economy / Industry

- Agilent Technologies, Inc., Palo Alto, US
- Animatrics GmbH, Basel, CH
- Apoxis SA, Lausanne, CH
- AstraZeneca (UK) Ltd, London, GB
- Bracco Research SA, Geneva, CH
- BTG International Ltd., London, GB

- Diagnoplex Sàrl, Epalinges, CH
- Eli Lilly and Company, Indianapolis, US
- Merck KGaA, Darmstadt, DE
- Novartis AG, Basel, CH
- OncoMethylome Sciences, Inc., Durham, US
- Pfizer AG, Zurich, CH
- Pfizer, Inc., New London, US
- Serono S.A., Geneva, CH
- Smart Nose Ltd, Neuchâtel, CH

Others

- Association pour la recherche sur le Cancer (ARC), Villejuif, FR
- Fond'Action contre le Cancer, Lausanne, CH
- Fondation Barletta, Lausanne, CH
- Fondation Widmer c/o Dept. Médecine Interne, Hôpital Universitaire de Genève, Genève, CH
- Fonds de neurochirurgie, Geneva, CH
- Gebert Rüf Stiftung, Basel, CH
- Ligue Suisse contre le Cancer, Bern, CH
- Medic Foundation, Geneva, CH
- OncoSuisse, Bern, CH

Achievements

New spirit

The NCCR has created a new spirit of greater mutual interest across the borders between basic and clinical research. Several collaborative projects involving scientists at ISREC and more clinically oriented research groups at the University Hospital Lausanne (CHUV) and other Swiss university clinics have been started. Some of these projects include partnerships with pharmaceutical companies (e.g. Pfizer).

New insights

Novel molecular events underlying the development of certain tumour types have been elucidated. Cell types from which these tumours arise have been identified. Mechanisms, which control cell division and the degree of specialization of normal cells have been unravelled and may prove relevant for malignant tumour progression. New models to investigate the development of tumour metastases in distant organs have been established. These discoveries provide a basis for the identification and validation of novel therapeutic approaches.

New therapeutic developments

A clinical study has been completed to investigate how tumours control their blood supply. A further clinical trial is currently underway to assess the efficacy of anti-angiogenic therapy in patients with head and neck tumours.
Novel strategies have been developed to direct the patient's immune system against the tumour. Immunisation of melanoma patients with tumour derived antigens proved to be successful in eliciting a strong tumour specific immune response.
A vaccine against papillomaviruses has been developed as treatment against cervix carcinomas, which in a vast majority are associated with papillomavirus infections. The vaccine has been proven to be safe and is currently being tested in patients.
The pattern of differentially regulated genes has been analysed in several human tumour types (breast, brain, skin). Results from such studies allowed identifying new tumour subtypes and in some cases new prognostic markers. They may eventually lead to the identification of gene profiles, which are predictive of a response to therapy.

New research groups

Five new positions for junior research group leaders equivalent to assistant professorships have been created to strengthen advanced biocomputing and research that is directly cancer relevant.

New technologies

The NCCR Molecular Oncology allowed to establish or strengthen important technology platforms. The animal facility allowed the development of novel cancer mouse models, which mimic the genetic alterations and the behavior of human tumours and are indispensable for the validation of new therapeutic targets. The DNA array and bioinformatics core facilities supported several novel cancer relevant projects at the interface to the clinic.

Training

The NCCR Molecular Oncology provides education and training in cancer research at several levels. It participates and strengthens the ISREC International PhD Programme and the MD/PhD programme of the University of Lausanne, providing medical doctors with an opportunity to carry out a PhD thesis in molecular oncology. The NCCR presently supports the training of approximately 30 PhD students and 30 postdoctoral fellows. NCCR advanced courses in microscopy, imaging and morphology have been carried out by the NCCR imaging facility (MIM) for users including students from the University of Lausanne and the EPFL.

Further information see www.nccr-oncology.ch

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	3 750 000	3 750 000	3 750 000	3 750 000	15 000 000	35
Self-funding from home institution[1]	1 570 852	1 519 229	1 216 995	1 173 064	5 480 140	13
Self-funding from EPF Lausanne	550 000	670 000	670 000	670 000	2 560 000	6
Self-funding from project participants	3 614 847	3 051 601	2 883 447	2 810 585	12 360 480	29
Third-party funding[2]	1 609 891	2 037 927	1 862 520	1 777 507	7 287 845	17
Total	11 095 590	11 028 757	10 382 962	10 181 156	42 688 465	100

Personnel[3]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							FR	IT	DE	BE	US	
Management	4.06[4]	1	9	10	91	7	0	0	1	2	1	2
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	31	15	48	16	52	14	5	2	1	0	0	10
Postdoctoral students	28	12	43	16	57	8	8	6	1	0	0	6
Research associates	3	1	33	2	67	1	1	0	1	0	0	0
Senior researchers[5]	50	14	28	36	72	32	4	5	4	1	3	9
Other staff	43	29	67	14	33	27	7	2	0	2	1	5
Total	159.06	72	43	94	57	89	25	15	8	5	5	32

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. page 6). Since the start of the NCCR 1 project has been funded by CTI at a total amount of 1.1 million CHF.
[3] Persons involved in the NCCR in the last reporting period (12 months)
[4] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[5] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Meier Jürg, Dr. (Chair)	Swiss National Science Foundation, Berne, CH
Ben-Ze'ev Avri, Prof.	Department of Molecular Cell Biology, The Weizmann Institute of Science, IL
Cavalli Franco, Prof.	Oncology Institute of Southern Switzerland, Ospedale San Giovanni, Bellinzona, CH
Cerundolo Vincenzo, Prof.	Weatherall Institute of Molecular Medicine, University of Oxford, GB
Dalla-Favera Riccardo, Prof.	Institute of Cancer Genetics, Columbia University, New York, US
Huber Christoph, Prof.	Department of Hematology and Oncology, Johannes-Gutenberg-University Medical School, Mainz, DE
Kléber André, Prof.	Swiss National Science Foundation, Berne, CH
Müller Hans-Joachim, Prof.	Pharma Research Penzberg, Roche Diagnostics GmbH, Penzberg, DE
Polyak Kornelia, Prof.	Department of Medical Oncology, Dana-Farber Cancer Institute, Harvard Medical School, Boston, US
Werner Sabine, Prof.	Swiss National Science Foundation, Berne, CH
Yaniv Moshe, Prof.	Institut Pasteur, Unité des Virus Oncogènes, Paris, FR

NCCR Office SNSF

Christ Urs, Dr.
Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern
phone: + 41 (0)31 308 23 50, fax: + 41 (0)31 305 29 71
uchrist@snf.ch

Frontiers in Genetics – Genes, Chromosomes and Development
NCCR Genetics

Home Institution
University of Geneva

Start of the NCCR
July 1, 2001

NCCR Management
Director
Duboule Denis, Prof.
phone: + 41 (0)22 379 67 71
denis.duboule@frontiers-in-genetics.org

Deputy Director
Trono Didier, Prof.
phone: + 41 (0)21 693 17 51
didier.trono@frontiers-in-genetics.org

NCCR Executive Officer
Laemmli Caroline, Dr.
phone: + 41 (0)22 379 67 82
caroline.laemmli@frontiers-in-genetics.org

Office Secretary
Krebs Bérénice, Mrs.

Knowledge and Technology Transfer
Hartmann Reto, Dr.

Education and Training
Rodriguez Ivan, Prof.

Advancement of Women
Gasser Susanne, Prof.

Communication
Pizurki Lara, Dr.

Webmaster
Thièvent Alain, Dr.

Address
NCCR Frontiers in Genetics
Sciences III
Université de Genève
Quai Ernest-Ansermet, 30
1211 Genève 4
phone: + 41 (0)22 379 67 82
fax: + 41 (0)22 379 61 50
management@frontiers-in-genetics.org

Web Address
www.frontiers-in-genetics.org

Public Relations
- *Pole Position* Newsletter
- Leaflets (English, French or German)
- Press releases, news and adverts on website
- Public events (open doors, teaching, training, exhibitions)
- Meetings

Research

Work Packages

Novel approaches to study mammalian genetics and develop animal models of human diseases
Coordinator: Trono D.

Members: Antonarakis S., Duboule D., Schibler U., Trono D., Vassalli J.-D., Wahli W., Nef S., Ruiz I Altaba A.

Functional genomics based on PhiC31 integrase; Integrase-mediated germ-line transformation of drosophila and design of shuttle systems in the mouse
Coordinator: Basler K.

Members: Basler K., Hafen E., Karch F.

Chromosome structure, chromatin function/dynamics, and nuclear-cytoplasmic interactions
Coordinator: Shore D., Gasser S.

Members: Gasser S., Laemmli U., Lingner J., Shore D., Stutz F.

Genetic and viral mapping of neural circuits
Coordinators:
Arber S., Rodriguez I.

Members: Arber S., Gasser S., Rodriguez I., Gomez M., Roska B.

Energy homeostasis and size control: from physiology to pathology
Coordinator: Wahli W.

Members: Duboule D., Hafen E., Schibler U., Wahli W., Herrera P., Nef S., Thorens B.

Technological Platforms, Programs etc.

Genomics platform (Genotyping and transcriptome profiling)
Manager: Descombes P.

Bioimaging platform (Image analysis)
Manager: Bauer C.

Mammalian genetics platform
H: Duboule D.

Doctoral School
Supervisors: Laemmli C., Rodriguez I.

Topics

The general goal of the NCCR Frontiers in Genetics – Genes, Chromosomes and Development is to understand the function and regulation of genes during cellular and organisimal development. These fundamental problems are tackled at four different levels, namely at the level of genes, of chromosomes, of the whole cell and of the entire organism. In order to reach excellence in this domain, it is neccessary to bridge the gaps between these levels. The NCCR Genetics contributes to diminish these gaps by creating a network of scientist, which work together on common projects (organized as Work-Packages, WP). These WPs provide an ideal forum for the in-depth discussion of scientific issues by all interested persons (including post-doctoral fellows and students).
Some projects directly related to technological development are pursued in the context of our technological platforms. These platforms are shared common facilities in which the latest technologies in Genomics and Bioimaging are available for the regional scientific community.
Another major goal is to offer the best graduate school in genetics. We believe that to pursue top science, we need to attract the worldwide best students and "create" the next generation of top scientists by teaching.

Heads of Individual Research Projects

Antonarakis Stylianos E., Prof.	Division de Génétique Médicale, Université de Genève
Arber Silvia, Prof.	Departement für Zellbiologie, Universität Basel
Basler Konrad, Prof.	Institut für Molekularbiologie, Universität Zürich
Duboule Denis, Prof.	Département de Zoologie et Biologie Animale, Université de Genève
Gasser Susan M., Prof.	Friedrich Miescher Institute for Biomedical Research, Basel
Gomez Marie, Dr.	Département de Zoologie et Biologie Animale, Université de Genève
Hafen Ernst, Prof.	Institut für Zoologie, Universität Zürich
Herrera Pedro, Dr.	Département de Morphologie, Université de Genève
Karch François, Dr.	Département de Zoologie et Biologie Animale, Université de Genève
Laemmli Ulrich K., Prof.	Départements de Biologie Moléculaire et Biochimie, Université de Genève
Lingner Joachim, Dr.	ISREC, Epalinges
Nef Serge, Dr.	Département de Morphologie, Université de Genève
Rodriguez Ivan, Prof.	Département de Zoologie et Biologie Animale, Université de Genève
Roska Botond, Dr.	Friedrich Miescher Institute for Biomedical Research, Basel
Ruiz i Altaba Ariel, Prof.	Département de Génétique Médicale, Université de Genève
Schibler Ueli, Prof.	Département de Biologie Moléculaire, Université de Genève
Shore David M., Prof.	Département de Biologie Moléculaire, Université de Genève
Spierer Pierre, Prof.	Département de Zoologie et Biologie Animale, Université de Genève
Stutz Françoise, Dr.	Département de Biologie Cellulaire, Université de Genève
Thorens Bernard, Prof.	Centre Intégratif de Génomique, Université de Lausanne
Trono Didier, Prof.	Ecole Polytechnique Fédérale de Lausanne
Vassalli Jean-Dominique, Prof.	Département de Morphologie, Université de Genève
Wahli Walter, Prof.	Centre Intégratif de Génomique, Université de Lausanne

Third Party Cooperation

(in progress)

Programmes

- CELLS INTO ORGANS
- CONSERT
- CRESCENDO
- EUCLOCK
- EUMODIC
- EuroDYNA
- NEURONE

Research Institutions

- Biomedical Imaging Group, EPF Lausanne, CH
- Brain Research Institute, ETH, Zürich, CH
- Cell Biology Division, New York University School of Medicine, US
- Center for Functional Genomics, Northwestern University, Evanston, US
- Center for Integrative Genomics, University of Lausanne, CH
- Center of Genome Regulation, University of Barcelona, ES
- Centre Medicale Universitaire, University of Geneva, CH
- Department of Biochemistry and Molecular Biophysics, Columbia University, New York, US
- Department of Biochemistry, University of Fribourg, CH
- Department of Cell Biology, Albert Einstein College of Medicine, New York, US
- Department of Computer Science, Washington University, St-Louis, US
- Department of Genetic Medicine and Development, University of Geneva, CH
- Department of Neurobiology, Friedrich Miescher Institute, Basel, CH
- Department of Pharmacology and Therapeutic Chemistry, University of Barcelona, ES

- Ecole Nationale Supérieure de Biologie Appliquée à la Nutrition et à l'Alimentation (ENSBANA), Université de Bourgogne, Dijon, FR
- Faculty of Applied Biological Science, Hiroshima University, Higashi-Hiroshima, JP
- Genome Sequencing Center, Washington University, St-Louis, US
- Growth control, Friedrich Miescher Institute, Basel, CH
- Institut clinique de la Souris - Institut de Génétique et de Biologie Moléculaire et Cellulaire, Illkirch, FR
- Institut de Génétique Humaine, Université de Montpellier, FR
- Institut Jacques Monod, Université Paris Diderot, FR
- Institut national de la santé et de la recherche médicale, Université de Lille, FR
- Instituto de Bioquimica Vegetal y Fotointesis, Universidad de Sevilla, ES
- Ludwig Institute for Cancer Research, Lausanne, CH
- Max Planck Institute for Experimental Endocrinology, Hannover, DE
- Max Planck Institute for Molecular Biology, Munich, DE
- National institutes of Health (NIH), Washington DC, US
- Neurodegenerative Studies Laboratory, EPF Lausanne, CH
- Neuroscience Center, University of North Carolina, Chapel Hill, US
- Nutrition, Metabolism and Genomics group, Wageningen University, NL
- School of Life Sciences, ISREC-EPF Lausanne, CH
- Southwestern Medical Center, University of Texas, Dallas, US
- Telethon Institute of Genetics and Medicine, Naples, IT
- Vanderbilt University, Nashville, US
- Walter and Eliza Hall Institute for Research, Melbourne, AU
- Whitehead Institute, MIT Center for Genome Research, Boston, US

Achievements

Research and technology

The 23 different laboratories are organized in five „Work-Packages" (WPs). The WPs prove to be an ideal forum for discussion of scientific issues and collaborations. As result of a common development, 100% NCCR, a site-specific integration system for high-throughput germline transformation of Drosophila was developed (Proc Natl Acad Sci USA. 104,:3312-7)in Zürich. Two further platforms have been developed through collaborations: the lentivirus and the mouse metabolic evaluation (MEF) platform (in Lausanne). The two technological platforms in genomics and bioimaging located in Geneva continue to be very well attended by members of the NCCR as well as by other regional scientists in research of excellent expertise and a low „cost/quality" ratio. The attractiveness is mainly due to the top quality technologies proposed, which we constantly update. New acquisitions are a second widefield live cell microscope, a Bioluminescence workstation, as well as Illumina a new technology for genotyping and gene expression.

Education

The International Doctoral School developed by the NCCR Genetics has gained three new students in 2007, we count to date in total 35 students of various nationalities. The biggest success of 2007 is the graduation of the first four students of the program. We expect another five to graduate in 2008. The different professors are all very fond of their NCCR students, which prove to be excellent and highly motivated scientist. These statements prove that the recruitment procedure is of high standard and the program attractive for competitive students. With regard to the futur of research, an excellent training program is in our opinion of major importance. Therefore, a dominant goal for the NCCR Genetics is to develop tomorrow's top scientists. We keep our eyes and ears open to students/professors opinions and wishes, in order to find out which features are appreciated and which need to be altered. In this way, the school stays dynamic and fulfills the top needs.

Public relations

In October 2007 we have hired a new responsible for communication Lara Pizurki to replace Pierre-Yves Frei who left the NCCR in April 2007. The main goals of Lara will be to develop a concept for the Newsletter and give birth to it. She will as well take care of updating the website, developing it and making it more accessible for the public. The NCCR Genetics continues to be concerned by the need to make science accessible to the public. We will therefore again in 2008 participate in events such as la nuit de la science, les journées de la génétique, la science appelle les jeunes and la cité des métiers.

Further information see
www.frontiers-in-genetics.org

Economy / Industry

- Bitplane, Zürich, CH
- Evolva, Allschwil, CH
- Leica Microsystems, Glattbrugg, CH
- Nestlé Research Center, Vevey, CH
- Serono international SA, Genève, CH
- The Genetics Company, Inc., Zürich, CH
- Zydus Research Centre, Ahmedabad, IN

Others

- Policies for Research and Innovation in the Move (PRIME), Switzerland, CH

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	4 100 000	4 100 000	4 000 000	3 800 000	16 000 000	36
Self-funding from home institution[1]	479 274	486 612	534 114	500 000	2 000 000	5
Self-funding from project participants	5 274 801	5 119 682	6 084 646	4 413 147	20 892 276	47
Third-party funding	1 369 893	1 329 059	1 319 903	1 202 363	5 221 218	12
Total	11 223 968	11 035 353	11 938 663	9 915 510	44 113 494	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							FR	US	IT	DE	GR	
Management	4.47[3]	2	29	5	71	7	2	6	0	0	0	0
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	64	22	34	42	66	25	7	3	8	6	3	24
Postdoctoral students	44	13	30	31	70	3	15	4	2	1	1	17
Research associates	2	2	100	0	0	0	2	0	0	0	0	0
Senior researchers[4]	31	7	23	24	77	21	8	2	0	2	4	5
Other staff	46	34	74	12	26	26	12	0	2	1	0	5
Total	191.47	80	41	114	59	82	46	15	12	10	8	51

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Kléber André, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Almouzni Geneviève, Dr.	Laboratoire de dynamique nucléaire et plasticité du génome, Institut Curie, Paris, FR
Hoeijmakers Jan H.J., Prof.	Dept. of Cell Biology and Genetics, Erasmus University, Rotterdam, NL
Lindpaintner Klaus, Prof.	Roche Genetics and Roche Center for Medical Genomics, F. Hoffmann-La Roche, Basel, CH
McMahon Andrew, Prof.	Dept. of Molecular and Cellular Biology, Harvard University, Cambridge, US
Meier Jürg, Dr.	Swiss National Science Foundation, Berne, CH
Rosbash Michael, Prof.	Howard Hughes Medical Institute, Brandeis University, Waltham, US
Schaffner Walter, Prof.	Swiss National Science Foundation, Berne, CH

NCCR Office SNSF

Christ Urs, Dr.
Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern
phone: + 41 (0)31 308 23 50, fax: + 41 (0)31 305 29 71
uchrist@snf.ch

Molecular Life Sciences – Three Dimensional Structure, Folding and Interactions

NCCR Structural Biology

Home Institution
University of Zurich

Start of the NCCR
May 1, 2001

NCCR Management
Director
Grütter Markus Gerhard, Prof.
phone: + 41 (0)1 635 55 80
gruetter@bioc.uzh.ch

Deputy Director
Richmond Timothy J., Prof.
phone: + 41 (0)1 633 24 70
richmond@mol.biol.ethz.ch

Coordinator
Sticher Patrick, Dr.
phone: + 41 (0)1 635 54 84
sticher@bioc.uzh.ch

Administrative Assistant
Schmid Brigitte, Mrs.
phone: + 41 (0)1 635 55 82
brigitte.schmid@bioc.uzh.ch

Communication
Sticher Patrick, Dr.

Knowledge and Technology Transfer
Plückthun Andreas, Prof.

Education and Training
Glockshuber Rudolf, Prof.

Advancement of Women
van Gunsteren Wilfred, Prof.

Address
NCCR Bureau
Structural Biology
Patrick Sticher
Institute of Biochemistry
University of Zurich
Winterthurerstrasse 190
8057 Zurich

phone: + 41 (0)1 635 54 84
fax: + 41 (0)1 635 68 34
sticher@bioc.uzh.ch

Web Address
www.structuralbiology.uzh.ch

Public Relations
- Leaflet
- Homepage / eNewsletter
- Newspaper articles
- Appearance on radio and national TV

Research

Areas

Structural biology of membrane proteins
Coordinator: Engel A.

Supramolecular assemblies/molecular interactions
Coordinator: Richmond T. J.

Technologies
Coordinator: Plückthun A.

Projects

Folding and function of supramolecular systems and membrane proteins
Head: Glockshuber R.

Synthetic protein libraries
H: Plückthun A.

Assessing the structure and dynamics of membrane proteins by electron and atomic force microscopy
H: Engel A.

X-ray crystallography of supramolecular systems and membrane transporters
H: Grütter M.

Supramolecular assemblies: structures of chromatin and associated multiprotein complexes
H: Richmond T. J.

Signalling and transport through biological membranes
H: Winkler F.

Solution NMR with soluble and membrane proteins, including supramolecular structures
H: Wüthrich K.

Computer simulation of membrane proteins, supramolecular complexes and macromolecular folding
H: van Gunsteren W. F.

X-ray crystallography and electron microscopy of supramolecular systems
H: Ban N.

Structure determination of protein-RNA complexes involved in alternative-splicing by NMR spectroscopy
H: Allain F.

Mechanisms of ion transport across membranes: The structural biology of ion channels and ion transporters
H: Dutzler R.

Structure and mechanism of bacterial drug and antibiotic transporters
H: Locher K.

Single molecule spectroscopy of cotranslational protein folding, structure, and dynamics
H: Schuler B.

Associated Groups

Automation of protein crystallography beamlines for challenging projects at the swiss light source
H: Schulze-Briese C.

New isotope labeling strategies of protein and RNA for NMR spectroscopy investigations
H: Wüthrich K.

Calorimetric and biophysical analysis of protein-ligand binding and protein folding
H: Jelezarov I.

Technical development for automated and high-throughput data collection and 3D reconstruction in electron microscopy
H: Ishikawa T.

Programmes

PhD program Biomolecular structure and mechanism
Supervisor: Glockshuber R.

Annual practical course in structural biology
Supervisor: Glockshuber R.

Annual symposium on new trends in structural biology
Supervisor: Glockshuber R.

Topics

Today, knowledge about biological processes is obtained from functional experiments on a limited number of biochemical systems, and from a rapidly increasing amount of DNA sequence information, generated in several genome projects. To bridge the widening gap between rapidly increasing information on genome sequences and limited knowledge on the function of gene products, a quantitative understanding of the 3D-structure of proteins, their folding, and their interactions with other molecules is required. Such understanding is the key to develop innovative medicines, such as new antibiotics and vaccines, as well as drugs against cancer and diseases of the central nervous, immune, and cardiovascular systems. In this NCCR specialists in experimental structure determination by X-ray crystallography, NMR spectroscopy and electron microscopy / crystallography, in protein biophysical chemistry, modern molecular biology, and computational biology will meet the challenge to link the ever increasing biological data generated in the genomics field with related structural and functional information.

Heads of Individual Research Projects and Associated Groups

Allain Frédéric, Prof.	Institut für Molekularbiologie und Biophysik, ETH Zürich
Ban Nenad, Prof.	Institut für Molekularbiologie und Biophysik, ETH Zürich
Dutzler Raimund, Prof.	Institut für Biochemie, Universität Zürich
Engel Andreas, Prof.	M.E. Müller Institut, Biozentrum, Universität Basel
Glockshuber Rudolf, Prof.	Institut für Molekularbiologie und Biophysik, ETH Zürich
Grütter Markus, Prof.	Institut für Biochemie, Universität Zürich
Ishikawa Takashi, Dr.	Institut für Molekularbiologie und Biophysik, Universität Zürich
Jelezarov Ilian, Dr.	Institut für Biochemie, Universität Zürich
Locher Kaspar, Prof.	Institut für Molekularbiologie und Biophysik, ETH Zürich
Plückthun Andreas, Prof.	Institut für Biochemie, Universität Zürich
Richmond Timothy J., Prof.	Institut für Molekularbiologie und Biophysik, ETH Zürich
Schuler Ben, Prof.	Institut für Biochemie, Universität Zürich
Schulze-Briese Clemens, Dr.	Paul Scherrer Institut,Villigen PSI
van Gunsteren Wilfred F., Prof.	Laboratorium für physikalische Chemie, ETH Zürich
Winkler Fritz, Prof.	Paul Scherrer Institut, Villigen PSI
Wüthrich Kurt, Prof.	Institut für Molekularbiologie und Biophysik, ETH Zürich

Third Party Cooperation

Research Institutions

- Astbury Centre for Structural Molecular Biology, University of Leeds, GB
- Biochemiezentrum der Univ. Heidelberg (BZH), DE
- Biotechnologisches Zentrum der Technischen Universität Dresden (BIOTEC), DE
- Chemical Biology and Nuclear Science Division (CBND), Lawrence Livermore National Lab., Livermore, US
- Dept. Biologie, Ludwig-Maximilians-Universität, Munich, DE
- Dept. of Biochemistry and Molecular Biology, Colorado State Univ., Fort Collins, US
- Dept. of Biochemistry and Molecular Biology, University of Barcelona, ES
- Dept. of Biochemistry, Duke University, Chapel Hill, US
- Dept. of Biology, University of Konstanz, DE
- Dept. of Biology, University of Science and Technology of China, Hefei, CN
- Dept. of Biophysical Structural Chemistry, Leiden Inst. of Chemistry, Leiden University, NL
- Dept. of Biophysics and Biochemistry, University of Tokyo, JP
- Dept. of Cell Biology, The Scripps Research Inst., La Jolla, US
- Dept. of Chemistry & Biochemistry, University of California Los Angeles, US
- Dept. of Microbiology, University of Regensburg, DE
- Dept. of Microbiology, University of Utrecht, NL
- Dept. of Molecular Biology & Biotechnology, University of Sheffield, Firth Court, GB
- Dept. of Molecular Biophysics and Biochemistry, Yale University, New Haven, US
- Dept. of Molecular Microbiology, John Innes Centre, Norwich, GB
- Dept. of Neurobiology, Max Planck Inst. for Biophysical Chemistry, Göttingen, DE
- Dept. of NMR Spectroscopy, University of Utrecht, NL
- Dept. of Pharmacochemistry, Free University of Amsterdam, NL

- Dept. of Pharmacology, School of Medicine, Case Western Reserve University, Cleveland, US
- Dept. of Plant Biochemistry, Lund University, SE
- Dept. of Structural Biology, Architecture et Fonction des Macromolécules Biologiques, Centre National de la Recherche Scientifique (CNRS), Marseille, FR
- Dept. of Transfusion Medicine, University Hospital Ulm, DE
- Division of Chemistry and Chemical Engineering, California Inst. of Technology (Caltech), Pasadena, US
- Division of Clinical Sciences, Medicine, Imperial College London, GB
- Division of Molecular and Health Technologies, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Melbourne, AU
- Fachbereich Biologie, Universität Konstanz, DE
- Faculty of Biochemistry, University of Gdansk, PL
- Faculty of Sciences, Dept. of Organic Chemistry and Biochemistry, University of Zagreb, HR
- Groningen Biomolecular Sciences and Biotechnology Inst., Dept. of Molecular Microbiology, University of Groningen, Haren, NL
- Howard Hughes Lab. and State University of New York, Albany, US
- Howard Hughes Medical Inst., Dept. of Biochemistry, Brandeis University, Waltham, US
- Inst. de Génétique et de Biologie Moléculaire et Cellulaire, Illkirch, FR
- Inst. für Biophysik und Strahlenbiologie, Universität Freiburg, DE
- Inst. of Biophysical Chemistry Resonance, Johann Wolfgang Goethe-University of Frankfurt, DE
- Inst. of Medical Chemistry, Medical University of Vienna, AT
- Inst. of Molecular Biology and Biotechnology, University of Crete, Heraklio, GR
- Inst. of Molecular Biology, Slovak Academy of Sciences, Bratislava, SK
- Inst. of Molecular Pediatric Science, University of Chicago, US
- Kobe Advanced ICT Research Center, National Inst. of Information and Communications Technology, Kobe, JP

Molecular Life Sciences – Three Dimensional Structure, Folding and Interactions

NCCR Structural Biology

Achievements

Key biology areas

This NCCR focuses on the structural biology of membrane proteins and supramolecular complexes and interactions. In both areas, major advances could be reported since the start of this NCCR. Methods for cloning, expression, purification, crystallisation and analysis of membrane proteins could be advanced and successes in the structure determination of membrane proteins were achieved. A recent breakthrough in this field is the structure determination of a multidrug ABC transporter. The structures of several supramolecular complexes were determined. Important research fields in this area include the chromatin structure, the ribosome, RNA-protein interactions and falty acid syntheses.

Technology platforms

Shared infrastructure units for recombinant protein production, stable isotope-labelling of proteins and high-throughput crystallisation of proteins for NMR or X-ray studies have been established and are today a major tool for effective structure determination used by many research groups within or outside this NCCR. A successful collaboration with the SLS-synchrotron for high-throughput crystal analysis and protein structure determination complements these technology platforms.

Technology Transfer

Project leaders of this NCCR have various individual collaborations with industry partners. An umbrella-type agreement for long-term collaboration between Novartis and the NCCR has been realized, so far leading to two collaborations.
The spin-off company Molecular Partners resulted partly from the NCCR research project on 'ankyrin repeats' which are an alternative to antibodies as selective binders. Another spin-off, REDbiotec, commercialites MultiBac, a novel expression tool for large eukargotic multiprotein complexes.

Education

A post-graduate program in structural biology was established and embedded in the PhD Program Molecular Life Sciences Zurich. Thanks to the synergies within this NCCR, a very broad and in-depth education of students in structural biology became possible.
This NCCR established a series of well-recognized structural biology events, namely a yearly symposium and practical courses that are well attended by scientists from within the NCCR and from other research institutes.

Structural Effects

This NCCR offers an excellent opportunity for interdisciplinary and high-standard structural biology research in Switzerland which allowed to attract several outstanding young scientists to Switzerland.

Further information see
www.structuralbiology.uzh.ch

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	3 900 000	3 800 000	3 400 000	3 300 000	14 400 000	37
Self-funding from home institution[1]	955 801	1 409 180	3 685 548	1 639 500	7 690 029	20
Self-funding from ETH Zurich	980 395	1 050 676	947 275	847 275	3 825 621	10
Self-funding from project participants	4 820 225	4 682 790	1 080 880	1 080 880	11 664 775	30
Third-party funding[2]	800 000	252 735	50 000	50 000	1 152 735	3
Total	11 456 421	11 195 381	9 163 703	6 917 655	38 733 160	100

Personnel[3]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	FR	IT	NL	US	
Management	2.76[4]	2	22	7	78	4	3	1	0	1	0	0
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	77	27	35	50	65	31	27	2	3	1	0	15
Postdoctoral students	56	14	25	42	75	20	12	4	3	3	0	17
Research associates	0	0	0	0	0	0	0	0	0	0	0	0
Senior researchers[5]	44	7	16	37	84	13	12	5	1	1	3	11
Other staff	27	20	74	7	26	13	5	1	1	0	2	7
Total	206.76	70	33	143	67	81	59	13	8	6	5	50

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. page 6). Since the start of the NCCR 1 project has been funded by CTI at a total amount of 1.70 million CHF.
[3] Persons involved in the NCCR in the last reporting period (12 months)
[4] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[5] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Kléber André, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Eisenberg David, Prof.	UCLA-DOE Institute for Genomics and Proteomics, US
Hall Mike, Prof.	Swiss National Science Foundation, Berne, CH
Iwata So, Prof.	Department of Biological Sciences, Imperial College London, GB
Michel Hartmut, Prof.	Max-Planck Institut für Biophysik, Frankfurt am Main, DE
Roditi Isabel, Prof.	Swiss National Science Foundation, Berne, CH
Schmid Franz Xaver, Prof.	Laboratorium für Biochemie, Universität Bayreuth, DE
Widmer Hans, Dr.	Novartis Pharma AG, Basel, CH
Wright Ernest M., Prof.	UCLA School of Medicine, Los Angeles, US
Wright Peter E., Prof.	Department of Molecular Biology, The Scripps Research Institute, La Jolla, US

NCCR Office SNSF

Christ Urs, Dr.

Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern
phone: + 41 (0)31 308 23 50, fax: + 41 (0)31 305 29 71
uchrist@snf.ch

- Lab. of Viral Diseases, National Inst. of Health (NIH), Bethesda, US
- Institut de Biologie Moléculaire et Cellulaire (IBMC), CNRS, Strasbourg, FR
- Max Planck Inst. for Polymer Research, Mainz, DE
- Medizinische Biochemie und Molekularbiologie der Universität des Saarlandes, Homburg, DE
- Molecular and Structural Biochemistry, University of Rennes, FR
- National Inst. of Chemistry Slovenia, Ljubliana, SI
- Naturwissenschaftliches und Medizinisches Inst. (NMI), University of Tübingen, DE
- Pharmacology Dept., Vanderbilt University, Nashville, US
- School of Biosciences, Cardiff University, GB
- Science & Technology, Duke University, US
- The Burnham Inst., La Jolla, US
- The Krebs Inst., University of Sheffield, GB
- Unité de Génétique moléculaire, Inst. Pasteur, Paris, FR
- Zentrum für Molekularbiologie der Pflanzen (ZMBP), Universität Tuebingen, DE
- Zentrum für Molekulare Biologie (ZMBH), Universität Heidelberg, DE

Economy / Industry

- Actelion Pharmaceuticals Ltd., Allschwil, CH
- Apotech Corporation, Lausen, CH
- BioXtal, Epalinges, CH
- Boehringer-Ingelheim GmbH, Vienna, AT
- Cambridge Antibody Technology, Cambridge, GB
- Discovery Partners International, Allschwil, CH
- Discovery Partners International, San Diego, US
- F. Hoffmann-La Roche Ltd., Basel, CH
- IBM Research AG, Rüschlikon, CH
- Molecular Partners AG, Zurich, CH
- MorphoSys AG, Martinsried, DE
- Novartis Pharma AG, Basel, CH
- Novartis Pharma AG, Boston, US
- Pfizer Inc., Sandwich, GB
- Polyphor Ltd., Allschwil, CH
- SIKA AG, Zürich, CH
- Speedel Experimenta AG, Allschwil, CH
- Syngenta Crop Protection AG, Basel, CH
- Wacker-Chemie AG, München, DE

Neural Plasticity and Repair
NCCR Neuro

Home Institution
University of Zurich

Start of the NCCR
June 1, 2001

NCCR Management
Director
Schwab Martin E., Prof.
phone: + 41 (0)44 635 33 31
schwab@hifo.uzh.ch

Deputy Directors
Möhler Hanns, Prof.
phone: + 41 (0)44 635 59 33
mohler@pharma.uzh.ch

Nitsch Roger M., Prof.
phone: + 41 (0)44 634 88 71
nitsch@bli.uzh.ch

Knecht Wolfgang, Dr.
phone: + 41 (0)44 635 33 81
wknecht@neuroscience.uzh.ch

Coordinator
Vranesic Tamara, Ms.
phone: + 41 (0)44 635 33 84
vranesic@neuroscience.uzh.ch

Communication
Vranesic Tamara, Ms.
Knecht Wolfgang, Dr.

Knowledge and Technology Transfer
Colombo Gery, Dr.

Education and Training
Knecht Wolfgang, Dr.

Advancement of Women
Mansuy Isabelle, Prof.

Address
NCCR Neural Plasticity and Repair
Winterthurerstrasse 190
8057 Zürich
vranesic@neuroscience.uzh.ch

Web Address
www.nccr-neuro.uzh.ch

Public Relations
- Neurotransmitter Newsletter
- BrainFair 2008

Research
Neural stem cells: An integrated approach to basic knowledge and therapeutic applications
Head: Suter U.
Fritschy J.-M., Jessberger S., Lipp H.-P., Relvas J., Sommer L., Thallmair M.

Alzheimer's disease
H: Nitsch R.
Caflisch A., Fraering P., Glockshuber R., Hock C., Knüsel I., Konietzko U., Molinari M., Sonderegger P.

Cortical plasticity
H: Martin K.
Boesiger P., Ishai A., Jäncke L., Kiper D., Scherberger H., Singer T.

Infection and immunity of the central nervous system
H: Fontana A.
Aguzzi A., Becher B., DeLamarter J., Goebels N., Kappos L., Reith W., Suter T.

Spinal cord repair
H: Schwab M., Dietz V., Courtine G., Kollias S., Micera S., Mir A., Rouiller E., Schurch B., Sonderegger P., Stoeckli E., Zurn A.

Rehabilitation technology matrix
H: Riener R.
Bassetti C., Kiper D., Kollias S., Micera S., Schwab M.

Technological Platforms, Programmes etc.
Center of transgenesis expertise
H: Mansuy I.
Aguzzi A., Becher B., Bürki K., Helmchen F., Suter U.

Center for advanced assessment of animal behavior
H: Lipp H.-P.
Feldon J., Wolfer D., Zeilhofer H.U.

Center for proteomics
H: Wollscheid B.

Center for animal imaging
H: Rudin M.
Boesiger P., Helmchen F., Rausch M., Sandoghdar V., Zeilhofer H.U.

International Ph. D. Program in Neuroscience
Administered by the Neuroscience Center Zurich
Coordinator: Knecht W.

Topics

Today there is still little that can be done to help the victims of brain damage or other kinds of diseases that afflict the brain or spinal cord. Only since the beginning of the 1980's research has been devoted to repairing brain trauma or disease. But at the same time, great strides have been made in the understanding of disease mechanisms and the possibilities of restoring neural functions. It is said that neuroscience made more progress in the last ten years than in the whole of last century.

The fundamental goal of the NCCR on "Neural Plasticity and Repair" is the restoration of function after damage or disease of the nervous system. The NCCR will elucidate the basic cellular and molecular mechanisms of regeneration, plasticity and functional repair of the damaged nervous system. The synergies between experimental and clinical sciences in conjunction with engineering sciences, neuroinformatics and brain imaging will generate new knowledge on the impairment of brain functions in Alzheimer's disease, multiple sclerosis, prion disease, immune surveillance and in neuronal regeneration and rehabilitation after spinal cord injury. Indeed, the first clinical trials have been initiated to assess the immunotherapy of spinal cord injury.

Heads of Individual Research Projects and Subprojects

Aguzzi Adriano, Prof.	Institut für Neuropathologie, Universitätsspital Zürich
Bassetti Claudio, Prof.	Neurologische Poliklinik, Universitätsspital Zürich
Becher Burkhard, Prof.	Neurologische Klinik, Universität Zürich
Boesiger Peter, Prof.	Institut für Biomedizinische Technik, Universität und ETH Zürich
Bürki Kurt, Prof.	Institut für Labortierkunde, Universität Zürich
Caflisch Amedeo, Prof.	Biochemisches Institut, Universität Zürich
Courtine Grégoire, Prof.	Abteilung für Psychiatrische Forschung, Universität Zürich
DeLamarter John, Dr.	Merck Serono International S.A., Geneva
Dietz Volker, Prof.	Paraplegikerzentrum, Universitätsklinik Balgrist, Zürich
Feldon Joram, Prof.	Labor für Verhaltensbiologie, ETH Zürich, Schwerzenbach
Fontana Adriano, Prof.	Klinische Immunologie, Universitätsspital Zürich
Fraering Patrick, Dr.	Brain Mind Institute, EPF Lausanne
Fritschy Jean-Marc, Prof.	Institut für Pharmakologie und Toxikologie, Universität Zürich
Glockshuber Rudolf, Prof.	Institut für Molekularbiologie und Biophysik, ETH Zürich Hönggerberg
Goebels Norbert, Prof.	Neurologische Klinik, Universitätsspital Zürich
Helmchen Fritjof, Prof.	Institut für Hirnforschung, Universität Zürich
Hock Christoph, Prof.	Abteilung für Psychiatrische Forschung, Universität Zürich
Ishai Alumit, Prof.	Institut für Neuroradiologie, Universitätsspital Zürich
Jäncke Lutz, Prof.	Psychologisches Institut, Universität Zürich
Jessberger Sebastian, Prof.	Institut für Zellbiologie, ETH Zürich
Kappos Ludwig, Prof.	Abteilung Neurologie, Universitätsspital Basel
Kiper Daniel, PD Dr.	Institut für Neuroinformatik, Universität und ETH Zürich
Knüsel Irene, Dr.	Institut für Pharmakologie und Toxikologie, Universität Zürich
Kollias Spyros, Prof.	Institut für Neuroradiologie, Universitätsspital Zürich
Konietzko Uwe, Dr.	Abteilung für Psychiatrische Forschung, Universität Zürich

Third Party Cooperation

(in progress)

Programmes

- NEURONET (ESPRIT 4)

Research Institutions

- Abteilung Neurologie, Landeskrankenhaus Hochzirl, AT
- Biomedical Research Inst., LeHasselt University, Diepenbeek, BE
- Center for Brain and Behavior and Psychiatry and Behavioral Sciences, Baylor College of Medicine, Houston, US
- Center for Molecular Biology and Neuroscience, University of Oslo, NO
- Center for Neurobiology and Behavior, Columbia University, New York, US
- Centre d'Etude du Polymorphisme Humain (INSERM U434), Fondation Jean-Deusset, Paris, FR
- Dept. de Technologia, Universitat Pompeu Fabra, Barcelona, ES
- Dept. for Molecular Medicine and Gene Therapy, Lund University, Malmö, SE
- Dept. of Anatomical Sciences & Neurobiology, University of Louisville, School of Medicine, US
- Dept. of Biochemistry and Molecular Biology, University of Massachusetts, Amherst, US
- Dept. of Cellular Neurology, Hertie-Inst. for Clinical Brain Research, University of Tübingen, DE
- Dept. of Genetics, University of Pennsylvania, Philadelphia, US
- Dept. of Medicine, The Johns Hopkins University, Baltimore, US
- Dept. of Medicine, University of Colorado at Denver and Health Sciences Center, US
- Dept. of Molecular and Cellular Neurobiology, Nencki Inst. of Experimental Biology, Warsaw, PL
- Dept. of Molecular and Cellular Neurobiology, Research Inst. Neurosciences, Vrije Universiteit, Amsterdam, NL

- Dept. of Molecular Neurobiology, University of Groningen, Haren, NL
- Dept. of Neurobiology & Behavior, University of California, Irvine, US
- Dept. of Neuropharmacology, University of Michigan, Ann Arbor, US
- Dept. of Neuroscience and Cell Biology, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, Piscataway, US
- Dept. of Pharmacology, Graduate School of Medicine, Kyoto University, JP
- Dept. of Pharmacology, Toxicology and Pharmacy, University of Veterinary Medicine Hannnover, DE
- Dept. of Physiology, University of Toronto, CA
- Dept. of Psychiatry, University of Dresden, DE
- Dept. of Psychological and Brain Sciences, Duke University, Durham, US
- Developmental Neurobiology, Burnham Inst., La Jolla, US
- Division of Biology, California Inst. of Technology, Pasadena, US
- Division of Cell and Developmental Genetics, Dept. of Medicine, University of California, San Francisco, US
- Division of Neuroscience, Children's Hospital & Dept. Neurobiology, Harvard Medical School, Boston, US
- Fred Hutchinson Cancer Research Center, Seattle, US
- Immunobiology Lab., Cancer Research UK, London Research Inst., London, GB
- Immunology Dept., University of Mainz, DE
- Inst. für Biochemie, Universität Erlangen-Nürnberg, DE
- Inst. for Developmental Genetics, GSF - National Research Center for Environment and Health, Munich, DE
- Inst. for Systems Biology, Seattle, US
- Inst. of Molecular Medicine and Genetics, Medical College of Georgia, Augusta, US

Achievements

The power of neuroscience has been brought to bear on the understanding of the diseases of the brain and spinal cord and the possibility of restoring neural functions. The NCCR Neuro has achieved major milestones in translating basic neuroscience into therapy since its beginning in 2001. The collaboration between experimental and clinical neuroscience has been further strengthened and extended to include neuroinformatics; brain imaging and engineering sciences.

Therapeutic advances

Immunotherapy has reached the clinical stage in the treatment of spinal cord injury and NCCR groups are participating in the first clinical trials. Similarly, the stage is set for clinical trials of immunotherapy for Alzheimer's disease.

Basic science

Basic neuroscience has been strongly promoted to follow new avenues in stem cell research and neural differentiation as well as in the process of rehabilitation of the injured CNS.

Recognition

The achievements of the NCCR were recognized by a large number of internationally and nationally prestigious prices awarded to members of the NCCR Neuro.

New professorships

To advance the NCCR, eight new professorships were created since the beginning: in clinical and experimental analysis of multiple sclerosis, rehabilitation engineering, neuroimaging, brain imaging of animals, stem cell biology, and experimental and clinical neurorehabilitation.

Central facilities

A core structure provides methodological support for the diverse projects of the NCCR. This facility consists of four integrative units. The center of transgenesis expertise and the center of behavioral assessment were complemented by a center dedicated to animal imaging and a center on systems proteomics.

Education

The Neuroscience Center Zurich (ZNZ) offers the International Ph.D. Program in Neuroscience. About 80 Ph.D. students of the NCCR Neuro are currently enrolled in this program.

Spin offs

Major efforts have been made to extend joint projects with major pharma companies. In addition, two spin-off companies arose from the NCCR and provide new positions for young scientists: NewBehavior AG in Zurich („Intellicage") and Neurimmune Therapeutics AG in Zurich. Twenty-two patents have been issued.

Dialogue with society

The dialogue between the NCCR and society at large is an important aspect. Regular press contacts are organized and the Brain-Fair Zürich attracts thousands of visitors each year. An informative and balanced communication with the public is essential for our work.

Outlook

Based on the past achievements the NCCR will continue to promote basic science, provide new insights into disease mechanisms and advance therapies for injuries and disorders of the CNS.

Further information see
www.nccr-neuro.uzh.ch

Lipp Hans-Peter, Prof.	Anatomisches Institut, Universität Zürich
Mansuy Isabelle, Prof.	Institut für Hirnforschung, Universität Zürich
Martin Kevan, Prof.	Institut für Neuroinformatik, Universität und ETH Zürich
Micera Silvestro, Dr.	Institut für Automatik, ETH Zürich
Mir Anis, Dr.	Novartis Pharma AG, Basel
Molinari Maurizio, Dr.	Institute for Research in Biomedicine, Bellinzona
Nitsch Roger M., Prof.	Abteilung für Psychiatrische Forschung, Universität Zürich
Rausch Martin, Dr.	Novartis Pharma AG, Basel
Reith Walter, Prof.	Département de Pathologie et Immunologie, Université de Genève
Relvas João, Dr.	Institut für Zellbiologie, ETH Zürich Hönggerberg
Riener Robert, Prof.	Professur für Sensomotorische Systeme, ETH Zürich
Rouiller Eric, Prof.	Institut de Physiologie, Université de Fribourg
Rudin Markus, Prof.	Institut für Pharmakologie und Toxikologie, Universität und ETH Zürich und Institut für Biomedizinische Technik, Universität und ETH Zürich
Sandoghdar Vahid, Prof.	Laboratorium für Physikalische Chemie, ETH Zürich Hönggerberg
Scherberger Hans, Dr.	Institut für Neuroinformatik, Universität und ETH Zürich
Schurch Brigitte, PD Dr.	Paraplegikerzentrum, Universitätsklinik Balgrist, Zürich
Schwab Martin E., Prof.	Institut für Hirnforschung, Universität Zürich und Departement für Biologie, ETH Zürich
Singer Tania, Prof.	Institut für Empirische Wirtschaftsforschung, Universität Zürich
Sommer Lukas, Prof.	Anatomisches Institut, Universität Zürich
Sonderegger Peter, Prof.	Biochemisches Institut, Universität Zürich
Stoeckli Esther, Prof.	Zoologisches Institut, Universität Zürich
Suter Tobias, Dr.	Klinische Immunologie, Universitätsspital Zürich
Suter Ulrich, Prof.	Institut für Zellbiologie, ETH Zürich Hönggerberg
Thallmair Michaela, Dr.	Institut für Hirnforschung, Universität Zürich
Valavanis Anton, Prof.	Institut für Neuroradiologie, Universitätsspital Zürich
Weller Michael, Prof.	Neurologische Klinik und Poliklinik, Universitätsspital Zürich
Wolfer David, Prof.	Anatomisches Institut, Universität Zürich
Wollscheid Bernd, Dr.	Institut für Molekulare Systembiologie, ETH Zürich Hönggerberg
Zeilhofer Hanns Ulrich, Prof.	Institut für Pharmakologie und Toxikologie, Universität Zürich und Institut für Pharmazeutische Wissenschaften, ETH Zürich
Zurn Anne, Dr.	Service de Chirurgie Expérimentale, CHUV, Lausanne

Delegates

Colombo Gery, Dr.	Hocoma AG, Voketswil
Mansuy Isabelle, Prof.	Institut für Hirnforschung, Universität Zürich
Knecht Wolfgang, Dr.	Zentrum für Neurowissenschaften Zürich, Universität und ETH Zürich

- Lab. de biologie moléculaire de développement (INSERM U 368), Ecole Normale Superieure, Paris, FR
- Lab. de Neurobiologie de l'apprentissage, de la mémoire et de la communication, Université Paris-Sud 11, Orsay, FR
- Lab. for Behavioral Genetics, Riken Brain Science Inst., Saitama, JP
- Lab. of Genetic Neuropharmacology, McLean Hospital, Harvard Medical School, Belmont, US
- Lab. of Neurobiology and Genetics, Rockefeller University, New York, US
- Mathematical Bioscience Inst., Ohio State University, Columbus, US
- Max Planck Inst. for Brain Research, Frankfurt, DE
- Max Planck Inst. for Immunobiology, Freiburg, DE
- Merck, Sharp & Dohme Neuroscience Research Centre, Harlow, GB
- Molekulare Neurobiochemie, Ruhr-Universität Bochum, DE
- Netherlands Cancer Inst., Amsterdam, NL
- Netherlands Inst. for Brain Research, Amsterdam, NL
- Nucleus for Interdisciplinary Sound Studies, University of Campinas, BR
- Psychiatrie et Neurobiologie (INSERM U513), Inst. Mondor de Médecine Moléculaire, Créteil, FR
- Royal Victoria Hospital, McGill University, Montreal, CA
- RS Dow Neurobiology Lab., Legacy Research, Portland, US
- Salk Inst., University of California, San Diego, US
- School of Biology, University of St Andrews, GB
- School of Biosciences, University of Birmingham, GB
- The Rudbeck Lab., Uppsala University Hospital, SE
- Zentrum für Molekulare Neurobiologie, Universität Hamburg, DE

Economy / Industry

- Alcon Lab. Inc., Fort Worth, US
- Bruker Biospin AG, Fällanden, CH
- Compex Medical SA, Ecublens, CH
- ESBATech AG, Zürich-Schlieren, CH
- GlaxoSmithKline AG, London, GB
- GlaxoSmithKline AG, Verona, IT
- Hocoma AG, Volketswil, CH
- Merck Serono International S.A., Geneva, CH
- Novartis Pharma Schweiz AG, Basel, CH
- Philips Medical Systems AG, Zurich, CH
- Warren Pharmaceuticals Inc., Ossining, US
- Zühlke Engineering AG, Schlieren, CH

Others

- Christopher Reeve Paralysis Foundation, Short Hills, US
- International Spinal Research Trust (ISRT), Surrey, GB

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	4 100 000	4 100 000	4 100 000	4 100 000	16 400 000	19
Self-funding from home institution[1]	1 500 000	1 500 000	2 200 000	2 200 000	7 400 000	9
Self-funding from ETH Zurich	1 500 000	1 500 000	1 500 000	1 500 000	6 000 000	7
Self-funding from project participants	12 681 098	12 681 098	12 681 098	12 681 098	50 724 392	60
Third-party funding[2]	999 384	1 000 000	583 334	1 401 712	3 984 430	5
Total	20 780 482	20 781 098	21 064 432	21 882 810	84 508 822	100

Personnel[3]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	FR	IT	US	RU	
Management	2.23[4]	5	50	5	50	6	3	1	0	0	0	0
Master students	24	16	67	8	33	23	0	1	0	0	0	0
Doctoral students	144	57	40	87	60	53	40	7	8	2	0	36
Postdoctoral students	34	14	41	20	59	6	7	4	1	1	1	14
Research associates	29	14	48	15	52	14	7	0	0	0	2	7
Senior researchers[5]	119	31	26	88	74	47	34	6	2	4	4	24
Other staff	53	39	74	14	26	37	8	0	1	1	1	5
Total	405.23	176	43	237	57	186	99	19	12	8	8	86

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. page 6). Since the start of the NCCR 6 projects have been funded by CTI at a total amount of 12.2 million CHF.
[3] Persons involved in the NCCR in the last reporting period (12 months)
[4] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[5] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Meier Jürg, Dr. (Chair)	Swiss National Science Foundation, Berne, CH
Bonhoeffer Tobias, Prof.	Max-Planck Institut für Neurobiologie, München-Martinsried, DE
Clarke Hosek Stéphanie, Prof.	Swiss National Science Foundation, Berne, CH
Compston Alastair, Prof.	Neurology Unit, University of Cambridge, GB
Ghisalba Oreste, Prof.	Swiss National Science Foundation, Berne, CH
Götz Magdalena, Prof.	Institute of Stem Cell Research GSF, National Research Center for Environment and Health, Neuherberg, DE
Herrling Paul, Dr.	Novartis Pharma AG, Basel, CH
Lindvall Olle, Prof.	Wallenberg Neuroscience Center, University Hospital of Lund, SE
Thier Hans-Peter, Prof.	Neurologische Universitätsklinik, Universität Tübingen, DE
Wiestler Otmar, Prof.	Deutsches Krebsforschungszentrum, Heidelberg, DE

NCCR Office SNSF

Bachmann Stefan, Dr.

Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern,
phone: + 41 (0)31 308 23 49, fax: + 41 (0)31 305 29 71,
sbachmann@snf.ch

North-South: Research Partnerships for Mitigating Syndromes of Global Change

NCCR North-South

Research

Work Package "Governance and Conflict"

Head: Goetschel L.
Deputy Head: Carton M.

- Negotiating Statehood
- Governance
- Conflict and Economy

Work Package "Livelihood Options and Globalisation"

Head: Müller-Böker U.
Deputy Head: Rabinovich A.

- Livelihoods, Concepts and Contexts
- Livelihood Strategies and Poverty
- Livelihoods and Territory

Work Package "Health and Environmental Sanitation"

Head: Tanner M.
Deputy Heads: Schertenleib R., Zinsstag J.

- Determinants of vulnerability and resilience
- Improved environmental sanitation
- Equity-effective interventions to alleviate poverty

Work Package "Natural Resources in Sustainable Development"

Head: Wiesmann U.
Deputy Head: Hurni H.

- Environmental dynamics, natural resources and livelihoods
- Knowledge, values and power in natural resource management
- Development-environment nexus in trans-contexual settings

Transversal Package "Syndrome Mitigation and its Scientific Foundations"

Head: Hurni H.
Coordinator: Rist S.

Extensive production systems in semi-arid regions – Options for sustainable future livelihoods
Leader: Bonfoh B.

The political economy of coffee: Global markets, local production and options for sustainable development
Leader: Ludi E.

The impact of development interventions disparities on the poverty - environment nexus: Contextuality of decision-making and mitigation strategies
Leader: Messerli P.

From vulnerability to resilience: Assessing the potential and limitation of a new conceptual approach for pathways to sustainable development
Leader: Obrist B.

Innovations in decision-making processes for sustainable urban projects
Leader: Rabinovich A.

Operationalising human security for livelihood protection: Analysis, monitoring and mitigation of existential threats by and for local communities
Leader: Schnabel A.

Sustaining livelihoods in trans-local and trans-national settings
Leader: Thieme S.

Knowledge, power and politics: Evaluating institutional and social practices in sustainable development and syndrome mitigation research
Leader: Zingerli C.

Research in Joint Areas of Case Studies (JACS)

The NCCR North-South carries out integrated, context-specific, problem- and mitigation-oriented research in the following regions:
East Africa (EAF)
Coordinator: Kiteme B. (Kenya)
Horn of Africa (HOA)
Coordinator: Debele B. (Ethiopia)
West Africa (WAF)
Coordinator: Cissé G. (Ivory Coast)
South-East Asia (SEA)
Coordinator: Koottatep T. (Thailand)
South Asia (SAS)
Coordinator: Upreti B. (Nepal)
Central Asia (CAS)
Coordinator: Arynova M. (Kyrgyzstan)
Central America and Caribbean (CCA)
Coordinator: Perez Gutierrez M.A. (Costa Rica)
South America (SAM)
Coordinator: De la Fuente M. (Bolivia)
Swiss Alps (ALP)
Coordinator: Wallner A. (Switzerland)

Partnership Actions for Mitigating Syndromes of Global Change (PAMS)

The NCCR North-South is implementing a series of pilot activities that apply research results in concrete development settings. These are proposed by partners and associated institutions through programme calls, selected by the Board, and executed in partnership with the WPs in JACS regions.

Platforms, Programmes etc.

Secretariat of the Swiss Commission for Research Partnerships with Developing Countries (KFPE)
Executive Secretary: Lys J.-A.

Home Institution

University of Bern

Start of the NCCR

July 1, 2001

NCCR Management

Directors
Hurni Hans, Prof.
phone: + 41 (0)31 631 88 76
hans.hurni@cde.unibe.ch

Wiesmann Urs, Prof.
phone: + 41 (0)31 631 88 69
urs.wiesmann@cde.unibe.ch

Coordinator
Breu Thomas, Dr.
phone: + 41 (0)31 631 30 58
thomas.breu@cde.unibe.ch

Deputy Coordinator
Herweg Karl, Dr.

Management Assistant
Vollenwyder Barbara, Ms.

Knowledge and Technology Transfer
Michel Claudia, Dr.

Education and Training
Herweg Karl, Dr.

Advancement of Women / Career Building
Zimmermann Anne, Dr.

Partnership Actions
Salmi Annika, lic. phil.

Communication
Breu Thomas, Dr.

Financial Management
Balsiger Urs, MBA

Address

NCCR North-South
University of Bern
Hallerstrasse 10
3012 Bern
phone: + 41 (0)31 631 52 72
fax: + 41 (0)31 631 85 44
nccr-north-south@cde.unibe.ch

Web Addresses

www.north-south.unibe.ch
www.nccr-north-south.unibe.ch

Public Relations

- Research Partnerships for Global Change, Innovation and Sustainable Development, 2008 brochure
- Research Partnerships for Mitigating Syndromes of Global Change, 2007, flyer
- Overview of Research, Research Partnerships in International Cooperation, 2004
- News on websites

Third Party Cooperation

(in progress)

Programmes

- IHDP

Research Institutions

- Abteilung Angewandte Linguistik (AAL), University of Bern, CH
- Centre for Molecular Microbiology and Infection, Imperial College, London, GB
- Centre Régional pour l'Eau Potable et L'Assainissement à faible coût (CREPA), Ouagadougou, BF
- Colegio de la Frontera Sur, Tapachula, MX
- Dept. of Anthropology, Kannur University (KU), Kerala, IN
- Dept. of Ecology and Natural Resources (IMECBIO), University of Guadalajara, Autlán, MX
- Dept. of Plant Biology, Faculty of Science, University of Yaoundé, CM
- Dept. of Social & Environmental Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok, TH
- Dept. of Social Anthropology, University of Basel, CH
- Dept. of Systems Analysis, Integrated Assessment and Modelling (SIAM), Swiss Federal Inst. of Aquatic Science and Technology, Duebendorf, CH
- Facultad Latinoamericana de Ciencias Sociales Programa Costa Rica, San José, CR
- Faculty of Environment and Resource Studies, Mahidol University, Nakhon Pathom, TH
- Fundación de la Universidad de Costa Rica para la Investigación (FUNDEVI), San José, CR
- Hochschuldidaktik, Universität Bern, CH
- Human and Natural Resource Studies Centre (HNRSC), Kathmandu University, NP

Heads of Individual Research Projects

Bonfoh Bassirou, Dr.	Swiss Tropical Institute STI, Bamako, ML
Carton Michel, Prof.	Institut Universitaire d'Etudes du Développement IUED, Genève, CH
Goetschel Laurent, Prof.	swisspeace, Bern, CH
Hurni Hans, Prof.	Centre for Development and Environment, GIUB, University of Bern, CH
Ludi Eva, Dr.	Overseas Development Institute ODI, London, GB
Messerli Peter, Dr.	Centre for Development and Environment, Vientiane, LA
Müller-Böker Ulrike, Prof.	Development Study Group, GIUZ, University of Zurich, CH
Obrist Brigit, Prof.	Swiss Tropical Institute STI, University of Basel, CH
Rabinovich Adriana, Dr.	Laboratoire de Sociologie Urbaine LaSUR, INTER, EPF Lausanne, CH
Schertenleib Roland, Dipl. Ing.	SANDEC, EAWAG-ETHZ, Dübendorf, CH
Schnabel Albrecht, Dr.	swisspeace, Bern, CH
Tanner Marcel, Prof.	Swiss Tropical Institute STI, University of Basel, CH
Thieme Susan, Dr.	Division of Human Geography, GIUZ, University of Zurich, CH
Wiesmann Urs, Prof.	Centre for Development and Environment, GIUB, University of Bern, CH
Zingerli Claudia, Dr.	Division of Human Geography, GIUZ, University of Zurich, CH

Regional JACS Coordinators

Arynova Mira	Regional Coordination Office Central Asia, Bishkek, KG
Cissé Guéladio, Prof.	Centre Suisse de Recherches Scientifiques, Abidjan, CI
Debele Berhanu	Regional Coordination Office Horn of Africa, Addis Abeba, ET
De la Fuente Manuel	Regional Coordination Office South America, Cochabamba, BO
Kiteme Boniface, Dr.	Centre for Training and Integrated Research in Arid and Semi-arid Lands Development CETRAD, Nanyuki, KE
Koottatep Thammarat, Dr.	Asian Institute of Technology (AIT), Pathumthani, TH
Perez Gutierrez Maria Angelina	Facultad Latinoamericana en Ciencias Sociales FLACSO-CR San José, CR
Upreti Bishnu Raj, Dr.	Regional Coordination Office South Asia, Kathmandu, NP
Wallner Astrid, Dr.	Centre for Development and Environment, GIUB, University of Bern, CH

North-South Partnership Institutions

Agroecologia Universidad Cochabamaba AGRUCO, BO
Ayuda Obrera Suiza AOS, La Paz, BO
Central Department of Geography CDG, Tribhuvan University, Kathmandu, NP
Centre de Support en Santé Internationale CSSI, N'Djaména, TD
Centre de Technique de la Planification et d'Economie Appliquée CTPEA, Port-au-Prince, HT
Centre for Development Studies CDS, Kerala, IN
Centre for Security Studies FSK, Swiss Federal Institute of Technology, Zurich, CH
Centre for Training and Integrated Research in Arid and Semi-Arid Lands Development CETRAD, Nanyuki, KE
Centre National d'Hygiène CNH, Nouakchott, MR
Centre Suisse de Recherches Scientifiques CSRS, Abidjan, CI
Centro Bartolomé de las Casas CBC, Centre for Andean Regional Studies, Colegio Andino, Cuzco, PE
Centro de Investigación para el Desarrollo CIDES, Universidad Mayor de San Andrés, La Paz, BO
City Government of Kunming, CN
Departamento de Organización del Espacio DOE, Universidad Centroamericana "José Simeón Cañas", San Salvador, SV
Département de Sociologie et Anthropologie, Université de Yaoundé DSA-UY, CM
Department of Geography, University Dar es Salaam, TZ
Department of Natural Science, Kyrgyz-Russian Slavic University, Bishkek, KG
Department of Urban Water Management UWM, EAWAG, Duebendorf, CH

Topics

The present-day world is threatened by increasing insecurity, which is caused by processes of global change, globalisation, and global disparities. There are regions where a number of core problems form clusters, which eventually lead to syndromes, the mitigation of which is a global challenge and a precondition for achieving sustainable development. The NCCR North-South will contribute, through high-quality, disciplinary, interdisciplinary and transdisciplinary research, to an improved understanding of the status of different syndromes of global change, the pressures these syndromes and their causes exert on different resources (human, natural, economic), and the responses of different social groups and society as a whole. By identifying the potentials of social systems for mitigating syndromes, by considering their dynamics, and by adhering to existing innovative solutions, the NCCR will also contribute to designing ways of mitigating syndromes. The NCCR North-South will enable Swiss research institutions to enhance partnerships with institutions in developing and transition countries, thereby building competence and capacity in order to develop socially robust knowledge for mitigation action. Through its activities and partnerships, the NCCR North-South will contribute to developing the capabilities of partner institutions and societies at large in developing and transition countries, thereby eventually helping these institutions to find sustainable solutions with the means available in their own local contexts.

Directorship of the Sierra de Manantlán Biosphere Reserve DRBSM, Autlán, MX
Ecole Inter-Etats d'Ingénieurs de l'Equipement Rural EIER, Ouagadougou, BF
Ecole Supérieure des Sciences Agronomiques ESSA, University of Antananarivo, MG
Ethiopian Amhara Region Agricultural Research Institute ARARI, Bahr Dar, ET
Facultad de Agronomia, Agroecologia, Universidad Cochabamba AGRUCO, BO
Facultad Latinoamericana de Ciencias Sociales FLACSO, San José, CR
Faculté des Sciences et Gestion de l'Environnement, Université d'Abobo-Adjamé - UAA-FGS, Abidjan, CI
Gujarat Institute for Development Research, Ahmedabad, IN
INESA Société Inter-Entreprises, Port-au-Prince, HT
Institute of Anthropology, University of Basel, CH
Institute of Economic Growth, University Enclave, New Delhi, IN
Institute of Social Anthropology ESUZ, University of Zurich, CH
Institute of Urbanism, Faculty of Architecture and Urbanism, Central University of Venezuela, Caracas, VE
Instituto de Investigaciones Sociales IIS de la Universidad Nacional Autonoma de Mexico UNAM, Mexico City, MX
Inter-Municipal Initiative IMI, Autlán, MX
Kunming Institute of Environmental Science, CN
Laboratoire de Recherches Vétérinaires et Zootechniques de Farcha LRVZ, N'Djaména, TD
Laboratory of Hydrology and Land Improvement HYDRAM, ISTE, EPF Lausanne, CH
Manantlán Institute of Ecology and Conservation of Biodiversity IMECBIO, University of Guadalajara, Autlán, MX
Mekong River Commission MRC, Vientiane, LA
Nepal Institute of Development Studies NIDS, Kathmandu, NP
Pollution Control Department PCD, Ministry of Natural Resources and Environment, Bangkok, TH
Post-graduate Course on Developing Countries ETHZ-NADEL, Zurich, CH
Potsdam Institute for Climate Impact Research PIK, Potsdam, DE
School of Environment, Resources and Development SERD, Asian Institute of Technology AIT, Bangkok, TH

- Ifakara Health Research and Development Centre (IHRDC), TZ
- Inst. Supérieur Inter-Etats de formation et de recherche dans les domaines de l'Eau, l'Energie, l'Environnement et les Infrastructures (EIER), Ouagadougou, BF
- Inst. for Human-Environment Systems (HES), Swiss Federal Inst. of Technology, Zurich, CH
- Inst. of Livestock, Veterinary Sciences and Pastures (ILVSP), Agrarian Academy, Bishkek, KG
- Inst. de Estudios Sociales (IESE), Universidad Mayor de San Simón, Cochabamba, BO
- Inst. del Conurbano (ICO), Universidad General Sarmiento (UNGS), Buenos Aires, AR
- Inst. Dr. José Maria Luis Mora, México D.F., MX
- Interdisziplinäres Zentrum für Frauen- und Geschlechterforschung (IZFG), Universität Bern, CH
- International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, NP
- Journalists for Democracy and Human Rights (JDHR), Islamabad, PK
- Postgraduate Program in Development Sciences, University Mayor de San Andrés (CIDES-UMSA), La Paz, BO
- Postgraduate Program in Social Work, Universidad Nacional Autónoma (PLATS-UNAH), Tegucigalpa, HN
- Sustainable Development Alternatives (SDA), Rawalpindi, PK
- Unidad Azcapotzalco, Universidad Autónoma Metropolitana (UAM-A), México D.F., MX
- Universidad de Ciencias y Artes de Chiapas (UNICACH), San Cristóbal de las Casas, MX
- Universidad Nacional Autonoma (UNAM), México D.F., MX

North-South: Research Partnerships for Mitigating Syndromes of Global Change

NCCR North-South

Others

- Bread for All / Brot für Alle (BFA), Berne, CH
- Cooperation and Training Division, Urban Research Inst. (URI), Vientiane, LA
- Fundación Sodis, Cochabamba, BO
- Holistic Understanding for Justified Research and Action (HUJRA), Mingora, PK
- Inst. del Bien Comun (IBC), Lima, PE
- Kyrgyz Sheep Breeding Association, Bishkek, KG
- Lao National Mekong Commission Secretariat (LNMCS), Vientiane, LA
- Maji na Ufanisi (Water & Development), Nairobi, KE
- OXFAM GB Bolivia, Fundación La Paz, Fundación para el Desarollo Participativo Comunitario (FUNDEPCO), La Paz, BO
- Plan Maestro para la Revitalización Integral de la Habana Vieja, Havana, CU
- PROClim, Forum for Climate and Global Change, Swiss Academy of Sciences, Berne, CH
- Rural Advisory Services "Chui", Bishkek, KG
- Science et Cité, Berne, CH
- State Secretariat for Economic Affairs (SECO), Bern, CH
- Sustainable Development Alternatives (SDA), Islamabad, PK
- Swiss Association of Research Managers and Administrators (SARMA), Università della Svizzera Italiana, Lugano, CH
- Swiss Information and Data Archive for the Social Sciences (SIDOS), Neuchâtel, CH
- Swiss Red Cross, Bishkek, KG
- Velux Foundation, Zurich, CH
- Water Supply and Sanitation Collaborative Council (WSSCC), Geneva, CH

Achievements

Four Work Packages (WP) and one Transversal Package (TP) form the scientific core of the NCCR North-South. Each of these brings together at least two Institutional Partners (IPs), representing specific fields of scientific competence that contribute to syndrome mitigation research. The four Work Packages focus on (1) governance and conflict transformation, (2) livelihoods and globalisation, (3) health and environmental sanitation, and (4) natural resources in sustainable development. Activities are carried out in nine partnership regions worldwide (JACS) on four continents. These regions form the focal point and platform of partnership-based disciplinary, inter- and transdisciplinary re-search projects on global change and sustainable development.

Scientific Output

Activities in the first six years led to 700 publications (of which over 250 refereed), 500 reports and more than 1200 presentations, all of which resulted directly from the research carried out in the programme. A total of 136 PhD studies have been launched so far, of which 48 are now completed and 88 are ongoing. In the past year, more than 20 new PhD students were selected for Phase 2.

Integration and Synthesis

The most important means of integration is the Transversal Package (TP). The TP focuses on "Syndrome mitigation and its scientific foundations", and works with eight TP projects working at the interface between at least two Work Package themes and in different partnership regions to allow comparison of patterns of global change problems. These TP projects were entrusted to research teams under the leadership of promising post-doctoral researchers from the North and the South who aspire to academic careers. After two years of activity, the TP projects have already produced a multitude of scientific outputs, proving their effectiveness in integrating research across disciplinary boundaries.

After six years of programme activity, the NCCR North-South has also started a mid-term synthesis of the programme's research results. The core output of this synthesis project will be a publication of about 400 pages, with contributions by researchers from all programme entities. The different contributions to this publication will be discussed at an International Conference, scheduled for 2 to 4 July 2008 in Switzerland.

Institutionalisation

The NCCR North-South elaborated a concept for the creation of an inter-university 'Doctoral Programme on Global Change, Innovation and Sustainable Development'. The idea behind this cooperation project is to build on the experience of the NCCR North-South by creating a permanent structure for sustainability research that focuses on the needs of developing and transition countries. By incorporating the experience of the NCCR North-South, the planned doctoral programme will be a unique addition to the landscape of higher education in Switzerland, guaranteeing training at doctoral, post-doctoral and possibly also master's levels in the long term. Participating institutions so far are the Universities of Bern, Zurich, and Basel, including the Swiss Tropical Institute and Swisspeace. The existing partnerships with research institutions in developing countries will continue to be an integral component of the programme.

Further information see www.north-south.unibe.ch

Sustainable Development Policy Institute SDPI, Islamabad, PK
Swiss Agency for Development and Cooperation SDC, Regional Cooperation Office, Bishkek, KG
Tajik Academy of Sciences, Dushanbe, TJ
UNESCO World Natural Heritage Site, Jungfrau-Aletsch-Bietschhorn JAB, Naters, CH
Universidad Mayor de San Simon UMSS, Cochabamba, BO
University of Cocody, Abidjan, CI
Uzbek Academy of Sciences, Tashkent, UZ
Yunnan Academy of Social Science, Kunming, CN

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	3 500 000	3 500 000	3 500 000	3 500 000	14 000 000	36
Self-funding from home institution[1]	490 714	425 766	452 595	476 376	1 845 451	5
Self-funding from project participants	1 396 046	1 384 763	1 229 949	1 285 208	5 295 966	14
Third-party funding from SDC	2 879 258	4 160 119	5 418 856	4 904 079	17 362 312	45
Total	8 266 018	9 470 648	10 601 400	10 165 663	38 503 729	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							KG	KE	NP	AR	DE	
Management	6.80[3]	6	35	11	65	15	0	0	0	0	1	5
Master students	72	34	47	38	53	30	2	6	10	0	0	24
Doctoral students	93	34	37	59	63	33	4	1	4	1	3	46
Postdoctoral students	4	1	25	3	75	0	0	0	0	0	0	4
Research associates	82	42	51	40	49	24	10	4	1	8	2	33
Senior researchers[4]	132	34	26	98	74	40	5	5	6	7	11	69
Other staff	71	40	56	31	44	28	5	9	4	5	2	20
Total	460.80	191	41	280	59	170	26	25	25	21	19	201

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Levy René, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Bradley David, Prof.	Department of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, London, GB
Brock Lothar, Prof.	Fachbereich Gesellschaftswissenschaften, Johann Wolfgang Goethe-Universität, Frankfurt am Main, DE
Flury Manuel, Dr.	Swiss Agency for Development and Cooperation SDC, Berne, CH
Hasler Martin, Prof.	Swiss National Science Foundation, Berne, CH
Jeffery Roger, Prof.	Department of Sociology, University of Edinburgh, Edinburgh, GB
Narasimha Reddy D., Prof.	Department of Economics, University of Hyderabad, Hyderabad, IN
Shisana Olive, Dr.	Human Sciences Research Council, Cape Town, ZA
Stocking Michael, Prof.	School of Development Studies, University of East Anglia, Norwich, GB
Wehrli Bernhard, Prof.	Swiss National Science Foundation, Berne, CH

NCCR Office SNSF

Christ Urs, Dr.

Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern
phone: + 41 (0)31 308 23 50, fax: + 41 (0)31 305 29 71
uchrist@snf.ch

Plant Survival in Natural and Agricultural Ecosystems
NCCR Plant Survival

Home Institution
University of Neuchâtel

Start of the NCCR
April 1, 2001

NCCR Management
Director
Rahier Martine, Prof.
phone: + 41 (0)32 718 31 37
martine.rahier@unine.ch

Deputy Director
Neuhaus Jean-Marc, Prof.
phone: + 41 (0)32 718 22 07
jean-marc.neuhaus@unine.ch

Coordinator
Arnold Claire, Dr.
phone: + 41 (0)32 718 25 03
claire.arnold@unine.ch

Office Secretary
Jauslin Carol, Mrs.
phone: + 41 (0)32 718 25 00
plant.survival@unine.ch

Communication
Chlebny Igor, Mr.
phone: + 41 (0)32 718 25 07
igor.chlebny@unine.ch

Knowledge and Technology Transfer
El Kadiri-Jan Tourya, Dr.
phone: + 41 (0)32 718 25 06
tourya.elkadiri-jan@unine.ch

Grant Jason, Dr.
phone: + 41 (0)32 718 25 22
jason.grant@unine.ch

Education and Training
Ted Turlings, Prof.
phone: + 41 (0)32 718 31 58
ted.turlings@unine.ch

Bobillier Christiane, Dr.
phone: + 41 (0)32 718 25 02
christiane.bobillier@unine.ch

Equal Opportunity
El Kadiri-Jan Tourya, Dr.
phone: + 41 (0)32 718 25 06
tourya.elkadiri-jan@unine.ch

Address
NCCR Plant Survival
Rue Emile Argand 11
Case postale 158
2009 Neuchâtel
phone: + 41 (0)32 718 25 00
fax: + 41 (0)32 718 25 01
plant.survival@unine.ch

Web Address
www.unine.ch/plantsurvival

Public Relations
- Plant Survival News (trilingual English, French and German)
- Press releases
- New layout of the website

Research

Module "Natural and Agro-Ecosystems"

Multitrophic interactions
Head: Turlings T.
Bacher S., Benrey B., Bshary R., Farmer T., Kuhlemeier C., Rahier M.

Genetic introgression and ecological consequences
H: Bigler F.
Felber F., Kuepfer P., Nentwig W., Romeis J.

Evolution and spread of potentially invasive plants
H: Guisan A.
Buttler A., Gillet F., Müller-Schärer H., Schaffner U., Steinger T.

Module "Disease Resistance and Pest Control"

Grapevine diseases and resistance mechanisms
H: Neuhaus J.-M.
Amrhein N., Métraux J.-P., Gindro K., Mauch-Mani B., Tamm L., Viret O.

Development of novel control methods for grape moths based on their sex pheromones and host plant attractants
H: Guerin P.

Module "Energy-Resources"

Plastid function and plant survival
H: Kessler F.
Hörtensteiner S., Fankhauser C., Rentsch D., Rochaix D., Zeeman S.

Mycorrhiza development and functioning, and its effect on soil structure
H: Martinoia E.
Gobat J.-G., Reinhardt D., Paszkowski U.

Module "Modelling and Statistics"

Statistical and dynamical modelling
H: Davison A.
Gillet F., Goldstein D., Bersier L.-F.

Technological Platforms, Programmes etc.

Sequencing and microarrays
H: Neuhaus J.-M.

Chemical analysis
H: Vallat A.

ICP-MS analysis
H: Föllmi K.

Greenhouse facilities
H: Felber F.

Data analysis
H: Davison A.

Graduate School
H: Turlings T.

GIS facilities (ECOSPAT lab)
H: Guisan A.

Heads of Individual Research Projects and Subprojects

Amrhein Nikolaus, Prof.
Institut für Pflanzenwissenschaften, ETH-Zentrum, Zürich
Bacher Sven, Prof.
Zoologisches Institut, Universität Bern
Benrey Betty, Dr.
Institut de Zoologie, Université de Neuchâtel
Bersier Louis-Félix, Dr.
Département de Biologie, Université de Fribourg
Bigler Franz, Dr.
Eidg. Forschungsanstalt für Agrarökologie und Landbau, Zürich
Bshary Redouan, Prof.
Institut de Zoologie, Université de Neuchâtel
Buttler Alexandre, Prof.
Institut fédéral de recherches sur la forêt, la neige et le paysage, Antenne romande c/o EPF Lausanne

Davison Anthony C., Prof.
Département de Mathématiques, EPF Lausanne
Fankhauser Christian, Prof.
Center for Integrative Genomics, University of Lausanne
Farmer Edward E., Prof.
Département de biologie Moléculaire Végétale, Université de Lausanne

Felber François, Dr.
Institut de Botanique, Université de Neuchâtel
Gillet François, Dr.
Laboratoire des Systèmes Ecologiques, EPF Lausanne
Gindro Katia, Dr.
Agroscope RAC Changins, Nyon
Gobat Jean-Michel, Prof.
Institut de Botanique, Université de Neuchâtel
Goldstein Darlene, Dr.
Département de Mathématiques, EPF Lausanne
Guerin Patrick, Dr.
Laboratoire de Physiologie sensorielle, Université de Neuchâtel

Topics

Plants are the primary producers of organic matter on land and central to almost all ecosystems. The survival and performance of plants is therefore of fundamental importance to both the preservation of biodiversity and sustainable agriculture. Plant survival in natural and agricultural systems is determined by a multitude of interactions with the biotic and abiotic environment, thus, to warrant biodiversity and sustainability, it is essential to increase our knowledge of these interactions.
We explore interactions among plants, and between plants, insects and pathogens from the molecule to the ecosystem and landscape level. We gather basic knowledge on resistance mechanisms in grapevine and apply this knowledge to develop new strategies to improve the health of the grapevine and the quality of its products, while minimising the impact on the environment. Other projects explore the mechanisms of resource exploitation and energy generation at the leaf-air and root-soil interfaces. To support these research efforts, novel statistics and modelling methods are being developed , thereby providing an impetus for such interdisciplinary collaboration in Switzerland.

Guisan Antoine, Prof.	Laboratoire de Biologie de la Conservation, Université de Lausanne
Hörtensteiner Stefan, Dr.	Pflanzenbiologisches Institut, Universität Bern
Kessler Felix, Prof.	Laboratoire de Physiologie Végétale, Université de Neuchâtel
Kuhlemeier Cris, Prof.	Pflanzenbiologisches Institut, Universität Bern
Kuepfer Philippe, Prof.	Institut de Botanique, Université de Neuchâtel
Martinoia Enrico, Prof.	Labor für Molekulare Pflanzenphysiologie, Universität Zürich
Mauch-Mani Brigitte, Dr.	Institut de Botanique, Université de Neuchâtel
Métraux Jean-Pierre, Prof.	Institut de Biologie Végétale, Université de Fribourg
Müller-Schärer Heinz, Prof.	Département de Biologie, Université de Fribourg
Nentwig Wolfgang, Prof.	Zoologisches Institut, Universität Bern
Neuhaus Jean-Marc, Prof.	Laboratoire de Biologie Moléculaire et Cellulaire, Université de Neuchâtel
Paszkowski Uta, Dr.	Dép. de Biologie moléculaire végétale, Université de Lausanne
Rahier Martine, Prof.	Laboratoire d'Entomologie et Ecologie animale, Université de Neuchâtel
Reinhardt Didier, Dr.	Département de Biologie et Zoologie, Université de Fribourg
Rentsch Doris, Prof.	Pflanzenbiologisches Institut, Universität Bern
Rochaix Jean-David, Prof.	Département de Biologie Moléculaire, Université de Genève
Romeis Jörg, Prof.	Agroscope FAL Reckenholz, Zürich
Schaffner Urs, Prof.	CABI Bioscience Swiss Centre, Delémont
Tamm Lucius, Dr.	Pflanzenschutz "Pflanzenkrankheiten", Forschungsinstitut für biologischen Landbau FiBL, Frick
Turlings Ted, Prof.	Laboratoire d'Entomologie et Ecologie Animale, Université de Neuchâtel
Vallat Armelle, Prof.	Institut de Chimie, Université de Neuchâtel
Viret Olivier, Dr.	Agroscope RAC Changins, Nyon
Zeeman Samuel C., Dr.	Institut für Pflanzenwissenschaften, ETH-Zentrum, Zürich

Members of the Advisory Board

Appel Klaus, Prof.	Institut für Pflanzenwissenschaften ETH Zentrum Zürich, CH
Baldwin Ian T., Prof.	Max Planck Institute of Chemical Ecology, DE
Edwards Peter, Prof.	Geobotanisches Institut, ETH Zentrum Zürich, CH
Hartmann Thomas, Prof.	Institut für pharmazeutische Biologie, Technische Universität Braunschweig, DE
Töpfer Reinhard, Prof.	Institut für Rebenzüchtung, BA Züchtungsforschung, DE

Third Party Cooperation

(in progress)

Programmes

- COST 858
- SiTraMaisBT

Research Institutions

- Academia Sinica, Taipei, TW
- Carnegie Institution of Washington, Stanford, US
- Center for Environmental Science, Appalachian Lab., Frostburg, US
- Center for Integrative Genomics, University of Lausanne, CH
- Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), Montpellier, FR
- Centre for Organic Agriculture, University of Newcastle, GB
- Centre for Sustainable Agriculture, Lancaster University, GB
- Dépt. de biologie moléculaire végétale, Université de Lausanne, CH
- Dept. of Biology, University of Technology of Darmstadt, DE
- Dept. of Horticulture and Landscape Architecture, University of Colorado, Fort Collins, US
- Dept. of Life Science, University Pohang, Postech, KR
- Dept. of organic farming and cropping, University of Kassel, DE
- Dept. of Plant Physiology, Umea University, SE
- Ecological Sediment and Soil Assessment (ECOSSA), München, DE
- Facultad de Agronomía, Universidad Mayor de San Andrés, La Paz, BO
- Horticulture Dept., Purdue University, US
- Inst. de Biologie Physico-chimique, Centre National de la Recherche Scientifique (CNRS), Paris, FR
- Inst. de recherche pour l'ingénierie de l'agriculture et de l'environnement (Cemagref), Grenoble, FR

- Inst. für Biowissenschaften, Universität Würzburg, DE
- Inst. für Pflanzenwissenschaft, ETH Zürich, CH
- Inst. of Botany, University of Basel, CH
- Inst. of Environmental Sciences, University of Zurich, CH
- Inst. of Grassland and Environmental Research (IGER), Aberystwyth, GB
- Inst. of Organic Chemistry, University of Innsbruck, AT
- Lab. Biominéralisations et paléoenvironnements, Université Pierre et Marie Curie, Paris, FR
- Lab. for Electron Microscopy, University of Chicago, US
- Lehrstuhl für Pharmazeutische Biologie, Universität Würzburg, DE
- Max-Planck Inst. of Molecular Plant Physiology, Golm, DE
- Plant Energy Biology Inst., University of Western Australia, Perth, AU
- Section Plant Genetics, Radboud University, Nijmegen, NL
- Swiss Inst. of Bioinformatics, Lausanne, CH
- Umweltforschungszentrum Leipzig-Halle GmbH (UFZ), DE

Economy / Industry

- Affymetrix, Inc., Santa Clara, US
- AgriSense-BCS Limited, Pontypridd, GB
- BASF Chemical Company, Ludwigshafen, DE
- Burri Agricide, Ligerz, CH
- Isagro S.p.A., Milano, IT
- Omya AG Agro, Oftringen, CH
- Suterra LLC, Bend, US

Others

- DLR-Rheinpfalz Phytomedizin / Biotechnologischer Pflanzenschutz, Neustadt, DE
- El Ceibo - Piaf, Sapecho, BO
- El Paraiso, Sapecho, BO
- RACINES, Geneva, CH

Achievements

Interdisciplinary research

The NCCR Plant Survival is interested in the interactions between plants and their environment. The use of grapevine and maize as model organisms has strengthened interdisciplinary research, allowing phytopathologists, entomologists, microbiologists, plant physiologists, and biochemists to work together. Petunia also promises new discoveries in the relationships between plants and pollinators, and through the observation of its roots that live in symbiosis with fungi. The impact of new organisms introduced in the natural environment is also investigated on different scales, from the laboratory to landscape and large scale crops. The research on energy and resources emphasises the key role played by light and soil on plant growth, nutrition, and resistance.

Technology transfer

Our partner institutions that are oriented towards applied research (Agroscope Changins-Wädenswil ACW; Agroscope Reckenholz-Tänikon ART; CABI Bioscience Centre; Research Institute of Organic Agriculture-FiBL; University of Applied Sciences, Wädenswil, HEV Sion, and SHL Zollikofen) are increasingly involved with the NCCR.

Around twenty applied projects are currently ongoing: six European Projects (3 FP6, 3 COST), two CTI/KTI, five projects are directly supported by industries, two projects are subsidised by foundations and three are financed by Swiss Agencies.

Public relations

The newsletter Plant Survival News appears twice a year in a tri-lingual issue (English, French and German). Additionally, a small brochure presenting the Second Phase research themes is available. The presentation of the NCCR's Thematic Groups on the website has been updated according to this brochure. Up to 10 press releases per year are regularly sent to the Swiss media to inform the public about the broad spectrum of our research network. The NCCR Plant Survival sponsored an exhibition at the Botanical Garden of Neuchâtel entitled "Bizzzzzzness between plants and insects". The exhibition attracted about 35 000 visitors. These measures make school students, general public, end-users, and policy makers aware of our scientific results.

Doctoral programme

During the previous academic year, ten courses in communication, tools for research, and scientific topics were organised, two of which are in collaboration with other institutions. The courses were followed by more than 200 participants, half of whom came from outside the University of Neuchâtel. Mobility grants were awarded to allow Ph.D. students to work in other laboratories and to present their research at international congresses. The Doctoral Programme is part of the part of the regular offer of the CUSO.

Education

The 58 Ph.D. students enrolled during 2006-2007 in the Doctoral programme Plants and their Environment were offered a choice between ten courses in communication, tools for research, and scientific topics. The Doctoral programme is part of the regular offer of the CUSO and as such organized several courses in collaboration with the 3ème cycle romand en sciences biologiques. Mobility grants were awarded to allow Ph.D. students to visit and work in other laboratories and to present their research at international congresses. A survey sent to all former Ph.D. students showed that the programme was largely appreciated and is encouraged to continue.

Equal opportunities

This year, four projects were jointly organised with the equal opportunities (EO) office of the University of Neuchâtel. Measures continue to be taken to offer young parents and highly qualified women measures to deal with the challenges of contemporary academic and administrative environments.

Further information see
www.unine.ch/nccr/

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	3 250 000	3 250 000	3 250 000	3 250 000	13 000 000	42
Self-funding from home institution[1]	1 240 025	1 160 461	600 000	600 000	3 600 486	12
Self-funding from project participants	3 125 324	3 299 219	3 500 768	3 507 582	13 432 893	44
Third-party funding[2]	270 162	326 796	173 237	0	770 195	3
Total	7 885 511	8 036 476	7 524 005	7 357 582	30 803 574	100

Personnel[3]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							FR	DE	GB	NL	US	
Management	5.23[4]	10	65	5	33	9	0	0	1	1	1	3
Master students	3	1	53	2	67	2	0	1	0	0	0	0
Doctoral students	68	30	63	38	56	38	15	9	0	0	2	8
Postdoctoral students	28	14	75	14	50	7	7	4	1	1	0	8
Research associates	8	2	49	6	75	6	1	0	0	0	0	1
Senior researchers[5]	56	13	74	43	77	33	6	5	4	2	1	6
Other staff	15	12	44	3	20	13	0	0	1	0	0	1
Total	183.23	82	59	111	58	108	29	19	7	4	4	27

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. page 6). Since the start of the NCCR 2 projects have been funded by CTI at a total amount of 2.7 million CHF.
[3] Persons involved in the NCCR in the last reporting period (12 months)
[4] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[5] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Ghisalba Oreste, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
N.N.	Swiss National Science Foundation, Berne, CH
Godfray Charles, Prof.	University of Oxford, Department of Zoologie, Oxford, UK
Gullino Maria Ludovica, Prof.	Università degli Studi, Facoltà Agraria, Torino, IT
Harr Jost, Dr.	Landwirtschaftlicher Forschungsrat, Erfindungsverwertungs AG, Basel, CH
Lambers Hans, Prof.	Faculty of Natural and Agricultural Sciences, University of Western Australia, AU
Pickett John, Prof.	Biological Chemistry Division, Rothamsted Research, Harpenden, GB
Scheel Dierk, Prof.	Department of Stress and Development Biology, Halle, DE
Schwarzenbach René, Prof.	Swiss National Science Foundation, Berne, CH

NCCR Office SNSF

Christ Urs, Dr.
Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern
phone: + 41 (0)31 308 23 50, fax: + 41 (0)31 305 29 71
uchrist@snf.ch

Climate Variability, Predictability and Climate Risks
NCCR Climate

Home Institution
University of Bern

Start of the NCCR
April 1, 2001

NCCR Management

Director
Stocker Thomas, Prof.
stocker@climate.unibe.ch

Deputy Director
Stephan Gunter, Prof.
gunter.stephan@vwi.unibe.ch

NCCR Executive Director
Grosjean Martin, Prof.
phone: + 41 (0)31 631 31 47
grosjean@giub.unibe.ch

Science Officer
Xoplaki Elena, Dr.
phone: + 41 (0)31 631 31 48
xoplaki@giub.unibe.ch

Communication
Meuli Kaspar, Mr.
phone: + 41 (0)31 631 31 49
meuli@giub.unibe.ch

Knowledge and Technology Transfer
Grosjean Martin, Prof.

Event Manager
Wälti Monika, Mrs.
phone: + 41 (0)31 631 31 45
waelti@giub.unibe.ch

Administrative Manager
Möhl Margret, Mrs.
phone: + 41 (0)31 631 31 45
moehl@giub.unibe.ch

IT-Experts
Martin Lorenz, Dr.
phone: + 41 (0)31 631 31 46
martin@giub.unibe.ch

Ferrante Basilio, Mr.
phone: + 41 (0)31 631 31 46
basil@giub.unibe.ch

Education and Training
Xoplaki Elena, Dr.

Advancement of Women
Xoplaki Elena, Dr.

Address
NCCR Climate
Universität Bern
Erlachstrasse 9a
3012 Bern
phone: + 41 (0)31 631 31 45
fax: + 41 (0)31 631 43 38
nccr-climate@giub.unibe.ch

Web Address
www.nccr-climate.unibe.ch

Research

Work Package 'Past Climate Variability'
Leader: Luterbacher J.

MONALISA Modelling and reconstruction of North Atlantic atmosphere-ocean variability (P 1.1)
Head: Stocker T.
Raible C.

PALVAREX Paleoclimate variability and extreme events
H: Wanner H.
Luterbacher J.

VIVALDI Variability in Ice, Vegetation and Lake Deposits- Integrated
H: Schwikowski M.
Gäggeler H., Beer J., Boesch R., Bugmann H., Grosjean M., Leuenberger M., Lischke H.

EXTRACT Extended Thousand-year Reconstruction of Alpine Climate from Tree-rings
H: Esper J.
Frank D.

Work Package 'Climate Dynamics and the Future'
Leader: Davies H.

GLOBCLIM Global Climate Processes and Scenarios

H: Wild M.
Lohmann U., Ohmura A.

REGCLIM Regional Climate Processes and Scenarios
H: Schär C.

VARCLIM Intra-seasonal and Inter-annual Climate Variability

H: Davies H.C.
Martius O.

STARTWAVE Acquisition and Analysis of Critical Observations
H: Mätzler C.
Philipona R., Kämpfer N., Morland J., Schmutz W., Vuilleumier L.

PRECLIM Operational Climate Prediction and Risk Analysis
H: Appenzeller C.
Liniger M.

Work Package 'Ecosystems impacts and management'
Leader: Fuhrer J.

PLANT/SOIL How Do Extreme Climate Events Affect Plant/Soil Interactions in Agroecosystems?

H: Feller U.
Buchmann N., Schmidt M.

GRASS Climate Change and Food Production
H: Fuhrer J.
Calanca P. L., Lehmann B.

CANOPY Hydrological Implications of Atmospheric CO2 Enrichment in Forests
H: Körner C.
Leuzinger S.

ECOHYDRO Projecting the Impacts of Changes in Climate and Land Use on the Ecology and Hydrology of Mountain Catchments
H: Bugmann H.
Fahse L., Wolf A.

Work Package 'Climate Risks'
Leader: Stephan G.

ETS Assessment of Energy Technology Strategies

H: Wokaun A.
Kypreos S., Turton H.

CVR Climate Vulnerability and Risk in a Post-Kyoto World
H: Stephan G.
Buob S.

MIADAC Modelling Sectoral Climate Change Policies: Mitigation, Adaptation, and Acceptability
H: Thalmann P.
Altamirano J.-C.

CAPRICORN Climate Anomalies and Coping Strategies of Societies in Central Europe: the Historical Dimension
H: Pfister Ch.
Poliwoda G.

Integrated Projects and Fast Track Studies

SECOND CHANCE Socio-economic Consequences Due to Changing Climate and Extreme Events
H: Beniston M.

Programmes

Yearly Summer School
H: Grosjean M.

PhD student meetings
H: Xoplaki E.

Workshops co-organized with ProClim
H: Grosjean M.
Xoplaki E.

Topics

Comprehensive insight and sound understanding of 1) natural climate variability, modelling and high-resolution climate reconstruction over the last 1000 years, 2) global and regional climate processes, seasonal and inter-annual climate variability and more accurate predictions, including extreme events, 3) assess implications of climate variability and change for ecosystems and to evaluate possible adaptive strategies for the management of forests and agriculture and, 4) potential perspectives for regional and global post-Kyoto climate policies, vulnerability of regional and global economies to the adaptation to global climate change. The NCCR Climate links four work-packages: "Past Climate Variability", "Climate Predictability, Processes, and Projections", "Ecosystem Impacts and Adaptation", and "Climate Risks". The NCCR Climate is a research network of institutions within Switzerland with ONE common scientific vision and collaborates with national and international programmes (ProClim, WCRP-CLIVAR, IGBP, UNFCCC, IPCC, ERA). The NCCR Climate commits itself to a firm effort in education, to knowledge transfer and interaction with key-persons in administration, politics, the private sector and the public.

Heads of Individual Research Projects and Subprojects

Altamirano Juan-Carlos, Dr.	Lab. de recherches en économie et management de l'environnement, EPF Lausanne
Appenzeller Christof, PD Dr.	MeteoSchweiz, Zürich
Beer Jürg, Prof.	EAWAG, Dübendorf
Beniston Martin, Prof.	Climate Research Group, Université de Genève
Brönnimann Stefan, Prof.	Institut für Atmosphäre und Klima, ETH Zürich
Buchmann Nina, Prof.	Institut für Pflanzenwissenschaften, ETH Zürich
Bugmann Harald, Prof.	Waldökologie, ETH Zürich
Buob Seraina	Volkswirtschaftliches Institut, Universität Bern
Calanca Pierluigi, Dr.	ART, Reckenholz
Davies Huw C., Prof.	Institut für Atmosphäre und Klima, ETH Zürich
Esper Jan, PD Dr.	WSL, Birmensdorf
Fahse Lorenz, Dr.	Waldökologie, ETH Zürich
Feller Urs, Prof.	Institut für Pflanzenwissenschaften, Universität Bern
Fischlin Andreas, Dr.	Terrestrische Systemökologie, ETH Zürich
Frank David, Dr.	WSL, Birmensdorf
Fuhrer Jürg, Prof.	ART, Reckenholz
Gäggeler Heinz, Prof.	Departement für Chemie und Biochemie, Universität Bern
Grosjean Martin, Prof.	Geographisches Institut, Universität Bern
Gyalistras Dimitrios, Dr.	Terrestrische Systemökologie, ETH Zürich
Kämpfer Niklaus, Prof.	Institut für Angewandte Physik, Universität Bern
Körner Christian, Prof.	Botanisches Institut, Universität Basel
Kypreos Sokrates, Dr.	Paul Scherrer Institut, Villigen
Lehmann Bernhard, Prof.	Institut für Agrarwirtschaft, ETH Zürich
Leuenberger Markus, PD Dr.	Abt. Klima- und Umweltphysik, Universität Bern
Liniger Mark, Dr.	Meteo Schweiz, Zürich
Lischke Heike, Dr.	WSL, Birmensdorf
Lohmann Ulrike, Prof.	Institut für Atmosphäre und Klima, ETH Zürich
Luterbacher Jürg, PD Dr.	Geographisches Institut, Universität Bern
Martius Olivia, Dr.	Institut für Atmosphäre und Klima, ETH Zürich
Mätzler Christian, Prof.	Institut für Angewandte Physik, Universität Bern
Morland June, Dr.	Institut für Angewandte Physik, Universität Bern
Pfister Christian, Prof.	Historisches Institut, Universität Bern
Philipona Rolf, PD Dr.	MeteoSchweiz, Payerne
Poliwoda Guido, Dr.	Historisches Institut, Universität Bern

Third Party Cooperation

Programmes

- ADAM (FP6)
- ALARM (FP6)
- AMIP
- AustroClim
- CarboEurope-IP (FP6)
- CARBOOCEAN IP (FP6)
- CIRCE
- COSMO-LEPS
- COST 725
- COST 733
- COST 734
- DILPA
- ECSN
- ENSEMBLES (FP6)
- EPICA-Mis
- EUROCEANS
- GAINS-ASIA
- GrassGas
- IGBP - PAGES
- IPCC
- Lignin Turnover
- MAP D-Phase
- MedCLIVAR
- MILLENNIUM (FP6)
- NDSC
- NEEDS
- NICOLA
- PHENOCLIM
- SoilGas
- WCRP-BSRN
- WCRP-CLIVAR
- WMO-LRF
- WWRP-MAP

Research Institutions

- Alfred Wegener Inst., Bremerhaven, DE
- British Antarctic Survey, Cambridge, GB
- Center for Environmental Prediction, Rutgers Univ., New Brunswick, US
- Centre for Marine and Climate Research, University of Hamburg, DE
- Climate and Global Dynamics Divison, National Center for Atmospheric Research, Boulder, US
- Dépt. des sciences du milieu et de l'aménagement du territoire, Université catholique de Louvain, BE
- Dépt. Energie et Politiques de l'Environnement du LEPII, Université Pierre Mendès-France, Grenoble, FR
- Dept. of Atmospheric and Oceanic Sciences, University of California, Los Angeles, US
- Dept. of Earth Science, University of Bergen, NO

- Dept. of Environmental Sciences, University of Milano, IT
- Dept. of Finance Decision, Hong Kong Baptist Univ., CN
- Dept. of Geography, San Diego State University, US
- Dept. of Meteorology, University of Reading, GB
- Dept. of Physics, Unversity of Oxford, GB
- Dept. of Plant Biology, University of Illinois, Urbana, US
- Deutsches Inst. für Wirtschaftsforschung, Humboldt-Universität zu Berlin, DE
- Ecosystem Modelling and Biodiversity Studies Group, Lund University, SE
- Environmental Change Inst.0, University of Oxford, GB
- European Centre for Medium Range Weather Forecasts, Reading, GB
- Fachbereich Volkswirtschaftslehre, Universität Trier, DE
- Fraunhofer-Inst. für System- und Innovationsforschung, Karlsruhe, DE
- Geology and Geophysics Dept., Woods Hole Oceanographic Inst., Woods Hole, US
- Inst. für Energiewirtschaft und Rationelle Energieanwendung (IER), Universität Stuttgart, DE
- Inst. für Umweltphysik, Universität Heidelberg, DE
- Inst. National sur la Recherche Agron. (INRA), Clermont-Ferrand, FR
- Inst. for Energy Environment Economy, Tsinghua University, Beijing, CN
- Inst. of Geography, University of Würzburg, DE
- Inst. of Geophysics, Univ. of Copenhagen, DK
- Inst. of Soil Science, TU Berlin, DE
- International Inst. for Applied Systems Analysis (IIASA), Laxenburg, AT
- International Pacific Research Center, University of Honolulu, US
- Judge Business School, University of Cambridge, GB
- Lab. de Glaciologie et Géophysique de l'Environnement (LGGE-CNRS), Grenoble, FR
- Lab. des Sciences du Climat et de l'Environnement (LSCE-CNRS), Gif-sur-Yvette, FR
- Massachusetts Inst. of Technology, Cambridge, US
- Max Planck Inst. for Biogeochemistry, Jena, DE
- Max Planck Inst. for Meteorology, Hamburg, DE
- National Centre for Atmospheric Research (NCAR), Boulder, US

Climate Variability, Predictability and Climate Risks

NCCR Climate

Achievements

The SNSF Review Panel stated in the Assessment Report 2004: "The NCCR Climate is unique in its interdisciplinary focus, not just for Switzerland or Europe, but globally".
Building on firm structural and institutional foundations, the NCCR Climate network led to significant achievements in four areas: distinct scientific impact, international leadership through networks, sustained education at postgraduate level, and extended public relations. The Graduate School "Climate Sciences" (M.Sc. and Ph.D. University of Bern) concerted with the M.Sc. "Atmospheric and Climate Science" (S-EN ETH) opened in 2006/ 2007 and offers high-level interdisciplinary studies on climate in a wide range of fields with the support of world-leading researchers.

Science

The NCCR Climate shaped the profile of Swiss climate research through collaborative novel and timely scientific contributions with a high impact. Examples are the reconstruction of temporally highly-resolved European temperature and precipitation fields back to 1000 or the assessment of extreme climate such as the European summer 2003 being the hottest of the last 500 years. Simulations with different climate models show that about every second summer can be as warm or warmer in 2070 - 2100 than the summer 2003. With a focus on Switzerland, a set of scenarios for severe climate events (heat-waves, wind, drought, heavy precipitation, flood) has been produced, and the impact on society, agriculture and forests has been assessed. Information about extreme events in a changing climate is vital for risk assessment in financial business (e.g., investment and insurance). Operational tools for the climate forecast of up to six months were developed, novel ways of coupling climate and economic models were explored, and future ways of the Kyoto process were studied. Evidently, a hierarchy of state-of-the-art models (global and regional climate models, regional and local impact models) and large observational datasets are a prerequisite to address such targets.

Other Aspects

NCCR Climate researchers take leadership in the UNFCC, IPCC process and in international programmes (IGBP, WCRP, WMO, ERA). The NCCR Climate Summer School is a highly competitive internationally recognised platform for young scientists and attracts distinguished teachers. The NCCR Climate works closely with stakeholders, governmental agencies and the private sector. Public interest in NCCR Climate research is unprecedented. In 2007 the NCCR Climate had its first major structural impact: the University of Berne inaugurated the Oeschger Center for Climate Change Research!

Further information see
www.nccr-climate.unibe.ch

Raible Christoph, Dr.
Abt. Klima und Umweltphysik, Universität Bern
Schär Christoph, Prof.
Institut für Atmosphäre und Klima, ETH Zürich
Schmidt Michael W.I., Prof.
Geographisches Institut, Universität Zürich
Schmutz Werner, Prof.
Physikalisch-Meteorologisches Observatorium Davos
Schwikowski Margit, PD Dr.
Paul Scherrer Institut, Villigen
Seneviratne Sonia, Prof.
Institut für Atmosphäre und Klima, ETH Zürich
Stampfli Andreas, PD Dr.
Institut für Pflanzenwissenschaften, Universität Bern
Stephan Gunter, Prof.
Volkswirtschaftliches Institut, Universität Bern
Stocker Thomas, Prof.
Abt. Klima- und Umweltphysik, Universität Bern
Thalmann Philippe, Prof.
Lab. de recherches en économie et management de l'environnement, EPF Lausanne
Tinner Willy, Prof.
Institut für Pflanzenwissenschaften, Universität Bern
Turton Hal, Dr.
Paul Scherrer Institut, Villigen
Vuilleumier Laurent, Dr.
MeteoSwiss, Payerne
Wanner Heinz, Prof.
Geographisches Institut, Universität Bern
Wild Martin, Dr.
Institut für Atmosphäre und Klima, ETH Zürich
Wolf Annett, Dr.
Waldökologie, ETH Zürich
Wokaun Alexander, Prof.
Paul Scherrer Institut, Villigen

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	2 900 000	2 612 000	2 466 000	2 022 000	10 000 000	20
Self-funding from home institution[1]	910 638	579 454	691 800	772 000	2 953 892	6
Self-funding from project participants	5 732 839	3 767 619	4 449 002	4 290 934	18 240 394	36
Third-party funding	12 893 713	492 940	2 777 520	2 777 520	18 941 693	38
Total	22 437 190	7 452 013	10 384 322	9 862 454	50 135 979	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	FR	AT	IT	US	
Management	4.53[3]	5	42	7	58	10	1	0	0	1	0	1
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	60	17	28	43	72	41	13	6	1	2	0	7
Postdoctoral students	25	8	32	17	68	15	12	1	2	1	2	3
Research associates	13	4	31	9	69	5	3	1	1	0	0	1
Senior researchers[4]	55	8	15	47	85	35	13	4	3	0	2	7
Other staff	20	8	40	12	60	23	1	0	0	1	0	1
Total	177.53	50	27	135	73	129	43	12	7	5	4	20

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Schwarzenbach René, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Böhringer Christoph, Prof.	Center for European Economic Research, ZEW, Mannheim, DE
Bradley Raymond, Prof.	Department of Geoscience, University of Massachussetts, US
Cramer Wolfgang, Prof.	Potsdam Institute for Climate Impact Research, Potsdam, DE
Endres Alfred, Prof.	Fernuniversität Hagen, Hagen, DE
Gregory Peter, Prof.	Scottish Crop Research Institute, Dundee, GB
Hartmann Dennis, Prof.	Department of Atmospheric Sciences, University of Washington, US
Höppe Peter, Prof.	Fachbereich GeoRisikoForschung/Umweltmanagement, Münchener Rückversicherungs-Gesellschaft, DE
Levy René, Prof.	Swiss National Science Foundation, Berne, CH
Van den Bergh Hubert, Prof.	Swiss National Science Foundation, Berne, CH

NCCR Office SNSF

Christ Urs, Dr.

Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern
phone: + 41 (0)31 308 23 50, fax: + 41 (0)31 305 29 71
uchrist@snf.ch

- National Oceanic and Atmospheric Administration (NOAA), U.S. Dept. of Commerce, Boulder, US
- Natural Resource Ecology Lab., Colorado State University, Fort Collins, US
- Physical Sciences Divsion, U.S. Dept. of Commerce, Boulder, US
- Potsdam Inst. for Climate Impact Research (PIK), Potsdam, DE
- Public System Group, Indian Inst. of Management, Ahmedabad, IN
- School of Computing, National University of Singapore, SG
- School of Environmental Sciences, University of East Anglia, Norwich, GB
- U.S. Arid-Land Agricultural Research Center, Maricopa, US

Economy / Industry

- KANLO Consultants, Lyon, FR
- Ordecsys Sàrl, Chêne-Bourgeries, CH
- SwissRe, Zürich, CH

Others

- Bundesamt für Energie (BFE), Bern, CH
- Bundesamt für Landestopographie (Swisstopo), Wabern, CH
- Bundesamt für Umwelt (BAFU), Bern, CH
- Bundesamt für Wasser und Geologie (BWG), Bern, CH
- Commissariat à l'Energie Atomique (CEA), Toulouse, FR
- Dendrolabor Wallis, Brig, CH
- French Ministry of equipment, transportation, and housing, Paris, FR
- Inst. Français des Relations Internationales (IFRI), Paris, FR
- International Atomic Energy Acency (IAEA), Wien, AT
- MeteoFrance, Toulouse, FR
- MeteoSwiss, Zürich, CH
- Past Global Changes of IGBP (PAGES), Bern, CH
- ProClim Forum for Climate, Bern, CH
- United Nations Framework Convention on Climate Change (UNFCCC), Bonn, DE
- Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen (WBGU), Berlin, DE

Materials with Novel Electronic Properties – Basic Science and Applications
NCCR MaNEP

Home Institution
University of Geneva

Start of the NCCR
July 1, 2001

NCCR Management
Director
Fischer Øystein, Prof.
phone: +41 (0)22 379 62 70
Oystein.fischer@physics.unige.ch

Deputy Directors
Renner Christoph, Prof.
phone: +41 (0)22 379 35 44
christoph.renner@physics.unige.ch

Van der Marel Dirk, Prof.
phone: +41 (0)22 379 62 34
dirk.vandermarel@physics.unige.ch

Scientific Managers
Decroux Michel, Dr.
phone: + 41 (0)22 379 63 24
Michel.decroux@physics.unige.ch

Manuel Alfred, Dr.
phone: + 41 (0)22 379 62 93
Alfred.manuel@physics.unige.ch

Administrative Manager
Bretton Isabelle, Mrs.
phone: + 41 (0)22 379 62 18
Isabelle.bretton@physics.unige.ch

Knowledge and Technology Transfer
Kuhn Matthias, Mr.
phone: + 41 (0)22 379 34 87
Matthias.kuhn@physics.unige.ch

Education and Training
Decroux Michel, Dr.
Berthod Christophe, Dr.
phone: +41 (0)22 379 68 95
Christophe.berthod@physics.unige.ch

Advancement of Women
Decroux Michel, Dr.

Computer and Internet Resources
Maggio-Aprile Ivan, Dr.
phone: + 41 (0)22 379 61 13
Ivan.maggio-aprile@physics.unige.ch

Communication
Anne Rougemont, Mrs.
phone: + 41 (0)22 379 64 99
Anne.rougemont@physics.unige.ch

Address
NCCR MaNEP
Section de physique
Université de Genève
24, quai E.- Ansermet
1211 Genève 4
phone: + 41 (0)22 379 30 13
fax: + 41 (0)22 379 68 69
manep@physics.unige.ch

Web Address
www.manep.ch

Research
Strongly interacting electrons, low-dimensional and quantum fluctuation dominated systems
Head: Sigrist M.

Participating members: Blatter G., Büttiker M., Degiorgi L., Forró L., Giamarchi T., Grioni M., van der Marel D., Mesot J., Mila F., Ott H.R., Schlapbach L., Sigrist M., Troyer M.

Superconductivity, unconventional mechanism and novel materials
H: Van der Marel D.
Participating members: Baeriswyl D., Bernhard C., Blatter G., Büttiker M., Fischer Ø., Giamarchi T., Grioni M., Keller H., Sigrist M., van der Marel D.

Crystal growth
H: Forró L.

Participating members: Karpinski J., Margaritondo G., Mesot J., Schlapbach L., van der Marel D.

Novel materials
H: Hulliger J.

Participating members: Hulliger J., Karpinski J., Nesper R., Schilling A., Schlapbach L.

Thin films, artificial materials and novel devices
H: Triscone J.-M.

Participating members: Aebi P., Fischer Ø., Schilling A., Triscone J.-M., van der Marel D.

Industrial applications and pre-application development
H: Fischer Ø.

Participating members: Abplanalp M., Böni P., Eckert D., Fischer Ø., Flükiger R., Forró L., Hasler M., Hofer W., Mesot J., Nesper R., Sommer P., Triscone J.-M.

Platforms, Programmes etc.
Industry Network

Workshop MaNEP «Les Diablerets»

Summer School MaNEP «Saas-Fee»

MaNEP Mobile Post-Doc Program

Advancement of Women MaNEP Summer Internships

Forum Members (participating to the research projects)

Abplanalp Markus, Dr.	ABB Corporate Research Ltd, Baden-Dättwil
Aebi Philipp, Prof.	Institut de Physique, Université de Neuchâtel
Baeriswyl Dionys, Prof.	Institut de Physique Théorique, Université de Fribourg
Bernhard Christian, Prof.	Département de Physique, Université de Fribourg
Blatter Gianni, Prof.	Institut für Theoretische Physik, ETH-Hönggerberg
Büttiker Markus, Prof.	Département de Physique Théorique, Université de Genève
Degiorgi Leonardo, Prof.	Laboratorium für Festkörperphysik, ETH-Hönggerberg
Eckert Daniel, Dr.	Bruker AG, Fällanden
Fischer Øystein, Prof.	Département de Physique de la Matière Condensée, Université de Genève
Flükiger René, Prof.	Département de Physique de la Matière Condensée, Université de Genève
Forró László, Prof.	Institut de Génie Atomique, EPF Lausanne
Giamarchi Thierry, Prof.	Département de Physique de la Matière Condensée, Université de Genève
Grioni Marco, Prof.	Laboratoire de spectroscopie électronique, EPF Lausanne
Hasler Martin, Prof.	Laboratoire de Systèmes Nonlinéaires, EPF Lausanne
Hulliger Jürg, Prof.	Chemistry & Biochemistry, Universität Bern
Karpinski Janusz, Dr.	Laboratorium für Festkörperphysik, ETH-Hönggerberg
Keller Hugo, Prof.	Institut für Physik, Universität Zürich
Margaritondo Giorgio, Prof.	Laboratoire de Physique des Matériaux Electroniques, EPF Lausanne
Mesot Joel, Dr.	Laboratory for Neutron Scattering, ETHZ/PSI
Mila Frédéric, Prof.	Institut de Physique Théorique, BSP, EPF Lausanne
Morenzoni Elvezio, Dr.	Laboratory for Muon-Spin Spectroscopy, PSI, Villigen
Nesper Reinhard, Prof.	Laboratorium für Anorganische Chemie, ETH-Hönggerberg
Ott Hans-Rudolf, Prof.	Laboratorium für Festkörperphysik, ETH-Hönggerberg
Renner Christophe, Prof.	Dép. de Physique de la Matière Condensée, Université de Genève

Topics

In the last twenty years, numerous new electronic materials have been discovered with interesting and often complex crystalline structures and outstanding new electronic properties. These new striking properties are found in some magnetic, ferroelectric and superconducting compounds. All these compounds have a large potential for applications and we believe that they will play a key role in advanced future electronic devices. Among the materials displaying these unexpected exceptional properties, many share in common a low dimensionality and a low carrier density. Most of them are complex oxide systems and, in many of these materials, electronic interactions play an important role making these systems very difficult to treat theoretically. Another characteristic of these systems is that they often have competing ground states, for instance magnetic and superconducting, which makes them very sensitive to many external parameters, leading to interesting functionalities. In MaNEP, the main goals of our NCCR are to develop a basic understanding of these new materials, to prepare for their applications, and to train young scientists in this important field for future electronic applications.

Rice T. Maurice, Prof.	Institut für Theoretische Physik, ETH-Hönggerberg
Schilling Andreas, Prof.	Institut für Physik, Universität Zürich
Schlapbach Louis, Prof	Materialprüfungs- und Forschungsanstalt, EMPA Dübendorf
Sigrist Manfred, Prof.	Institut für Theoretische Physik, ETH-Hönggerberg
Triscone Jean-Marc, Prof.	Dép. de Physique de la Matière Condensée, Université de Genève
Troyer Matthias, Prof.	Institut für Theoretische Physik, ETH-Hönggerberg
van der Marel Dirk, Prof.	Dép. de Physique de la Matière Condensée, Université de Genève

Members of the Scientific Committee

Fischer Øystein, Prof.	Dép. de Physique de la Matière Condensée, Université de Genève
Forró László, Prof.	Institut de Génie Atomique, EPF Lausanne
Hulliger Jürg, Prof.	Chemistry & Biochemistry, Universität Bern
Sigrist Manfred, Prof.	Institut für Theoretische Physik, ETH-Hönggerberg
Triscone Jean-Marc, Prof.	Dép. de Physique de la Matière Condensée, Université de Genève
van der Marel Dirk, Prof.	Dép. de Physique de la Matière Condensée, Université de Genève

Members of the Internal Evaluation Board

Fischer Øystein, Prof.	Dép. de Physique de la Matière Condensée, Université de Genève
Flükiger René, Prof.	Dép. de Physique de la Matière Condensée, Université de Genève
Forró László, Prof.	Institut de Génie Atomique, EPF Lausanne
Hulliger Jürg, Prof.	Chemistry & Biochemistry, Universität Bern
Ott Hans-Rudolf, Prof.	Laboratorium für Festkörperphysik, ETH-Hönggerberg
Rice T. Maurice, Prof.	Institut für Theoretische Physik, ETH-Hönggerberg
Sigrist Manfred, Prof.	Institut für Theoretische Physik, ETH-Hönggerberg
Triscone Jean-Marc, Prof.	Dép. de Physique de la Matière Condensée, Université de Genève
van der Marel Dirk, Prof.	Dép. de Physique de la Matière Condensée, Universitéde Genève

Advisory Board

Blank Dave, Prof.	Technische Natuur Wetenschappen, University of Twente, Enschede, NL
Cava Robert, Prof.	Department of Chemistry, Princeton University, USA
Georges Antoine, Prof.	Centre de Physique Théorique, Ecole Polytechnique, Palaiseau, FR
Jerome Denis, Prof.	Laboratoire de Physique des Solides, Université Paris-Sud Orsay, Orsay, France
Martinoli Piero, Prof.	Università della Svizzera Italiana, Lugano, CH
Millis Andrew, Prof.	Departement of Physics, Columbia University, USA
Sawatzky George, Prof.	Physics Department, University of British Columbia, Vancouver, CA

Public Relations

- Electronic Newsletter (about 9 per year)
- General presentation brochure & flyer
- Website: regular updates
- School Movie: "Voyage en classe Perovskite"
- Science Cafes for high school students
- Sponsoring: Einstein exhibition
- 2005 Year of Physics: key-partner of Student Fair (Geneva)
- Part of several public and education events
- Lab visits & Open doors
- TV and radio programmes
- Press releases

Third Party Cooperation

(in progress)

Programmes

- CMA (FP6-NMP)
- COST (P16-ECOM)
- FUNCARS (FP5)
- INTAS (FP6-NIS)
- NEDO
- Pishift (ESF)
- THIOX (ESF)

Research Institutions

- Centre de Recherches sur Très Basses Températures, CNRS, Grenoble, FR
- Chimie du Solide et Inorganique Moléculaire, Univ. de Rennes, FR
- Dept. de Fisica, Universitat de les Illes Balears, Palma de Mallorca, ES
- Dépt. de génie électrique, Ecole Polytechnique, Montréal, CA
- Dépt. de Physique Théorique des Matériaux, Université de Liège, BE
- Dept. of Applied Physics and Physics, Yale University, New Haven, US
- Dept. of Applied Physics, Osaka University, Osaka, JP
- Dept. of Physics and Astronomy, Rutgers University, Piscataway, US
- Dept. of Physics and Astronomy, University College London, GB
- Dept. of Physics and Astronomy, Univ. of British Columbia, Vancouver, CA
- Dept. of Physics and Astronomy, University of Rochester, US

- Dept. of Physics Solid State Theory, Lund Univ., SE
- Dept. of Physics, Louisiana State Univ., Baton Rouge, US
- Dept. of Physics, Stanford University, US
- Dept. of Superconductivity, University of Tokyo, Tokyo, JP
- Dipart. di Fisica, Università la Sapienza, Roma, IT
- Division of X-ray Physics, Dept. of Physical Sciences, Univ. of Helsinki, FI
- Ecole Supérieure d'Ingénieurs d'Annecy, Lab. d'instrumentation et des Matériaux, Université de Savoie, Annecy, FR
- Electrical & Computer Engineering, University of Rochester, GB
- Ellettra, Synchrotron Light Lab., Trieste, IT
- Faculty of Mathematics and Natural Sciences, University of Leiden, NL
- H.H. Wills Physics Lab., Univ. of Bristol, GB
- Inst. Franche Comté Electronique Mécanique Thermique et Optique - Sciences et Technologies (FEMTO-ST), Univ. de Besançon, FR
- Inst. für Festkörperphysik (IFP), Forschungszentrum Karlsruhe, DE
- Inst. für Festkörperphysik, Technische Univ., Wien, AT
- Inst. für Theoretische Physik III, Univ. Stuttgart, DE
- Inst. Laue-Langevin, Grenoble, FR
- Inst. Non Linéaire de Nice, Université de Sophia Antipolis, Nice, FR
- Inst. Quantenoptik und Quanteninformation, Akademie der Wissenschaften, Univ. Innsbruck, AT
- Inst. for Physical Electronics, Univ. of Stuttgart, DE
- Inst. for Planetary Research, German Aerospace Center (DLR), Berlin, DE
- Inst. of Micro and Nano Electronic Systems, Univ. of Karlsruhe, DE
- Inst. of Physics, Polish Academy of Sciences (PAS), Warsaw Univ., PL
- Inst. of the Low Temperature Physics, Polish Academy of Sciences (PAS), Wroclaw, PL
- International Physics Center, Donostia Univ., Donostia, ES
- Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, IT
- Istituto Nazionale per la Fisica della Materia (INFM-LAMIA), Dipart. di Fisica, Politecnico di Torino, IT
- Lab. de Physique des Solides, Faculté des sciences d'Orsay, Université Paris XI, FR
- Lab. de Physique des Solides, Université d'Orsay, Paris, FR

Materials with Novel Electronic Properties – Basic Science and Applications

NCCR MaNEP

Achievements

Science

In MaNEP phase II, the scientific activities are organized around six projects. The main idea which led to this structure was to center our efforts on the key questions in the area of MaNEP. In the following we give examples of some of the highlights: In Project I, "Strongly interacting electrons, low-dimensional and quantum fluctuation dominated systems", a collaboration of several groups (PSI, ETHZ, EPFL, UNIGE) has investigated the properties of quantum spin systems whose connectivity involves spin multimer units. In particular Bose Einstein condensation was demonstrated in spin dimer systems. In Project II, "Superconductivity, unconventional mechanisms and novel materials", a collaboration (UNIGE, PSI, EPFL) has been established to investigate the mechanism behind high temperature superconductivity by spectroscopic methods. One important result is the quantitative interpretation of tunnelling spectra involving a coupling of electrons to a bosonic mode. Another collaboration (PSI, UNIGE, UNIZH) demonstrated the presence of an anomalous proximity effect in artificial oxide multilayers. With the establishment of Project III, "Crystal growth", we have achieved to reinforce crystal growth activities in Switzerland and to establish a close collaboration between four crystal growth groups (UNIGE, EPFL, ETHZ, PSI). A large selection of crystals is presently available for the members of MaNEP. Project IV, "Novel Materials", is a focused effort introducing novel chemical approaches to search for new electronic materials. In project V, "Thin Films, Artificial Materials, and Novel Devices", thin films, heterostructures, and superlattices of correlated oxides have been realized and studied. A MaNEP collaboration (UNIGE, UNINE) has demonstrated that ferroelectricity can exist in layers as thin as one unit cell and discovered superconductivity at the interface between two insulating oxides. Finally, Project VI, "Industrial applications and pre-application development", has three main themes: Applied Superconductivity, Sensors and Thin Film Development and Applications. Each of these themes is composed of several applied projects involving a total of 5 industrial companies, one start-up, the technical university HES-Genève and four member institutions of MaNEP.

Know-how and technology transfer

MaNEP has established several collaborations with industry and the HES-Geneva in different domains where MaNEP skills and materials knowledge is needed. These collaborations are carried out within project VI described above. A first spin-off company "PHASIS" is active in the field of thin film fabrication and build on know how developed in MaNEP.

Education and advancement of women

After having co-organised a summer school with PSI in 2002 in Zuoz, MaNEP organized two successful summer schools at Saas-Fee (2004, 2006). About 70 students followed lectures given by international experts. A large part of the students were MaNEP doctoral students, but the school also admitted students from other countries. The next event in this series will be a winter school in January 2009 in Saas-Fee. A MaNEP doctoral school is being installed at the University of Geneva and shall admit the first doctoral students in spring 2008.

MaNEP organises since 2004 summer internships for female students, giving the latter a chance to integrate research groups at the different universities and federal institutes in MaNEP. These internships are very appreciated by the participants. A young associate professor, Dr. Patrycja Paruch was appointed at the University of Geneva in 2007.

Communication and outreach

MaNEP has carried out several successful communication/outreach events. The most recent one was the "Supra Fête" organised in Geneva during the week-end of June 8, 9 and 10, 2007, celebrating 20 years of the Bednorz and Muller Nobel prize for the discovery of high temperature superconductivity. About 250 persons came to listen to George Bednorz on Friday evening and 1500 persons visited the exposition during the week-end which included a superconducting device to levitate people. Part of this exposition was used at a very successful open days event at PSI on October 28, 2007. A new MaNEP initiative has been taken to strengthen the collaborations between the high schools in Geneva and the Physics Department. "Physics Park" with the financial support of private foundations will start operating in spring 2008.

Further information see www.manep.ch

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	4 750 000	4 750 000	4 750 000	4 750 000	19 000 000	33
Self-funding from home institution[1]	974 456	1 125 060	1 125 060	1 125 060	4 349 636	8
Self-funding from project participants	9 011 086	7 052 035	6 814 651	5 943 736	28 821 508	50
Third-party funding	1 695 660	1 148 362	1 155 189	981 185	4 980 396	9
Total	16 431 202	14 075 457	13 844 900	12 799 981	57 151 540	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							FR	IT	DE	HR	NL	
Management	4.35[3]	4	33	8	67	11	2	3	0	0	0	2
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	92	18	20	74	80	33	7	10	10	4	2	26
Postdoctoral students	61	8	13	53	87	12	13	6	9	0	2	22
Research associates	1	0	0	1	100	0	0	0	0	0	0	1
Senior researchers[4]	99	8	8	91	92	45	9	7	11	3	2	29
Other staff	19	1	5	18	95	12	2	6	1	0	1	1
Total	276.35	39	14	245	86	113	33	32	31	7	7	81

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Leiderer Paul, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Claeson Tord, Prof.	Department of Nanotechnology and Nanoscience, Chalmers /Göteborg Universities, Göteborg, SE
Deutscher Guy, Prof.	School of Physics and Astronomy, Tel Aviv University, IL
N.N.	Swiss National Science Foundation, Berne, CH
Hallberg Karen, Prof.	Centro Atomico Bariloche, Bariloche, AR
Larbalestier David, Prof.	Department of Mechanical Engineering, Tallahassee, US
Raveau Bernard, Prof.	Laboratoire de Cristallographie et Sciences des Matériaux (CRISMAT),Université de Caen, FR
Schlom Darrell G., Prof.	Materials Research Laboratory, Pennsylvania State University, US
Schurtenberger Peter, Prof.	Swiss National Science Foundation, Berne, CH
Vollhardt Dieter, Prof.	Center for Electronic Correlations and Magnetism, University of Augsburg, Augsburg, DE

NCCR Office SNSF

Bachmann Stefan, Dr.	Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern, phone: + 41 (0)31 308 23 49, fax: + 41 (0)31 305 29 71, sbachmann@snf.ch

- Lab. de Physique Théorique des Liquides, Université Pierre et Marie Curie/CNRS, Paris, FR
- Lab. de Physique Théorique et Modèles Statistiques (LPTMS), CNRS/Paris XI Université, Paris, FR
- Lab. of Applied and Solid State Physics, University of Groningen, NL
- London Center for Nanotechnology, University College London, GB
- Los Alamos National Lab., Los Alamos, US
- Max Planck Inst. for Chemical Physics, Dresden, DE
- Max Planck Inst. for Metal Research, Stuttgart, DE
- Max Planck Inst. for Solid State Research, Stuttgart, DE
- National Inst. of Advanced Industrial Science and Technology, Tsukuba, JP
- Naval research Lab., theory group, Washington, US
- Physics Dept., Columbia University, New York, US
- Physics Dept., University of Massachusetts Amherst, Amherst, US
- Rutherford Appleton Lab., ISIS, Oxford, GB
- School of Chemical and Physical Sciences, Victoria University, Wellington, NZ
- School of Physics, Condensed Matter, University of Edinburgh, GB
- Spallation Neutron Source (SNS), Oak Ridge National Lab., Oak Ridge, US
- The Weizmann Inst. of Science, Rehovot, IL
- Theoretical Physics Research, Univ. of Birmingham, GB
- Tokyo Inst. of Technology, Research Center for Low Temperature Physics, JP
- Walther Meissner Inst., TU München, München, DE

Economy / Industry

- ABB Switzerland Ltd Corporate Research, Baden, CH
- Bruker BioSpin AG, Fällanden, CH
- Bruker Optics GmbH, Fällanden, CH
- Bruker Spectrospin AG, Fällanden, CH
- Dynamic Motion SA, La Chaux de Fonds, CH
- IBM Research Lab. GmbH, Rüschlikon, CH
- IBM Research Lab. GmbH, Rüschlikon, CH
- MecSens SA, Carouge, CH
- METROLAB Instruments SA, Geneva, CH
- Microsoft Research, Santa Barbara, US
- Phasis Sàrl, Plan-les-Ouates, CH
- SwissNeutronics, Klingnau, CH
- Toyota Research & Development, Nagoya, JP

Nanoscale Science – Impact on Life Sciences, Sustainability, Information and Communication Technologies

NCCR Nanoscale Science

Home Institution
University of Basel

Start of the NCCR
June 1, 2001

NCCR Management
Director
Schönenberger Christian, Prof.
phone: + 41 (0)61 267 36 90
christian.schoenenberger@unibas.ch

Deputy Director
Loss Daniel, Prof.
phone: + 41 (0)61 267 37 49
daniel.loss@unibas.ch

Director of Scientific Communication
Gerber Christoph, Prof.
phone: + 41 (0)61 267 07 60
christoph.gerber@unibas.ch

Administrative Director; Finance, Personnel
Fischer Audrey, Mrs.
phone: + 41 (0)61 267 12 38
audrey.fischer@unibas.ch

Communications
Gyalog Tibor, Dr.
phone: +41 (0) 61 267 14 72
tibor.gyalog@unibas.ch

Knowledge and Technology Transfer
Cerletti Verónica, Dr.
phone: + 41 (0)61 267 37 66
veronica.cerletti@unibas.ch

Education and Training
Meier Wolfgang, Prof.
phone: +41 (0)61 267 38 02
wolfgang.meier@unibas.ch

Advancement of Women
Cerletti Verónica, Dr.

Address
NCCR Nanoscale Science
Universität Basel
Klingelbergstrasse 82
4056 Basel

phone: + 41 (0)61 267 12 38
fax: + 41 (0)61 267 34 08
audrey.fischer@unibas.ch

Web Address
www.nccr-nano.org

Research

Module "Nanobiology"
Head: Engel A., Aebi U.

Exploring the biomechanical properties of articular cartilage by SFM
H: Friederich N., Daniels A. U., Aebi U.

High-resolution imaging and nanomanipulation with the AFM
H: Engel A., Aebi U., Lüthi A.

Nanomechanics in biology
H: Gerber Ch., Plückthun A.

Nanocontainer targeting for medicine: Feasibility and toxicity
H: Hunziker P.

Real-time single-particle tracking in living cells
H: N.N.

Single cell proteomics
H: Vettiger P., Plückthun A., Engel A.

Studies of cytoskeletal filaments by photonic force microscopy
H: Jeney S.

Module "Quantum Computing and Quantum Coherence"
H: Loss D., Ensslin K.

Qubit and spintronics (theory)
H: Loss D.

Quantum coherence and quantum computing in superconducting nanostructures (theory)
H: Bruder C.

Experimental manipulation of quantum systems
H: Ensslin K.

Quantum dot nuclear spins
H: Imamoglu A.

Entanglement and coherence in nanostructures
H: Schönenberger C., Oberholzer S.

Module "Atomic and Molecular Nanosystems"
H: Meyer E., Hug H. J.

Magnetic nanosystems and single spin experiments
H: Hug H.

Mechanics on the nanometer-scale
H: Meyer E.

Direct stencil type lithography
H: Meyer G.

Atomistic simulations of nanosystems
H: Goedecker S.

Molecular conformations on surfaces
H: Fasel R.

Module "Molecular Electronics"
H: Schönenberger C., Jung T.

Molecular wires
H: Schönenberger C., Forró L.

Transport properties of molecular junctions
H: Schönenberger Ch., Calame M.

Networks of molecular junctions
H: Calame M., Oelhafen P.

Electron spectroscopy of single molecules
H: Jung T.

Chemical synthesis of functional molecules for optoelectronics
H: Diederich F., Mayor M.

Theory of molecular electronics
H: Bruder C.

Module "Functional Materials by Hierarchical Self-Assembly"
H: Diederich F., Meier W.

Functional biomimetic dendrimers
H: Diederich F.

Functional nanosystems
H: Jung T.

Self-assembling (bio-) polymers
H: Meier W., Textor M., Klok H.-A.

Molecular structures
H: Constable E.

Functional surface structures
H: Fromm K.

Nanocrystals
H: Forró L., Setter N.

Module "Nanotechnology and Applications"
H: Gobrecht J., Pieles U.

Nano Argovia projects in Applied Sciences
H: Gobrecht J.

Module "Supplementary Research Activities"
H: NCCR Board of Directors

Fate of nanoparticles after their interaction with biological membranes
H: Gehr P.

NanoEthics - Deliberating the vision of an emergent nano-science
H: Rehmann-Sutter C., Maasen S.

Ethics of Science: A course for scientists provided by the NCCR Nanoscale Science
H: Reiter-Theil S.

Platforms

Education Platform
Supervisor: Meier W.

Nanocurriculum

Bachelor and Master Degree in Nanoscience at University of Basel
H: Meier W.
Contact: Spieler K., Ms.
phone: +41 (0) 61 267 16 05
Katrein.Spieler@unibas.ch

Topics

Nanoscale science's research focuses at the nanometer scale. This is the scale of the matter building blocks, namely, atoms and molecules. Therefore, at this scale the traditional scientific disciplines merge, giving place to a highly interdisciplinary interaction between physicists, chemists, physicians, biologists, pharmacologists, computer scientists and engineers. This is clearly reflected in the very interdisciplinary work carried out within the NCCR Nanoscale Science, where scientists from different disciplines come together to gain insight in this field and develop further the methods, scientific tools and understanding achieved. The goal of the teams taking part in this network is to come up with outstanding scientific achievements that will secure the position of the NCCR as a leader in the nanoscale science. The different and strongly interconnected topics covered by the researchers include: Impact of nanoscale science on life sciences and medicine, biology at the nanoscale, molecular machinery and nanorobotics, quantum devices and systems for computing and communication and quantum coherence, nanoscale science at the ultimate limits, nanomaterials ranging from biological systems, carbon-nanotubes to nanoclusters and molecular electronics.

Heads of Individual Research Projects and Subprojects

Aebi Ueli, Prof.	M. E. Müller-Institut für Strukturbiologie, Universität Basel
Bruder Christoph, Prof.	Institut für Physik, Universität Basel
Calame Michel, Dr.	Institut für Physik, Universität Basel
Constable Edwin, Prof.	Departement Chemie, Universität Basel
Daniels Alma U., Prof.	Labor für Orthopädische Biomechanik, Felix Platter Spital, Basel
Diederich François, Prof.	Laboratorium für Organische Chemie, ETH Zürich
Engel Andreas, Prof.	M. E. Müller-Institut für Strukturbiologie, Universität Basel
Ensslin Klaus, Prof.	Laboratorium für Festkörperphysik, ETH Zürich
Fasel Roman, Dr.	Abteilung Oberflächen, Beschichtungen, Magnetismus, EMPA
Forró László, Prof.	Institute de Genie Atomique, EPF Lausanne
Friederich Niklaus, Prof.	Klinik für Orthopädische Chirurgie und Traumatologie des Bewegungsapparates, Kantonsspital Bruderholz, Basel
Fromm Katharina, Prof.	Departement Chemie, Universität Basel
Gerber Christoph, Prof.	Institut für Physik, Universität Basel
Gobrecht Jens, Prof.	Paul Scherrer Institut, Villigen
Goedecker Stefan, Prof.	Institut für Physik, Universität Basel
Hug Hans Josef, Prof.	Nanoscale Materials Science, EMPA
Hunziker Patrick, PD Dr.	Dept. of internal medicine, Cardiology, University Hospital Basel
Imamoglu Atac, Prof.	Institute of Quantum Photonics, ETH Zürich
Jeney Sylvia, Prof.	Laboratoire de nanostructures et nouveaux matériaux électroniques, EPFL
Jung Thomas, Dr.	Lab for Micro- and Nanostructures, Paul Scherrer Institut, Villigen PSI
Klok Harm-Anton, Prof.	Laboratoire des Polymères, EPF Lausanne
Loss Daniel, Prof.	Institut für Physik, Universität Basel
Lüthi Anita, PD Dr.	Abteilung Pharmakologie/Neurobiologie, Universität Basel
Maasen Sabine, Prof.	Wissenschaftsforschung / Wissenschaftssoziologie, Universität Basel
Mayor Marcel, Prof.	Departement Chemie, Universität Basel
Meier Wolfgang, Prof.	Departement Chemie, Universität Basel
Meyer Ernst, Prof.	Institut für Physik, Universität Basel
Meyer Gerhard, Dr.	IBM Research Laboratory, Rüschlikon
Oberholzer Stefan, Dr.	Universität Basel
Oelhafen Peter, Prof.	Institut für Physik, Universität Basel
Pieles Uwe, Prof.	FHNW Life Sciences, Muttenz
Plückthun Andreas, Prof.	Institute of Biochemistry, Universität Zürich
Rehmann-Sutter Christoph, Prof.	Institut für Geschichte und Epistemologie der Medizin, Universität Basel
Reiter-Theil Stella, Prof.	Institut für Angewandte Ethik und Medizinethik, Universität Basel
Schönenberger Christian, Prof.	Institut für Physik, Universität Basel
Setter Nava, Prof.	Laboratoire de céramique, EPF Lausanne
Textor Marcus, Prof.	Oberflächentechnik, ETH Zürich
Vettiger Peter, Dr.	Universität Neuchâtel
Zumbühl Dominik, Prof.	Institut für Physik, Universität Basel

Public Relations

- News on website
- Electronic Newsletter
- Visit of international delegation of science journalists

Third Party Cooperation

(in progress)

Programmes

- Frontiers
- HYSWITCH
- NanoBio-RAISE
- Pico-Inside

Research Institutions

- Anorganische Chemie, Universität Heidelberg, DE
- Applied and Environmental Chemistry Dept., University of Szeged, HU
- Australian Commonwealth Scientific and Research organization (CSIRO), Melbourne, AU
- Biophysical Engineering, University of Twente, NL
- Biotechnologisches Zentrum, TU Dresden, DE
- Center for Nanoscience, Ludwig-Maximilians-Universität, Munich, DE
- Center for Spintronics and Quantum Computation, University of California, Santa Barbara, US
- Centre d'Elaboration de Matériaux et d'Études Structurales, Centre National de la Recherche Scientifique, Toulouse, FR
- Centre for Research on Adaptive Nanostructures and Nanodevices, Trinity College Dublin, IE
- Consiglio Nazionale delle Ricerche, Istituto per la Sintesi Organica e la Fotoreattivita, Bologna, IT
- Dépt. de Chimie, Inst. de Science et d'Ingénierie Supramoléculaires, Strasbourg, FR
- Dept. of Biochemistry, Duke University, Chapel Hill, US
- Dept. of Biophysical and Electronic Engineering University of Genoa, IT
- Dept. of Chemistry, Lab. II, Univ. of Copenhagen, DK
- Dept. of Chemistry, McMaster University, Hamilton, CA
- Dept. of Chemistry, University of Durham, GB
- Dept. of Condensed Matter Physics, Josef Stefan Inst.e, Ljubliana, SI
- Dept. of Molecular and Cellular Interactions, Vrije Universiteit Brussel, BE
- Dept. of Physical Chemistry, University of Mainz, DE
- Dept. of Physics, Bilkent University, TR
- Dept. of Physics, Harvard University, Cambridge, US

- Dept. of Physics, McGill University, Montreal, CA
- Dept. of Physics, Ohio State University, Columbus, US
- Dept. of Physics, Princeton University, US
- Dept. of Solid State Physics, University of Ulm, DE
- Dipart. di Chimica Organica e Industriale e Consorzio Interuniversitario Nazionale per la Scienza Tecnologia dei Materiali, Unità di Ricerca, Parma, IT
- Dipart. di Chimica, Istituto per la Sintesi Organica e la Fotoreattività, Bologna, IT
- Dipart. di Farmacia, Universita degli studi di Trieste, IT
- Divisions of Chemistry and Medicine, University College of London, GB
- Fachbereich Chemie, Universität Marburg, DE
- Fachbereich II: Biologie und Chemie, Univ. Bremen, DE
- Fachbereich Physik, Universität Konstanz, DE
- Faculté des Sciences, Université de Namur, Facultés Universitaires Notre-Dame de la Paix, BE
- Fisica de la Materia Condensada, Universidad Autonoma, Madrid, ES
- Forschungsinst. für Technik- und Wissenschaftsgeschichte, Dt. Museum, Munich, DE
- Graduiertenkolleg „Technisierung und Gesellschaft", TU Darmstadt, DE
- Inst. de Physique et Chimie des Matériaux de Strasbourg (IPCMS), Université de Strasbourg, FR
- Inst. für Organische Chemie und Biochemie, Universität Freiburg, DE
- Inst. of Applied Physics, National Academy of Science of Belarus, Minsk, RU
- Interdisciplinary Nanoscience Center at University of Aarhus (iNANO), Dept. of Physics and Astronomy (IFA), University of Aarhus, DK
- IRC in Nanotechnology, University of Cambridge, GB
- Kavli Inst. of Nanoscience Delft, Delft University of Technology, NL
- Mecánica de los Medios Continuos y Teoría de las Estructuras, Universidad de Castilla La Mancha, Almaden, ES
- Nano Ethics Network, University of Aarhus, DK

Achievements

Sustainability of the network of competence

Since the establishment of the NCCR Nanoscale Science in 2001, the network of competence in Nanoscale Science has been continuously strengthened. These efforts resulted in the foundation of the Swiss Nanoscience Institute (SNI), a long-term science program initiated by the authorities of the canton of Aargau. The SNI includes the world-renowned network of the NCCR Nanoscale Science, and the Argovia Network, which has been established in 2006. Interdisciplinary teams, made up in particular of physicists, chemists, biologists and medical specialists, are exploring nanoscale structures. The research results promise to provide impetus for the life sciences, sustainability and information and communications technology.

Scientific Highlights

By means of AFM in-vitro measurements, the mechanism as to how large molecules can actively penetrate into the nucleus has been investigated and has been completely unravelled. The cargo molecules have to associate with certain transport receptors that are bound to the tentacle proteins of the pore. The tentacles drag the cargo molecules into the nucleus and the binding to the tentacle is finally released.

Isolated mitochondrial membranes have been imaged by atomic force microscopy. It has been shown that these membranes contain Voltage Dependent Anion Channels (VDAC). Mitochondria play an important role in the process of the apoptose, one of the natural suicide programs of cells. After penetration of certain proteins from the mitochondria into the inner cell, some "killer proteins" are activated, which leads to the death of the whole cell.

In collaboration between NASA Jet Propulsion Laboratory, University Neuchâtel, Nanosurf AG Liestal and University Basel an Atomic Force Microscope has been developed for extreme conditions and has been installed as a part of NASA's most recent Mars Lander "Phoenix", which has been launched in August 2007 and should land in May 2008. The project was partially financed by NASA, Minast and the Wolfermann-Nägeli foundation. The Mars-AFM will search the red planet for soil samples containing ice that should have made life on mars possible. Additionally, new insights about the climate change are expected from the mission.

The formation of microscopically small Chladni figures within liquids has been investigated. The figures showed a behaviour that is highly dependent on the size of the particles. Micrometer sized particles do not assemble in the knot lines as would be expected, but between them. However, nanometer sized particles assemble again in the knot lines, like millimeter particles do. This finding may lead to a new technique to separate particles according to their size.

Highly permeable polymeric membranes based on the incorporation of a natural water channel protein have been developed. They show a water permeability that is two orders of magnitude larger that the permeability of commercial products used in desalination facilities. Theoretically the permeability should be increased by three orders of magnitude and could become an important milestone in the future production of potable water.

Know-how and technology transfer

The NCCR Nanoscale Science continued its efforts in the knowledge transfer to High Schools. More than 250 pupils visited the NCCR laboratories and glanced at actual research. The University of Basel's first spin-off company "Nanosurf AG" has been awarded the Swiss Technology Award 2007 "Inventing the future".

Education

The Bachelor and Master curriculum on Nanoscience at the University of Basel has been consolidated and is completely integrated into the Science faculty. In 2007, 18 Bachelor diploma as well as the first 4 Master diplomas have been handed over to the first students in Nanoscience.

Communication

The travelling exhibition "Nanorama" that has been developed in 2006 for the international conference ICN+T has been shown at various occasions in Bern, Basel, Berlin and in the German amusement park Europapark. In April, the opening of a new Science Center "Science House" in the agglomeration of Freiburg im Breisgau took place. Our NCCR developed a special exhibition section on Nanoscale Science.

In February, a workshop addressing the toxicity of nanoparticles attracted more than 100 participants. In June a European delegation of 32 science journalists visited the NCCR Nanoscale science and the SNI. From the visit, various press articles resulted in different European newspapers and magazines.

Further information see www.nccr-nano.org.

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	4 750 000	4 750 000	4 750 000	4 750 000	19 000 000	34
Self-funding from home institution[1]	572 473	517 199	955 164	955 164	3 000 000	5
Self-funding from project participants	6 757 564	4 669 843	6 399 651	6 399 651	24 226 709	44
Third-party funding[2]	1 948 656	1 437 009	2 875 662	2 875 662	9 136 989	17
Total	14 028 693	11 374 051	14 980 477	14 980 477	55 363 698	100

Personnel[3]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	FR	IT	PL	JP	
Management	6.17[4]	3	38	5	63	5	2	0	0	0	0	1
Master students	2	0	0	2	100	2	0	0	0	0	0	0
Doctoral students	81	24	30	57	70	31	15	5	3	0	3	25
Postdoctoral students	71	19	27	52	73	13	11	10	3	2	1	34
Research associates	5	1	20	4	80	2	0	0	2	0	0	1
Senior researchers[5]	73	10	14	63	86	36	15	3	1	6	4	15
Other staff	30	7	23	23	77	27	0	0	0	0	0	2
Total	268.17	64	24	206	76	116	43	18	9	8	8	78

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. page 6). Since the start of the NCCR 4 projects have been funded by CTI at a total amount of 3.5 million CHF. In addition there was close collaboration with TOP NANO 21. At least in 25 projects of this programme technology transfer to the NCCR took place.
[3] Persons involved in the NCCR in the last reporting period (12 months)
[4] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[5] Including leaders of the individual projects and other organisational units of the NCCR

Members of the Scientific Advisory Board

Baumeister Wolfgang, Prof.	Max Planck Institute, Martinsried, DE
Binnig Gerd, Prof.	Definiens AG, Munich, DE
Eigler Don, Dr.	IBM Almaden, US
Kroto Sir Harry, Prof.	University of Sussex, GB
Lindelof Poul Erik, Prof.	University of Copenhagen, DK
Melchers Fritz, Prof.	University of Basel, CH
Quate Calvin, Prof.	Stanford University, US
Rohrer Heinrich, Dr.	Wollerau, CH

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Folkers Gerd, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Altshuler Boris, Prof.	Department, of Physics, Columbia University, New York, US
Awschalom David D., Prof.	Center for Spintronics and Quantum Computation University of California, US
Gaub Hermann, Prof.	Lehrstuhl für Angewandte Physik, Universität München, DE
Hüfner Stefan, Prof.	Fachbereich Physik, University of the Saarland, DE
Leiderer Paul, Prof.	Swiss National Science Foundation, Berne, CH
Osterwalder Jürg, Prof.	Swiss National Science Foundation, Berne, CH
Reinhoudt David, Prof.	Faculty of Chemical Technology, University of Twente, NL
von Löhneysen Hilbert, Prof.	Physikalisches Institut, Universität Karlsruhe, DE

NCCR Office SNSF

Bachmann Stefan, Dr.
Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern,
phone: + 41 (0)31 308 23 49, fax: + 41 (0)31 305 29 71,
sbachmann@snf.ch

- Nanofabrication and Characterization Facility, Inst. of Materials Research and Engineering (IMRE), Singapore, SG
- Organic Chemistry, University of Florence, IT
- Physical Chemistry, Hungarian Academy of Sciences, Budapest, HU
- Physics Dept., Ben-Gurion University, Jerusalem, IL
- Physics Dept., Harvard University, Cambridge, US
- Physics Dept., Massachusetts Inst. of Technology, Cambridge, US
- Physics Dept., McGill University, Montreal, CA
- Physics, University of Liverpool, GB
- Physik / Chemie, Technische Univ. Kaiserslautern, DE
- Physik / Chemie, Universita di Modena, IT
- School of Chemistry, University of Sydney, AU
- School of Mechanical Systems Engineering, Chonnam National University, Gwangjuu, KR
- National Enterprise for Nanosciencience and Nanotechnology, Scuola Normale Superiore, Pisa, IT
- Walther-Meissner-Inst., Dept. of Physics, Ludwig-Maximilians-University of Munich, Center for Nano Science, DE

Economy / Industry

- Bell Labs, Lucent Technologies, Murray Hill, US
- Concentris GmbH, Basel, CH
- Corporate Research, BASF, Strasbourg, FR
- IBM Almaden Research Center, San Jose, US
- IBM Zürich Research Lab., Rüschlikon, CH
- JPK-Instruments AG, Berlin, DE
- Molecular Partners AG, Zürich, CH
- MorphoSys AG, Martinsried, DE
- Nanonis GmbH, Zürich, CH
- Nanosurf AG, Liestal, CH
- Nanoworld AG, Neuchâtel, CH
- NTT Basic Research Lab., Atsugi-shi, JP
- Quantum Science Research Group, Hewlett Packard Lab., Palo Alto, US
- Schering AG, Berlin, DE
- Sony Materials Science Lab., Stuttgart, DE
- Süss Micro Optics, Neuchâtel, CH

Others

- Klinik für Orthopädische Chirurgie und Traumatologie des Bewegungsapparates, Kantonsspital Bruderholz, Bruderholz, CH
- Life Sciences, Fachhochschule Nordwestschweiz, Muttenz, CH

Quantum Photonics
NCCR Quantum Photonics

Home Institution
Swiss Federal Institute of Technology, Lausanne

Start of the NCCR
July 1, 2001

NCCR Management
Director
Deveaud-Plédran Benoît, Prof.
phone: + 41 (0)21 693 54 96
benoit.deveaud-pledran@epfl.ch

Deputy Director
Faist Jérôme, Prof.
phone: + 41 (0)44 633 72 80
jerome.faist@phys.ethz.ch

Project Officer
Pochon Sandra, Mrs.
phone: + 41 (0)21 693 54 12
sandra.pochon@epfl.ch

Administration and Secretariat
Vaucher Ursula, Mrs.
phone: + 41 (0)21 693 54 15
ursula.vaucher@epfl.ch

Knowledge and Technology Transfer
Pochon Sandra, Mrs.

Education and Training
Pochon Sandra, Mrs.

Media Relations
Pochon Sandra, Mrs.
phone: + 41 (0)21 693 54 12

Advancement of Women
Riblet Fabrice, Dr.
Berseth Nicole, Mrs.
phone: +41 (0)21 693 00 78
fabrice.riblet@epfl.ch
nicole.berseth@epfl.ch

Address
NCCR Quantum Photonics
Post Office Box 123
1015 Lausanne

phone: + 41 (0)21 693 54 15
fax: + 41 (0)21 693 54 10
nccr-qp@epfl.ch

Web Address
http://nccr-qp.epfl.ch

Research
Quantum communication
Head: Gisin N.

Single photon detectors
H: Zbinden H.

Cavity-QED and spin based quantum information processing
H: Imamoglu A.

Ordered pyramidal quantum dots for quantum photonics applications
H: Kapon E.

Quantum coherence in semi-conductor nanostructures
H: Deveaud-Plédran B.

Time resolved cathodoluminescence
H: Ganière J.D.

Theory and modelling of quantum coherence in polaritonic nanodevices
H: Savona V.

Nitrides based light emitters
H: Grandjean N.

Advanced photonic crystal structures
H: Houdré R.

MEMS photonic crystals and gratings
H: Stanley R.

Coherent control of matter in photonic crystal fibers
H: Feurer T.

Quantum cascade interlevel sources
H: Faist J.

Ultrafast sources from near infrared to X-rays
H: Keller U.

Imaging applications of second harmonic generation in nanoparticles
H. Psaltis D.

XUV-IR Laser Pulse Shaping using MEMS
H: Wolf J.P.

Towards directlymodulated VCSELs at 40Gbit/s
H: Witzigmann B.

Technology Platforms, Programmes etc.
Industrial Project Program
Pochon S.

Doctoral programme in quantum photonics
Martin O.

Tandem Partner Program
Pochon S.

Summer School & Workshops
"Monte Verità, Ascona", "Montreux", "Varenna, Italy"

Scientific camps for youngsters
Moser F.

Heads of Individual Research Projects and Subprojects

Deveaud-Plédran Benoit, Prof.	Institut de Photonique et d'Electronique Quantiques, EPF Lausanne
Faist Jérôme, Prof.	Institut de Physique, Université de Neuchâtel
Feurer Thomas, Prof.	Institut für Angewandte Physik, Universität Bern
Ganière Jean-Daniel, Dr.	Institut de Photonique et d'Electronique Quantiques, EPF Lausanne
Gisin Nicolas, Prof.	Groupe de Physique Appliquée, Université de Genève
Grandjean Nicolas, Prof.	Institut de Photonique et d'Electronique Quantiques, EPF Lausanne
Houdré Romuald, Dr.	Institut de Photonique et d'Electronique Quantiques, EPF Lausanne
Imamoglu Atac, Prof.	Institut für Quantenelektronik, ETH Zürich
Kapon Eli, Prof.	Institut de Photonique et d'Electronique Quantiques, EPF Lausanne
Keller Ursula, Prof.	Institut für Quantenelektronik, ETH Zürich
Psaltis Demetri, Prof.	Institut d'imagerie et optique appliqué, EPF Lausanne
Savona Vincenzo, Prof.	Group of Theory of Nanosystems, EPF Lausanne
Stanley Ross, Dr.	CSEM Neuchâtel
Witzigmann Bernd, Prof.	Institute für Integrierte Systeme, ETH Zürich
Wolf Jean-Pierre, Prof.	Biophotonics Group, University of Geneva
Zbinden Hugo, Dr.	Groupe de Physique Appliquée, Université de Genève

Members of the Advisory Board

Rosencher Emmanuel, Prof. (President)	ONERA, Université Paris-Sud, FR
De Silvestri Sandro, Prof.	Politecnico de Milano, Italy
Effernan Jonathan, Dr.	Sharp Laboratoires, Oxford, United Kingdom
Erman Marko, Dr.	Thales Communication, Orsay, FR
Kröll Stefan, Prof.	Lund Institute of Technology, Sweden
Marangos Jonathan, Prof.	Imperial College London, United Kingdom
Ostrowsky Dan, Prof.	University of Nice, FR
Riechert Henning, Prof.	Paul Drude Institut, Berlin, DE
Scolnik Maurice, Prof.	University of Sheffield, United Kingdom
Weisbuch Claude	University of California, Santa Barbara, USA

Topics

Since Einstein's famous discoveries in the early 1900s, we know that light exhibits a double nature – it can be considered as both a wave and as a stream of photons. This is the so-called quantum behavior. In the very same way, particles such as electrons bear the same duality. Therefore, at an infinitesimal scale, the interaction of light with matter can be manipulated, revealing novel phenomena that might prove useful.

From this starting point, scientists at the NCCR Quantum Photonics conduct fundamental research as well as develop novel technologies that carry the potential for numerous future applications. For example: Quantum Cryptography guarantees transaction security by preventing hackers from intercepting messages transmitted trough an optical link. This fundamental approach was applied for the first time in securing the Swiss federal elections in October and November 2007, in the Geneva State. The link http://nccr-qp.epfl.ch/page19465.html shows the press campaign organised around this event.

For the second phase 2005-2008, we currently have 15 projects covering a wide range of fields such as quantum optics, advanced photonics applications and advanced light sources. Besides oriented research and technology transfer, the NCCR Quantum Photonics also supports workshops and scientific camps for 11-13 year old girls demonstrating that mathematics and physics are rewarding. These activities promote and strengthen long-term excellence in the field of photonics in Switzerland.

Achievements

Research results

The Quantum Photonics NCCR allows strengthening the quality of research in the field in Switzerland, with outstanding scientific achievements. Since the beginning of the NCCR, more than 600 papers have appeared in scientific journals and 400 conference presentations have been given by scientists of the different teams. To select just a few, the NCCR is proud of the following ones: First time demonstration of how a Bose Einstein Condensate may build up in a disordered landscape in a solid (Nature Cover page, 443, September 2006). Demonstration of a strong coupling between a single quantum dot and a nanocavity (Nature, 445, February 2007). Fabrication of a photonic crystal based THz Quantum Cascade Laser computed for efficient extraction of the emitted light (common publication in J. Appl. Phys. 101, april, 2007 of NCCR QP Project Leaders). Development of a process for etching blazed MEMS gratings, which led to compact efficient MEMS tunable gratings for applications in tunable lasers and miniature spectrometers (Possible commercialization by Daylight solutions).

European collaborations

NCCR research groups are actively involved in 20 Projects sponsored by the European Community, that are strong foundation for the future of Photonics in Switzerland and for the European Research and Development Programmes: FP7

Spin-offs and Technology Transfer

Many Spin-off companies have been created by NCCR Scientists: AlpesLasers, BeamExpress, IDQuantique, Timebandwidth and a new venture challenge Attolight, sponsored by an EPFL Innogrant. The exchanges between the NCCR and the Start-ups / Small and Medium Enterprises (SME) create new ideas, allow experience sharing and develop market oriented spirit. Moreover bridging the gap between the fundamentally oriented research carried out within the NCCR and the industrial world has been achieved with the financing of small industrial projects: 7 projects are running, already showing excellent results. Finding matching funds from Industry or support organizations is worth while.

Education and Knowledge transfer, Adv of Woman

The Photonic Doctoral School is developing a "Tandem Partner Program" allowing PhD's from all over Switzerland to share and exchange their scientific experience. Strong collaboration with the Equal Opportunity Office and the NCCR MICS allows us to leverage on existing initiatives to promote women and youngsters in the scientific world through tangible actions: 6 scientific camps are organized each year, industry visits, networking events and invited guest's seminars. The "Polythèque" has been created in order for youngsters to get in touch with scientific medias, to learn and to ask questions around afternoon themes…

Further information see http://nccr-qp.epfl.ch

Third Party Cooperation

(in progress)

Programmes

- COST299
- COSTP11
- COSTP11
- CTI 8552.1;2 NMPP-NM
- EMALI
- EPIXNET
- EU CA-QUROPE
- EU IP SECOQC 2004-2008
- EU-ANSWER
- EU-MOSEL
- FUNFOX
- NITWAVE
- RNT-POISE
- SHINE
- STIMSCAT
- STREP-Sinphonia
- TERANOVA
- ULTRAGAN

Research Institutions

- Abteilung Festkörperphysik, Universität Magdeburg, DE
- Applied Physics / Integrated Optics Group, Paderborn University, DE
- CEA-SPAM Centre d'Etudes de Saclay, Gif-sur-Yvette, FR
- Centre Lasers Intenses et Applications (CELIA), University of Bordeaux I, FR
- Clarendon Lab., University of Oxford, GB
- Dept. of Electrical and Electronical Engineering, University of Bristol, GB
- Dept. of physics and astronomy, Louisiana State University, Bâton Rouge, US
- Dept. of Physics, Harvard University, Cambridge, GB
- EMPA, Dübendorf, CH
- Inst. of Photonic Science, University of Barcelona, ES
- Inst. of Technology, University of Lund, DK
- Lab. Physique du Solide, Université de Toulouse, Montpellier, FR

Economy / Industry

- Aerodyne research Inc, Billerica, US
- Agilent Technologies, Colorado Springs, US
- Alcatel CIT, Marcoussis, FR
- Beamexpress, Lausanne, CH
- Dätwyler/Silitec, Boudry, CH
- HP International, Geneva, CH
- Id Quantique SA, Geneva, CH
- Lasag Inc, Thun, CH
- METAS Swiss Federal Office for Metrology, Bern, CH
- METAS Swiss Federal Office for Metrology, Regensburg, CH
- OSRAM AG, Lausanne, CH
- Pranalytica Inc, Santa Monica, US
- Staar Surgical AG, Nidau, CH
- ZODIAC, Marcoussis, FR

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	5 200 000	4 000 000	3 600 000	3 200 000	16 000 000	38
Self-funding from home institution[1]	2 266 363	2 842 339	849 600	809 700	6 768 002	16
Self-funging from project participants	4 674 179	4 569 900	3 875 760	3 611 410	16 731 249	40
Third-party funding[2]	859 634	1 239 927	351 500	351 500	2 802 561	7
Total	13 000 176	12 652 166	8 676 860	7 972 610	42 301 812	100

Personnel[3]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							IT	FR	DE	CN	US	
Management	2.78[4]	5	56	4	44	7	0	2	0	0	0	0
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	65	14	22	51	78	18	7	6	10	4	1	19
Postdoctoral students	24	5	21	19	79	5	3	4	0	0	1	11
Research associates	0	0	0	0	0	0	0	0	0	0	0	0
Senior researchers[5]	50	4	8	46	92	19	8	7	4	0	2	10
Other staff	27	11	41	16	59	22	2	0	0	0	0	5
Total	168.78	39	22	136	78	71	20	19	14	4	4	45

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. page 6). Since the start of the NCCR 2 projects have been funded by CTI at a total amount of 2.3 million CHF.
[3] Persons involved in the NCCR in the last reporting period (12 months)
[4] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[5] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Leiderer Paul, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Baets Roel, Prof.	Department of Information Technology, Universiteit Gent, BE
Ebeling Karl Joachim, Prof.	Rektor der Universität Ulm, DE
Forchel Alfred, Prof.	Technische Physik, Universität Würzburg, DE
Knop Karl, Dr.	CSEM Zurich, CH
Mourou Gérard, Prof.	ENSTA, Ecole Polytechnique, Paris, FR
Osterwalder Jürg, Prof.	Swiss National Science Foundation, Berne, CH
Rarity John G., Prof.	Electrical and Electronic Engineering, Bristol University, GB
Schurtenberger Peter, Prof.	Swiss National Science Foundation, Berne, CH

NCCR Office SNSF

Bachmann Stefan, Dr.

Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern,
phone: + 41 (0)31 308 23 49, fax: + 41 (0)31 305 29 71,
sbachmann@snf.ch

Interactive Multimodal Information Management
NCCR IM2

Research

Audio processing
Head: Dines J.

Database management and meeting analysis
H: Popescu-Belis A.

Visual/video processing
H: Thiran J.-P.

Multimodal processing and recognition
H: Billard A.

Multimodal context abstraction
H: Marchand-Maillet S.

Human-machine integration
H: Jaimes A.

Brain machine interaction
H: Millán J. del R.

Platforms, Programmes etc.

Doctoral School
Supervisor: Bourlard H.
Co-Supervisor: Ebrahimi T.
Female Fellowship: Bourlard H.

Visitor exchange program with ICSI, Berkeley, US
Supervisor: Bourlard H.

Smart Meeting Room
Supervisor: Bourlard H.

Multimedia File Server
Supervisor: Popescu-Belis A.

Heads of Individual Research Projects

Billard Aude, Prof.	LASA, EPF Lausanne
Dines John, Dr.	IDIAP, Martigny
Jaimes Alex, Dr.	IDIAP, Martigny
Marchand-Maillet Stéphane, Dr.	Centre Universitaire d'Informatique, Université de Genève
Millán J. del R., Prof.	IDIAP, Martigny
Popescu-Belis Andrei, Dr.	IDIAP, Martigny
Thiran Jean-Philippe, Prof.	Signal Processing Institute, EPF Lausanne

Steering Committee

Bourlard Hervé, Prof.	IM2 Director, IDIAP Director, Professor at EPFL
Ebrahimi Touradj, Prof.	IM2 Deputy Director, EPFL
Bunke Horst, Prof.	University of Bern
Pasquier Jacques, Prof.	Vice-rector of the University of Fribourg
Pun Thierry, Prof.	Vice-dean of the Faculty of Sciences of the University of Geneva
van Gool Luc, Prof.	ETHZ, Katholieke Universiteit Leuven (B)

Members of the Scientific Advisory Board

Peters Carol, Prof.	Institute for Information Science and Technologies, Pisa (IT)
Rigoll Gerhard, Prof.	Technische Universität, München (DE)
Renals Steve, Prof.	University of Edinburgh (UK)
Oviatt Sharon, Prof.	Headquarters Adapx, Seattle (USA)
Pelachaud Catherine, Prof.	IUT de Montreuil, Université Paris 8 (FR)

Home Institution
IDIAP, Martigny

Start of the NCCR
January 1, 2002

NCCR Management

Director
Bourlard Hervé, Prof.
phone: + 41 (0)27 721 77 20
bourlard@idiap.ch

Deputy Director
Ebrahimi Touradj, Prof.
phone: + 41 (0)21 693 26 06
touradj.ebrahimi@epfl.ch

Officer
Foglia François, Dr.
phone: + 41 (0)27 721 77 50
foglia@idiap.ch

Knowledge and Technology Transfer
Crittin Frank, Dr.
phone: + 41 (0)27 721 77 17

Education and Training
Ebrahimi Touradj, Prof.
phone: + 41 (0)21 693 26 06

Advancement of Women
Foglia François, Dr.
phone: + 41 (0)27 721 77 50

Communication
Aymon Fournier Céline, Ms.
phone: + 41 (0)27 721 77 15

Address
NCCR IM2
IDIAP
P.O. Box 592
1920 Martigny

phone: + 41 (0)27 721 77 11
fax: + 41 (0)27 721 77 12
im2@idiap.ch

Web Address
www.im2.ch

Public Relations
- Newsletter IM2, www.im2.ch
- IM2 Flyer
- Festival "Science et Cité" 2005
- Brochure IM2
- Public Day at the "Foire du Valais"
- "Let's talk about your future"

Interactive Multimodal Information Management
NCCR IM2

Third Party Cooperation
(in progress)

Programmes
- BioSecure
- CHIRON (EU-FP6)
- COBOL
- COST 2101
- COST BM0601
- DIRAC (EU-FP6)
- HERMES (EU-FP6)
- IMMERSENCE (EU-FP6)
- SIMILAR
- TACT (EU-FP6)

Research Institutions
- Center for Vision, Speech and Signal Procession, University of Surrey, Guildford, GB
- Dept. of Signal Theorie and Communications, Universitat Politecnica de Catalunya, Barcelona, ES
- Dept. of computing, University of Lancaster, GB
- Dept. of Informatics, University of Zurich, CH
- Dept. of Physiology, University of Arizona, Tucson, US
- Ecole d'ingénieurs de Genève (EIG), CH
- Ecole d'ingénieurs et d'architectes de Fribourg, CH
- French Ministry of Research and Education, University of Avignon, FR
- Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud (HEIG-VD), Yverdon, CH
- Hautes Ecoles Spécialisées de Suisse Occidentale (HES-SO), Sion, CH
- Lab. d'Informatique pour la Mécanique et les Sciences de l'Ingénieur (LIMSI), Paris, FR
- NCCR Affective Sciences, Geneva, CH
- Visual Information Processing for Enhanced Retrieval (VIPER), University of Geneva, CH

Topics

The National Center of Competence in Research (NCCR) on Interactive Multimodal Information Management, in short IM2, is aimed at the advancement of research, and the development of prototypes, in the field of man-machine interaction. The NCCR is particularly concerned with technologies coordinating natural input modes (such as speech, image, pen, touch, hand gestures, head and/or body movements, and even physiological sensors) with multimedia system outputs, such as speech, sounds, images, 3D graphics and animation.

The field of multimodal interaction covers a wide range of activities and applications, including the recognition and interpretation of spoken, written and gestured languages, computer vision, and the automatic indexation and management of multimedia documents. Other important related themes are information content protection, data access control, and the structuring, retrieval and presentation of multimedia information.

Multimodal interfaces represent a new, highly strategic direction for information technologies of the future. Thanks to such interfaces, man-machine interactions will become simpler and, by consequence, more productive. In the near future, multimedia systems equipped with such interfaces will be flexible enough to accommodate a wide variety of users, tasks and environments for which current interaction modalities (such as keyboard, mouse and screen) are insufficient. In first instance, ideal interfaces would be capable of manipulating more complex and realistic data, including the combination of different forms of data, such as audio and video.

The IM2 NCCR, headed by IDIAP Research Institute in Martigny, combines many partners from a number of university institutions (EPFL, University of Geneva, University of Fribourg, University of Bern, ETHZ), as well as HES (Sion, Sierre, etc.), and a range of commercial companies. The NCCR also has numerous international contacts, including an agreement for the exchange of young researchers with ICSI in Berkeley, California.

Achievements

Multimodal Processing

IM2 has significantly contributed to the development of a new research field referred to as multimodal processing, which is now viewed as increasingly important at the international level. IM2 is also recognised worldwide for its contributions in related areas such as speech and language understanding, computer vision, multichannel processing and fusion, and multimedia indexing.

Meeting Recordings

IM2 is among the first projects worldwide to focus on multimodal meeting recordings, which is now attracting more and more attention. IM2 thus works on large multimodal databases, and makes them available to the scientific community. IM2 is not only significantly contributing to the field, but is also in a good position to set up international research and development standards.

Knowledge Dissemination/ Technology Transfer

IM2 is among the creators of the series of international Multimodal Interaction and Related Machine Learning Algorithms (MLMI) work-shops. IM2 fostered the creation of several start-up companies, such as Spiderphone.ch, Anteleon Imaging,... Thanks to IM2, IDIAP and its subsidiary IdeArk S.A. are a core component of the new Economic Development strategy of the Canton of Valais.

Young and Female Researchers

The exchange programme supported by IM2 helped create a privileged relationship between Swiss institutions, researchers and the International Computer Science Institute (ICSI) in Berkeley/USA. IM2 has made significant efforts to increase the visibility of women active in science (public events, publications, meeting recordings).

IM2 supports a new Female Fellowship programme aimed specifically at boosting the careers of female researchers.

Structural Impact

IM2 has an excellent integration in the ERA (European Research Area) through several key FP6 projects, especially the Integrated Projects AMI, AMIDA (www.amiproject.org), DIRAC (www.diracproject.org), as well as other EU Projects such as MAIA (www.maia-project.org), BACS (in collaboration with ETHZ), and so on. So far, the most impressive structural impact of IM2 is also at the level of the Leading House IDIAP, turning a local research institute into a large, worldwide recognised, research institution, often quoted for its work, publications, or simply as an example of dynamism and international integration.

Further information see www.im2.ch

Economy / Industry

- Alro Engineering SA, Martigny, CH
- Alto-Service, Vufflens le Château, CH
- Atonce Capital Management AG, Bätterkinden, CH
- Cinetis SA, Martigny, CH
- Deutsche Telekom Laboratories, Berlin, DE
- EyeP Media SA, Yverdon, CH
- Fastcom Technology SA, Lausanne, CH
- Intel Corporation, Santa Clara, US
- Memoria, Sion, CH
- MHT Optic Research AG, Niederhasli, CH
- NASA, Ames Research Center, Moffett Field, US
- Nestlé Research Center, Vevey, CH
- NEXThink SA, Fribourg, CH
- Odermatt AG, Hunzenschwil, CH
- Odysis SA, Lausanne, CH
- Pixartis SA, Lausanne, CH
- Qualcomm Inc, San Diego, US
- Sarmap SA, Purasca, IT
- Sowoon Technologies Sàrl, St-Imier, CH
- SVOX AG, Zürich, CH

Others

- HASLER Foundation, CH

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	3 500 000	3 500 000	2 800 000	2 100 000	11 900 000	46
Self-funding from home institution[1]	789 019	822 145	594 000	594 000	2 799 164	11
Self-funding from project participants	1 962 398	1 691 457	810 000	810 000	5 273 855	20
Third-party funding[2]	1 935 388	1 972 523	936 000	936 000	5 779 911	22
Total	8 186 805	7 986 125	5 140 000	4 440 000	25 752 930	100

Personnel[3]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							FR	US	IT	IN	BE	
Management	8.00[4]	5	36	9	64	11	0	1	0	0	2	0
Master students	2	0	0	2	100	0	0	0	0	0	0	2
Doctoral students	89	21	24	68	76	27	13	3	5	9	0	36
Postdoctoral students	22	3	14	19	86	4	5	0	3	1	1	8
Research associates	1	0	0	1	100	0	0	0	0	0	0	1
Senior researchers[5]	42	5	12	37	88	9	8	8	3	1	5	16
Other staff	22	2	9	20	91	14	3	3	1	0	0	0
Total	186.00	36	19	156	81	65	29	15	12	11	8	63

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. page 6). Since the start of the NCCR 15 projects have been funded by CTI at a total amount of 8.3 million CHF.
[3] Persons involved in the NCCR in the last reporting period (12 months)
[4] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[5] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Steger Angelika, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Beretta Giordano Bruno, Dr.	Hewlett Packard Laboratories, Palo Alto, US
Byrne Bill, Dr.	Machine Intelligence Laboratory, Cambridge University, GB
Chang Shih-Fu, Prof.	Department of Electrical Engineering, Columbia University, New York, US
Chua Tat-Seng, Prof.	Department of Computer Science, National University of Singapore, SG
Hirsbrunner Béat, Prof.	Swiss National Science Foundation, Berne, CH
Jain Ramesh, Prof.	School of ECE and College of Computing, Georgia Tech, US
Meng Helen Mei-Ling, Prof.	Department of Systems Engineering and Engineering Management, The Chinese University of Hong Kong, HK
Opitz-Belakhal Claudia, Prof.	Swiss National Science Foundation, Berne, CH
Zhang Yu-Jin, Prof.	Department of Electronic Engineering, Tsinghua University, Beijing, CN

NCCR Office SNSF

Bachmann Stefan, Dr.	Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern, phone: + 41 (0)31 308 23 49, fax: + 41 (0)31 305 29 71, sbachmann@snf.ch

Computer Aided and Image Guided Medical Interventions
NCCR CO-ME

Research

Real-time sensor fusion and 3D model update for minimally invasive surgery
Head: Baur C.
Helmer P., Cattin P., Zheng G.

Magnet-resonance image-guided radio-frequency ablation of liver tumors
H: Becker C.
Cattin P., Kuster N., Székely G., Terraz S.

Computer-aided surgery around the head
H: Caversaccio M.
Zheng G.

Virtual-reality based training of medical procedures
H: Harders M.
Bajka M., Bleuler H., Gantert W., Gross M., Thaler M., Rudin M., Szczerba D.

Image-guided neurosurgery – neurosurgical treatment of functional brain disorders
H: Jeanmonod D.
Martin E., Morel A., Székely G., Kiper D., Werner B.

Load sensing surgical instruments and implants
H: Ryser P.
Burger J., Hierold C., Jacq C., Kowal J., Maeder T., Neuenschwander J., Sennhauser U.

Interactive clinical visualisation for joint examination
H: Magnenat-Thalmann N.
Ferguson S., Hoffmeyer P., Guillard G., Siebenrock K., Thalmann D.

Advanced image guided surgical interventions in ophthalmology
H: Nelson B.
Abbott J., Burger J., Cattin P., Kowal J., Büchler P.

Soft-tissue modelling: from mechano-biology to real-time simulation
H: Ferguson S.
Baur C., Gross M., Kroschewski R. Koumoutsakos P., Mazza E., Otaduy M., Büchler P., Poulikakos D.

Computer assistance in orthopaedic surgery
H: Gonzalez Ballester M. A.
Chopard B., Rüfenacht D., Székely G., Zheng G., Büchler P.

Diagnosis patient-specific flow simulation and advanced wessel wall analysis
H: Alkadhi H.
Kurtcuoglu V., Cattin P.,

Systems face: Computer aided treatment of facial diseases
H: Zeilhofer H.-F.
Caversaccio M., Gross M., Kuttenberger J., Sader R., Schwenzer Zimmerer K., Vetter T., von Rechenberg B.

Semiautomatic coronary anastomosis using cobra and helical needle concept
H: Zünd G.,
Van de Venn H.

Heads of Individual Projects and Key Researchers

Abbott Jake, Dr.	Institut für Robotik und Intelligente Systeme, ETH Zürich
Alkadhi Hatem, PD Dr.	Institut für Diagnostische Radiologie, Universitätsspital Zürich
Bajka Michael, PD Dr.	Klinik für Gynäkologie, Universitätsspital Zürich
Baur Charles, Dr.	Institut de Systèmes Robotiques, EPF Lausanne
Becker Christoph, Prof.	Division de Radiodiagnostic et Radiologie Interventionnelle, Hôpitaux Universitaires, Genève
Bleuler Hannes, Prof.	Institut de Systèmes Robotiques, EPF Lausanne
Büchler Philippe, Dr.	M. E. Müller Forschungsinstitut für Orthopädische Chirurgie, Universität Bern
Burger Jürgen, Prof.	Hochschule für Technik und Informatik, Biel
Cattin Philippe, Prof.	Medizinische Fakultät , Universität Basel
Caversaccio Marco, PD Dr.	Klinik für Hals-, Nasen-, Ohrenkrankheiten, Kopf- und Halschirurgie, Inselspital Bern
Chopard Bastien, Prof.	Scientific and Parallel Computing Group, CUI, University of Geneva
Ferguson Stephen, PD Dr.	M.E. Müller Forschungsinstitut für Orthopädische Chirurgie, Universität Bern
Gantert Walter, Dr.	Klink St. Anna, Luzern
Gonzalez Ballester Miguel, Dr.	M.E. Müller Forschungsinstitut für Orthopädische Chirurgie, Universität Bern
Gross Markus, Prof.	Computer Graphics Group, ETH Zürich
Guillard Gwenael, Dr.	MIRALab, Université de Genève

Home Institution
Swiss Federal Institute of Technology Zurich

Start of the NCCR
July 1, 2001

NCCR Management

Director
Székely Gábor, Prof.
phone: + 41 (0)44 632 52 88
szekely@vision.ee.ethz.ch

Deputy Director
Nolte Lutz-Peter, Prof.
phone: + 41 (0)31 631 59 34
lutz.nolte@memcenter.unibe.ch

General Manager
Reber Bernhard, Dr.
phone: + 41 (0)44 632 05 23
breber@vision.ee.ethz.ch

Public Relations
Roth Patrick
phone: + 41 (0)31 631 59 51
patrick.roth@memcenter.unibe.ch

Steinmann Ruth, Mrs.
phone: + 41 (0)44 632 51 63
steinman@vision.ee.ethz.ch

Finances
Vogt Vreni, Mrs.
phone: +41 (0)44 632 04 72
vogt@vision.ee.ethz.ch

Officer
Neuenschwander Annelies, Mrs.
phone: +41 (0)31 631 59 58
annelies.neuenschwander@memcenter.unibe.ch

Knowledge and Technology Transfer
Nolte Lutz-Peter, Prof.
phone: + 41 (0)31 631 59 34
lutz.nolte@memcenter.unibe.ch

Education and Training
Reber Bernhard, Dr.

Advancement of Women
Thoeny Harriet, PD Dr.
Inselspital Bern

Address
NCCR CO-ME
ETHZ - Bildverarbeitung
Sternwartstr. 7
8092 Zürich
phone: + 41 (0)44 632 04 72
fax: + 41 (0)44 632 11 99
vogt@vision.ee.ethz.ch

Web Address
http://co-me.ch

Third Party Cooperation

(in progress)

Programmes

- ARES (FP6)
- CyberWalk (FP6)
- ImmerSence IST (FP6)
- IST-Intuition (FP6)
- Marie Curie Actions (FP6)
- PICO (FP6)
- Research Funding Award Program

Research Institutions

- BG-Unfallklinik, Frankfurt a.M., DE
- BG-Unfallklinik, Ludwigshafen, DE
- BioMedIA Lab at Commonwealth Scientific and Industrial Research Organisation, Sidney, AU
- Biox and Artificial Intelligence Lab, Stanford University, San Francisco, US
- Brigham and Women's Hospital, Harvard Medical School, Boston, US
- Center for Integration of Medicine and Innovative Technology (CIMIT) Simulation Group, Boston, US
- Center for Processing Speech and Images, Catholic University, Leuven, BE
- Center of Advanced European Studies and Research (CAESAR), Bonn, DE
- Computer Science Faculty, University of Silesia, Katowice, PL
- Daniel den Hoed Cancer Center, Erasmus University, Rotterdam, NL
- Dépt. de Neurochirurgie, CHUV, Lausanne, CH
- Dept. of Computer Science, University of North Carolina, Chapel Hill, US
- Dept. of Physics, Aristotle University of Thessaloniki, GR
- Duke University Medical Center, Durham, US
- Ecole d'Ingenieurs de Genève (EIG), Genève, CH
- Fachhochschule Nordwestschweiz, Brugg, CH
- Hand- und Wiederherstellungschirurgie, Universitätsklinikum, Ulm, DE
- Hôpital orthopedique de la Suisse Romande (HOSR), Lausanne, CH

Harders Matthias, PD Dr.	Institut für Bildverarbeitung, ETH Zürich
Helmer Patrick, Dr.	Institut de Systèmes Robotiques, EPF Lausanne
Hierold Christopher, Prof.	Micro- und Nanosysteme, ETH Zürich
Hoffmeyer Pierre, Prof.	Département d'Orthopédie, Hôpital Cantonal, Université de Genève
Jacq Caroline	Laboratoire de production microtechnique, EPF Lausanne
Jeanmonod Daniel, Prof.	Neurochirurgische Klinik, Universitätsspital Zürich
Kiper Daniel, Dr.	Institut für Neuroinformatik, Universität Zürich
Koumoutsakos Petros, Prof.	Computational Sciences, ETH Zürich
Kowal Jens, Dr.	M.E. Müller Forschungsinstitut für Orthopädische Chirurgie, Universität Bern
Kroschewski Ruth, Dr.	Institut für Biochemie, ETH Zürich
Kurtcuoglu Vartan, Dr.	Institut für Energietechnik, ETH Zürich
Kuster Niels, Prof.	IT'IS Foundation, ETH Zürich
Kuttenberger Johannes, Dr.	Klinik für Mund-, Kiefer- und Gesichtschirurgie, Kantonsspital Luzern
Maeder Thomas, Dr.	Laboratoire de production microtechnique, EPF Lausanne
Magnenat-Thalmann Nadia, Prof.	MIRALab, Université de Genève
Martin Ernst, Prof.	MR-Zentrum, Kinderspital Zürich
Mazza Edoardo, Prof.	Mechanische Systeme, ETH Zürich
Morel Anne, Dr.	Neurochirurgische Klinik, Universitätsspital Zürich
Nelson Bradley, Prof.	Institut für Robotik und Intelligente Systeme, ETH Zürich
Neuenschwander Jürg, Dr.	Electronics/Metrology, EMPA Dübendorf
Nolte Lutz-Peter, Prof.	M.E. Müller Forschungsinstitut für Orthopädische Chirurgie, Universität Bern
Otaduy Miguel, Dr.	Computer Graphics Laboratory, ETH Zürich
Poulikakos Dimos, Prof.	Institut für Energietechnik, ETH Zürich
Rudin Markus, Prof.	Institut für Biomedizinische Technik, ETH Zürich
Rüfenacht Daniel, Prof.	Département de Radiologie, Hôpital Cantonal, Université de Genève
Ryser Peter, Prof.	Laboratoire de production microtechnique, EPF Lausanne
Sader Robert, PD Dr.	Klinik für Kiefer- und Gesichtschirurgie, Kantonsspital Basel
Schwenzer Zimmerer Katja, Dr.	Klinik für Kiefer- und Gesichtschirurgie, Kantonsspital Basel
Sennhauser Urs, Dr.	Electronics/Metrology, EMPA Dübendorf
Siebenrock Klaus, Prof.	Orthopädische Chirurgie, Inselspital, Bern
Szczerba Dominik, Dr.	Institut für Bildverarbeitung, ETH Zürich
Székely Gábor, Prof.	Institut für Bildverarbeitung, ETH Zürich
Terraz Sylvain, Dr.	Département de Radiologie, Hôpital Cantonal, Université de Genève
Thaler Markus, Dr.	Zürcher Hochschule, Winterthur, ZHW
Thalmann Daniel, Prof.	Virtual Reality Laboratory, EPF Lausanne
Van de Venn, Hans Wernher, Prof.	Inst. für Mechatronische Systeme, Zürcher Hochschule, Winterthur
Vetter Thomas, Prof.	Graphics and Vision Research Group, Universität Basel
von Rechenberg Brigitte, Prof.	Pferdeklinik, Tierspital, Universität Zürich
Werner Beat	MR Center, University Children's Hospital, Zurich
Zeilhofer Hans-Florian, Prof.	Klinik für Kiefer- und Gesichtschirurgie, Kantonsspital Basel
Zheng Guoyan, Dr.	M.E. Müller Forschungsinstitut für Orthopädische Chirurgie, Universität Bern
Zünd Gregor, Prof.	Klinik für Herz- und Gefässchirurgie, Universitätsspital Zürich

Topics

The fundamental target of this NCCR is to understand, realise, and demonstrate the potential, which information technology offers for the optimisation of medical interventions in order to improve the treatment of individual patients and overall health care for society as a whole. The focus of the NCCR is on the development, integration and validation of enabling technologies towards advanced computer aided, image guided systems for medical interventions that support the complete treatment process from therapeutic planning and simulation via intra-operative action to post-operative care, monitoring and documentation. In addition, the utility of the underlying strategies and concepts for novel forms of medical education and training is being explored.

Achievements

Basic and applied research

Major advances achieved in biomedical simulation allow modelling the complex behaviour of living human tissue. Numerous applications have been developed for the optimal support of a variety of medical interventions by functional pre-operative planning, as well as for offering realistic skill training environments for surgical residents using high-fidelity training simulators. For surgical navigation, different devices have been realised including a small, cost-saving optical tracking system marketed by our spin-off Atracsys. Another highlight for the integration of advanced sensor technology into surgical environment is the intra-operative force-measuring device supporting balancing the ligaments during total knee arthroplasty. A recent initiative on sensor integration into othopaedic instruments and implants is further advancing precise intra-operative support and post-operative follow-up. Force feedback for improving medical diagnosis, therapy, and education belongs to the main areas of competence.

Technology transfer

The close cooperation between research labs and clinical sites guarantees the effective transfer of scientific results to patient care, demonstrated by numerous patent applications and spin-offs as well as collaborations with global market leaders in computer-aided surgery including BrainLAB.

Advancement of women

The scientific career of female clinicians is supported every year by a research grant. The organisation of the annual research-networking workshop is headed by female PhD-students.

Education and Training

The members of the NCCR play a decisive role in creating new Master Curricula: Master of Science in Biomedical Engineering (University of Berne) – with the focus areas Musculoskeletal System and Microsensor and Actuator Technology – and interdepartmental Master of Biomedical Engineering (ETH Zurich).

- Kantonsspital Luzern, CH
- Klinik für Plastische Chirurgie, Klinikum rechts der Isar der TU München, München, DE
- Medical University of Silesia, Katowice, PL
- MeVis, Zentrum für Medizinische Diagnosesysteme und Visualisierung, Bremen, DE
- Paul Scherrer Inst., Villigen, CH
- Poliklinik für Kieferorthopädie, Ludwig Maximilians-Universität, München, DE
- Precision and Intelligence Lab. at Tokyo Inst. of Technology, Tokyo, JP
- Robotics Lab., Stanford University, US
- Sint Maartenskliniek, Nijmegen, NL
- Surgery Dept., University of Sherbrooke, CA
- University of Pittsburgh Medical Center Health System, Carnegie Mellon University, Pittsburgh, US
- Virginia Modeling, Analysis and Simulation Center (VMASC) at Old Dominion University, Norfolk, US

Economy / Industry

- ABW GmbH, Frickenhausen, DE
- Atracsys SARL, Bottens, CH
- Boston Scientific, Natick, US
- BrainLAB AG, Heimstetten, DE
- Celon AG, Teltow/Berlin, DE
- Cochlear AG, Lausanne, CH
- Computive Surgery llc, Ecublens, CH
- Ethicon GmbH (Johnson & Johnson), Norderstedt, DE
- Force Dimension, Lausanne, CH
- Fotona, Ljubljana, SI
- General Electric Health Care, Milwaukee, US
- Hansen Medical, Palo Alto, US
- Helbling Technik Bern AG, CH
- Image Guided Therapy SA, Pessac, FR
- InSightec - Image Guided Treatment Ltd., Tirat Carmel, IL
- Kontron Medical AG, Basel, CH

- Kuros Biosurgery AG, Zürich, CH
- Leica Microsystems AG, Glattbrugg, CH
- med3D GmbH, Heidelberg, DE
- Medical Intelligence GmbH, Schwabmünchen, DE
- Medtronic International Trading Sàrl
- MeVis Research GmbH, Bremen, DE
- Midland Medical Technologies, Birmingham, GB
- Minolta GmbH, Langenhagen, DE
- Mobile Manufacturer Forum, Bruxelles, BE
- Nucleotron B. V., Veenendaal, NL
- Oncosuisse, Krebsliga Schweiz, Bern, CH
- Philips Medical Systems, Best, NL
- Philips Medical Systems, Zürich, CH
- Siemens Medical, Zürich, CH
- Phonak AG, Stäfa, CH
- Polymed medical center, Glattbrugg, CH
- Richard Wolf GmbH, Knittlingen, DE
- Schering AG, Berlin, DE
- Siemens AG, Medical Solutions, Erlangen, DE
- Speag (Schmid & Partner Engineering AG), Zürich, CH
- Steinbichler Optotechnik GmbH, Rosenheim, DE
- Steinbichler Optotechnik GmbH, Neubeuern, DE
- Stryker Trauma AG, Selzach, CH
- Synthes AG, Oberdorf, CH
- Treier Endoscopie AG, Kreuzmatt, CH
- xitact sa, Morges, CH

Members of the Scientific Advisory Board

Cuschieri Alfred, Sir	Scuola Superiore di Studi Universitari e Perfezionamento Sant' Anna, PISA, IT
Davies Brian, Prof.	Imperial College London, Mechanical Engineering, London, GB
Freysinger Wolfgang, Prof.	Universitätsklinik für Hals-, Nasen- und Ohrenheilkunde, Innsbruck, AT
Kikinis Ron, Prof.	Harvard Medical School, Brigham and Women's Hospital, Boston, US
Metaxas Dimitris, Prof.	University of Pennsylvania, Computer and Information Science, Philadelphia, US
Schlenzka Dietrich, Prof.	Orton Hospital, The Invalid Foundation, Helsinki, FI
Taylor Chris, Prof.	University of Manchester, Division of Imaging Science & Biomedical Engineering, Manchester, GB
Thorpe Chuck, Prof.	Carnegie Mellon University, Qatar
Troccaz Jocelyne, Dr.	Laboratoire TIMC/IMAG, Université Joseph Fourier, La Tronche, FR

Members of the Women Advisory Board

Burckhardt Kathrin	Institut für Bildverarbeitung, ETH Zürich, CH
Landmann-Suter Regine, Prof.	Departement Forschung, Kantonsspital/Universität Basel, Basel, CH
Reber Bernhard, Dr.	Institut für Bildverarbeitung, ETH Zürich
Thoeny Harriet,PD Dr.	Institut für Diagnostische Radiologie, Inselspital Bern
Vogt Vreni, Mrs.	Project Office NCCR CO-ME, ETH Zürich, CH
Von Rechenberg Brigitte, PD Dr.	Pferdeklinik, Universität Zürich, CH

Members of the Technical Advisory Board

Responsible: Nolte Lutz-Peter, Prof.	M.E. Müller Forschungsinstitut für Orthopädische Chirurgie, Universität Bern, CH

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	4 000 000	4 000 000	4 000 000	4 000 000	16 000 000	36
Self-funding from home institution[1]	2 144 085	2 426 393	2 120 000	2 120 000	8 810 478	20
Self-funding from project participants	3 872 863	4 218 253	3 510 165	3 055 140	14 656 421	33
Third-party funding[2]	1 165 326	1 742 440	1 249 150	689 750	4 846 666	11
Total	11 182 274	12 387 086	10 879 315	9 864 890	44 313 565	100

Personnel[3]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	FR	ES	TR	IT	
Management	5.27[4]	4	40	6	60	7	3	0	0	0	0	0
Master students	1	0	0	1	100	0	0	0	0	0	0	1
Doctoral students	78	15	19	63	81	29	14	6	3	5	2	18
Postdoctoral students	25	1	4	24	96	5	5	3	1	0	1	10
Research associates	31	4	13	27	87	19	2	2	0	0	0	8
Senior researchers[5]	99	12	12	87	88	48	34	2	2	0	1	11
Other staff	28	16	57	12	43	22	2	0	0	1	1	3
Total	267.27	52	19	220	81	130	60	13	6	6	5	51

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. page 6). Since the start of the NCCR 14 projects have been funded by CTI at a total amount of 16.7 million CHF.
[3] Persons involved in the NCCR in the last reporting period (12 months)
[4] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[5] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Hasler Martin, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Bucholz Richard, Prof.	Division of Neurosurgery, St. Louis University School of Medicine, US
Duncan James, Prof.	Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, US
Frey Felix, Prof.	Swiss National Science Foundation, Berne, CH
Frisken Sarah F., Prof.	Department of Computer Science, Tufts University, US
Hirsbrunner Béat, Prof.	Swiss National Science Foundation, Berne, CH
Hirzinger Gerd, Prof.	Institut für Robotik und Mechatronik, DLR Oberpfaffenhofen, DE
Jolesz Ferenc A., Prof.	Harvard University, Brigham & Women's Hospital, Boston, US
Lorensen Bill	General Electric Corporate R&D, Niskayuna NY, US

NCCR Office SNSF

Bachmann Stefan, Dr.	Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern, phone: + 41 (0)31 308 23 49, fax: + 41 (0)31 305 29 71, sbachmann@snf.ch

Others

- AO-ASIF-Stiftung, Davos, CH
- Bundesminister für Umwelt, Naturschutz und Reaktorsicherheit, Bonn, DE
- EMDO Stiftung Zürich, CH
- Food and Drug Administration (FDA), Center for Devices and Radiological Health, Rockville, US
- M.E. Müller-Stiftung, Bern, CH
- Mobile Manufacturers Forum (MMF), Groupe Specale Mobile Association (GSMA), Bruxelles, BE
- National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, US
- Novartis Stiftung, Basel, CH
- Roche Research Foundation, Basel, CH

Mobile Information and Communication Systems
NCCR MICS

Home Institution
Swiss Federal Institute of Technology, Lausanne

Start of the NCCR
November 1, 2001

NCCR Management
Director
Aberer Karl, Prof.
phone: + 41 (0)21 693 46 79
karl.aberer@epfl.ch

Deputy Director
Thiele Lothar, Prof.
phone: + 41 (0)1 632 70 31
thiele@tik.ee.ethz.ch

Coordinator
Bovay Jacques, Mr.
phone: + 41 (0)21 693 56 38
jacques.bovay@epfl.ch

Finances & Administration
Bernau Heidi, Mrs.
phone: + 41 (0)21 693 81 06
heidi.bernau@epfl.ch

Knowledge and Technology Transfer
Monti Max, Dr.
phone: + 41 (0)21 693 69 77
max.monti@epfl.ch

Education and Training
Bovay Jacques, Mr.
phone: + 41 (0)21 693 56 38
jacques.bovay@epfl.ch

Advancement of Women
Berseth Nicole, Mrs.
phone: + 41 (0)21 693 00 78
nicole.berseth@epfl.ch

Riblet Fabrice, Dr.
phone: + 41 (0)21 693 98 84
fabrice.riblet@epfl.ch

Communication Officer
Luy Florence, Mrs.
phone: + 41 (0)21 693 21 05
florence.luy@epfl.ch

Address
EPFL IC PRN MICS
Station 14
1015 Lausanne

phone: + 41 (0)21 693 56 38
fax: + 41 (0)21 693 81 40
nccr-mics@epfl.ch

Web Address
www.mics.org

Public Relations
- Web site
- Bimonthly newsletter

Research

Cluster "Theory of Self-Organized, Distributed Communication and Information"
Head: Urbanke R.

Information and coding theory for wireless multi-hop networks
Diggavi S., Telatar E., Urbanke R.

Network theory for wireless multi-hop networks
Diggavi S., Grossglauser M., Telatar E., Thiran P.

Distributed signal processing and communication in sensor networks
Vetterli M.

Algorithmic foundations of ad hoc and sensor networks
Wattenhofer R., Widmayer P.

Sensorscope and its application to environmental monitoring
Parlange M., Vetterli M.

Reliable computing in sensor networks
Guerraoui R.

Cluster "Mobile Communication and Processing Platforms"
H: Le Boudec J.-Y.

Very low radiated power UWB communication
Le Boudec J.-Y., Decotignie J.-D., Dehollain C., Robert S., Skrivervik A., Wittneben A.

Deployment of sensor networks
Mattern F., Thiele L.

Modular and composable platform for sensor and actuator networks
Henzinger T., Thiele L.

Application: Distributed odour source localization using a miniature multi-robot system
Martinoli A.

Application: Real-time avalanche and landslide analysis through sensor networks
Ancey C., Charbon E.

Application: Wireless sensor network for pollution monitoring
Robert S.

Cluster "Networked Software Systems"
H: Gross T.

Checking properties of flexible programs in the presence of modularity
Gross T.

VerSePro: Verification of security and privacy protocols for wireless networks
Basin D., Hubaux J.-P.

Secure stream ciphers
Meier W.

Spam detection based on self-organization
Le Boudec J.-Y.

Permasense
Tschudin C.

WaterSense
Hubaux J.-P.

Cluster "In-Network Information Management"
H: Alonso G.

XTream
Alonso G., Kossmann D., Tatbul N.

Distributed event detection and localization architecture for wireless sensor networks
Braun T.

Data dissemination in mobile ad hoc sensor environments
Murphy A., Pedone F.

Sensor awareness
Aberer K., Henzinger M., Süsstrunk S.

Serious building games
Gross T., Hovestadt L., Morari M., Thiele L.

Idea futures market for MICS technology foresight
Pigneur Y.

Distributed software transactional memory for resource-constrained networked devices
Felber P.

Programmes

Doctoral Program in Computer, Communication and Information Sciences
Direction: Henzinger T., Bovay J.

Undergrad Research Opportunity Program
Direction: Bovay J.

Internship Program for Female Undergraduate Students
Direction: Berseth N., Riblet F.

Industrial Liaison Program
Direction: Monti M.

Heads of Clusters and Participants to the Research Projects

Aberer Klaus, Prof.
Faculté Informatique et Communications, EPF Lausanne
Alonso Gustavo, Prof.
Departement Informatik, ETH-Zentrum, Zürich
Ancey Christophe, Prof.
Faculté Environnement naturel, architectural et construit, EPF Lausanne
Basin David, Prof.
Departement Informatik, ETH-Zentrum, Zürich
Braun Torsten, Prof.
Institut für Rechnernetze und Verteilte Systeme,

Topics

Wireless communication is fundamentally changing the way we use information technology: information becomes embedded into our physical environment by means of personal devices and embedded computers, and the physical environment becomes increasingly intertwined with the Internet information space through sensor and actuator technology. In parallel with this qualitative change, the number of devices and the amount of information is growing exponentially.
Classical models of designing and controlling centralized IT systems will not be able to scale up. Decentralized approaches, based on self-organization principles, need to be studied and developed in order to master the complexity of the resulting systems.
The NCCR MICS is tackling exactly these problems, combining the study of the fundamental principles (network structures, distributed algorithms, information and communication theory) that will underlie these next-generation systems, and an engineering and empirical approach by developing and deploying platforms (wireless sensor technology, ad-hoc networks, in-network information processing, verification) and testing technologies in applications, as well as looking at economic implications. A particularly interesting class of applications, from a Swiss perspective, will be the environmental monitoring of the behaviour of landslide, permafrost and glaciers.
The NCCR MICS strongly believes that this mutual exchange between theoretical work and systems/applications will lead to real progress and to fruitful technology transfer.

	Universität Bern
Charbon Edoardo, Prof.	Faculté Informatique et Communications, EPF Lausanne
Decotignie Jean-D. , Prof.	CSEM, Faculté Informatique et Communications, EPF Lausanne
Dehollain Catherine, Dr.	Faculté Sciences et techniques de l'ingénieur, EPF, Lausanne
Diggavi Suhas, Prof.	Faculté Informatique et Communications, EPF Lausanne
Felber Pascal, Prof.	Institut d'informatique, Université de Neuchâtel, Neuchâtel
Gross Thomas, Prof.	Departement Informatik, ETH-Zentrum, Zürich
Grossglauser Matthias, Prof.	Faculté Informatique et Communications, EPF Lausanne
Guerraoui Rachid, Prof.	Faculté Informatique et Communications, EPF Lausanne
Henzinger Monika, Prof.	Faculté Informatique et Communications, EPF Lausanne
Henzinger Thomas, Prof.	Faculté Informatique et Communications, EPF Lausanne
Hovestadt Ludger, Prof.	Departement Architektur, ETH Zürich
Hubaux Jean-Pierre, Prof.	Faculté Informatique et Communications, EPF Lausanne
Kossmann Donald, Prof.	Departement Informatik, ETH-Zentrum, Zürich
Le Boudec Jean-Yves, Prof.	Faculté Informatique et Communications, EPF Lausanne
Martinoli Alcherio, Prof.	Faculté Informatique et Communications, EPF Lausanne
Mattern Friedemann, Prof.	Departement Informatik, ETH-Zentrum, Zürich
Meier Willi, Prof.	Fachhochschule Aargau, Brugg
Morari Manfred, Prof.	Departement Informationstechnologie und Elektrotechnik, ETH-Zentrum, Zürich
Murphy Amy, Prof.	Facoltà di scienze informatiche, Università della Svizzera Italiana, Lugano
Parlange Marc, Prof.	Faculté Environnement naturel, architectural et construit, EPF Lausanne
Pedone Fernando, Prof.	Facoltá di scienze informatiche, Universitá della Svizzera Italiana, Lugano
Pigneur Yves, Prof.	Université de Lausanne, Ecole des HEC, Lausanne
Robert Stephan, Prof.	Institut des télécommunications, Ecole d'Ingénieurs du Canton de Vaud, Yverdon-les-Bains
Skrivervik Anja, Prof.	Faculté Sciences et techniques de l'ingénieur, EPF Lausanne
Süsstrunk Sabine, Prof.	Faculté Informatique et Communications, EPF Lausanne
Tatbul Nesime, Prof.	Departement Informatik, ETH Zentrum, Zürich
Telatar Emre, Prof.	Faculté Informatique et Communications, EPF Lausanne
Thiele Lothar, Prof.	Departement Informationstechnologie und Elektrotechnik, ETH-Zentrum, Zürich
Thiran Patrick, Prof.	Faculté Informatique et Communications, EPF Lausanne
Tschudin Christian, Prof.	Departement Informatik, Universität Basel
Urbanke Rüdiger, Prof.	Faculté Informatique et Communications, EPF Lausanne
Vetterli Martin, Prof.	Faculté Informatique et Communications, EPF Lausanne
Wattenhofer Roger, Prof.	Departement Informatik, ETH-Zentrum, Zürich
Widmayer Peter, Prof.	Departement Informatik, ETH-Zentrum, Zürich
Wittneben Armin, Prof.	Departement Informationstechnologie und Elektrotechnik, ETH-Zentrum, Zürich

Third Party Cooperation

(in progress)

Programmes

- AEOLUS (FP6)
- ARTIST2 (FP6)
- BRICKS (FP6)
- COST 2100
- CRUISE (FP6)
- DELOS (FP6)
- DustBot (FP6)
- DYNAMO (FP6)
- Euro FGI (FP6)
- GORDA (FP6)
- GRAAL (Cost 293)
- HAGGLE (FP6)
- MEGAFRAME (FP6)
- MINAmI (FP6)
- NEPOMUK (FP6)
- PULSERS (FP6)
- PULSERS II (FP6)
- SEVECOM (FP6)
- SHAPES (FP6)
- TEAM (FP6)
- WASP (FP6)

Research Institutions

- Dept. de Sistemas Informáticos y Computación,University Politécnica Valencia, ES
- Dept. für Informatik, Carl-von-Ossietzky Universität, Oldenburg, DE
- Dept. of Architecture (IDG1), University Stuttgart, DE
- Dept. of Computer Science, Carnegie Mellon University Pittsburgh, US
- Dept. of Computer Science, Free University of Brussels, BE
- Dept. of Computer Science, University of Berkeley, US
- Dept. of ECE, University of Waterloo, CA
- Dept. of EECS, Stanford University, US
- Dept. of EIS, University of Bologna, IT
- Dept. of Electrical and Computer Engineering, University of Maryland, College Park, US
- Dept. of Electrical engineering and computerscience, UC Berkeley, US
- Dept. of Finnish Language and Literature, Helsinki School of Economics, FI
- Dipart. di Informatica e Sistemistica, Università di Roma, IT
- Info Lab., Stanford University, Palo Alto, US
- Inst. für Informatik, Universität Paderborn, DE

- Inst. Superior Técnico, Dept. de Matemática, Lisbon, PT
- Media computing group, MIT, Cambridge, US
- Parallel and distributed systems group - TU Delft, NL
- Rheinisch-Westfälische Technische Hochschule (RWTH), Universität Aachen, DE
- Strategia e sistemi di pianificazione, Politecnico di Milano, IT
- Teacher Education program, MIT, Cambridge, US
- The Thomas M. Siebel Center for Computer Science, Urbana, US

Economy / Industry

- AlpuG GmbH, Davos, CH
- Amstein + Walthert AG, Zürich, CH
- Art of Technology AG, Zürich, CH
- Cyberbotics S.à.r.l., Lausanne, CH
- Danfoss A/S, Nordborg, DK
- Deutsche Telekom Lab., Berlin, DE
- Docomo Communications Laboratories Europe GmbH, Munich, DE
- DoCoMo Euro Labs, Munich, DE
- egnite Software GmbH, Castrop Rauxel, DE
- IBM Zurich Research Laboratory, Rüschlikon, CH
- IMST GmbH, Kamp-Lintfort, DE
- Intel Corporation, World Cyber Game Group, Portland, US
- Intel Research, Santa Clara, US
- K-TEAM SA, Ecublens, CH
- Logitech Europe SA, Romanel-sur-Morges, CH
- MeteoSwiss, Zürich, CH
- Microsoft Research, Cambridge, GB
- Microsoft Research, Richmond, US
- Moteiv Corporation,

Achievements

The NCCR MICS investigates fundamental problems of wireless communication networks, development of system platforms, and realization of applications of mobile communication and information technologies.

Algorithms

Among the fundamental problems investigated are distributed consensus algorithms and wireless routing protocols. We provided average and worst case analysis of a new class of efficient consensus algorithms minimizing the communication overhead. We developed novel routing algorithms for temporarily disconnected wireless networks exploiting node mobility and considering realistic mobility models.

System platforms

System platforms for wireless communication remain an important focus of our research. We successfully demonstrated power-independent synchronization with a radio prototype for low-power UWB communication. Due to its ranging capabilities, this technology will also open new perspectives for scientific applications such as monitoring the dynamics of avalanches.

Deployment and data management

A deployment-support network (DSN) strictly separating the parts that are dependent and independent of the target architecture has been developed, resulting in a target-independent toolkit that is easy to install and use. The DSN has successfully been applied in a case study on wireless fire detectors in cooperation with Siemens Building Technology. With SwissQM we have developed a virtual machine for sensor networks that facilitates the development of applications by migrating data processing tasks into the sensor nodes. For efficiently publishing and processing sensor data, we have built Global Sensor Network (GSN), a middleware platform connecting sensor networks to the Internet in a plug-and-play style.

Applications

With SensorScope we have now a system that is routinely deployed by environmental scientists for fine-grained monitoring of environmental parameters in the alpine region. It is also a core technology in the Swiss Experiment, a new joint initiative with the CCES center of the ETH domain and Microsoft Research. The goal of this initiative is to provide environmental scientists with next-generation e-science platforms, supporting data acquisition based on wireless sensor networks and featuring Web-based tools for data analysis and collaborative research.Other applications explore the use of mobility and control in wireless sensing. A new robot has been tested in the wind tunnel for implementing an odor source location system. We also performed a case study on building control at the ETH campus using wireless sensor networks, to locate energy leaks and optimize energy consumption.

Further information see www.mics.org

Members of the Advisory Board

Badoux Jean-Claude, Prof. em.	Former President, EPFL, CH
Baechtold Werner, Prof. em.	ETH Zürich, CH
Caccia Fulvio, Dr.	Former President, asut, CH
Macht Helmut	Siemens Building Technologies, CH

Members of the Scientific Board

Chevillat Pierre, Dr.	IBM Zurich Research Laboratory, CH
Feldmann Anja, Prof.	TU Munich, DE
Franklin Michael, Prof.	UC Berkeley, US
Kumar P.R., Prof.	University of Illinois, Urbana-Champaign, US
Kurose Jim, Prof.	University of Massachusetts, US
Landrock Peter, Prof.	Cryptomathic Inc. and Aarhus University, Aarhus, DK
Massey James L., Prof.	ETH Zürich, CH
Perkins Charles E., Dr.	Nokia Research Center, Mountain View, US
Rabaey Jan M., Prof.	UC Berkeley, US
Weikum Gerhard, Prof.	Saarland University, DE

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	3 800 000	3 800 000	3 800 000	3 800 000	15 200 000	40
Self-funding from home institution[1]	3 527 120	2 781 601	3 028 910	2 320 570	11 658 201	31
Self-funding from project participants	2 830 164	3 584 081	1 554 250	1 449 720	9 418 215	25
Third-party funding[2]	700 007	585 710	150 000	150 000	1 585 717	4
Total	10 857 291	10 751 392	8 533 160	7 720 290	37 862 133	100

Personnel[3]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	US	FR	IR	AT	
Management	6.75[4]	13	39	20	61	23	1	0	4	1	1	5
Master students	1	0	0	1	100	0	0	0	0	0	0	1
Doctoral students	105	19	18	86	82	35	15	3	3	2	2	46
Postdoctoral students	29	3	10	26	90	5	5	0	1	1	1	16
Research associates	6	1	17	5	83	4	0	0	0	0	0	2
Senior researchers[5]	58	4	7	54	93	21	13	7	2	1	4	12
Other staff	34	7	21	27	79	21	1	0	0	4	0	8
Total	239.75	47	18	219	82	109	35	10	10	9	8	90

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Not included is CTI funding (cf. page 6). Since the start of the NCCR 7 projects have been funded by CTI at a total amount of 8.3 million CHF.
[3] Persons involved in the NCCR in the last reporting period (12 months)
[4] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[5] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Steger Angelika, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Effros Michelle, Prof.	California Institute of Technology, Caltech, Pasadena, US
Folkers Gerd, Prof.	Swiss National Science Foundation, Berne, CH
Gray Robert, Prof.	Department of Electrical Engineering, Stanford University, Stanford, US
McAuley Derek, Prof.	Intel Research, Cambridge, GB
Murer Stephan, Dr.	Swiss National Science Foundation, Berne, CH
Odlyzko Andrew, Prof.	Digital Technology Centre, University of Minnesota, Minneapolis, US
Pottie Greg, Prof.	Electrical Engineering Department, University of California, Berkeley, US
Walrand Jean, Prof.	Department of EECS, University of California, Berkeley, US

NCCR Office SNSF

Christ Urs, Dr.	Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern, phone: + 41 (0)31 308 23 50, fax: + 41 (0)31 305 29 71, uchrist@snf.ch

San Fransisco, US
- Nokia Research Center, Tampere, FI
- Nokia Research Center, Helsinki, FI
- Phonak AG, Stäfa, CH
- Rincon Research, Corp., Tucson, US
- Samsung Advanced Inst. of Technology, Suwon, KR
- Scatter Web GmbH, Berlin, DE
- Sensalpin GmbH, Davos, CH
- Shockfish SA, Lausanne, CH
- Siemens AG, München, DE
- Siemens Building Technologies, Zug, CH
- STMicroelectronics GmbH, Geneva, CH
- Sun Microsystems Inc., Menlo Park, US
- Swisscom AG, Bern, CH
- Thales Research and Technology (UK) Ltd, Nr Weybridge, GB
- Whitestein Technologies AG, Zürich, CH

Others

- Haslerstiftung, Bern, CH

Financial Valuation and Risk Management
NCCR FINRISK

Home Institution
University of Zurich

Start of the NCCR
November 1, 2001

NCCR Management
Director
Gibson Rajna, Prof.
phone: + 41 (0)44 634 29 69
rgibson@isb.uzh.ch

Deputy Director
Danthine Jean-Pierre, Prof.
phone: + 41 (0)21 692 34 85
Jean-Pierre.Danthine@unil.ch

Administrative Director
Jaeger Eckart, Mr.
phone: + 41 (0)44 634 39 55
jaeger@nccr-finrisk.ch

Research
Hens Thorsten, Prof.

Knowledge and Technology Transfer
Vanini Paolo, Prof.

Education and Training
Morellec Erwan, Prof.
Paolella Marc, Prof.

Advancement of Women
Fabbri Daniela, Prof.

International Scientific Council
Loubergé Henri, Prof.

Communication
Jaeger Eckart, Mr.

Address
NCCR FINRISK
Plattenstrasse 14
8032 Zurich

phone: + 41 (0)44 634 29 69
fax: + 41 (0)44 634 43 45
rgibson@isb.uzh.ch

Web Address
www.nccr-finrisk.uzh.ch

Public Relations
- Folder «NCCR FINRISK»
- "FINRISK Letter"
- Booklet "Risk and Risky Management"
- Booklet "Challenges to Executive Compensation"

Research

Module "Asset Pricing and Portfolio Management"
Coordinator: Trojani F.

Behavioural and evolutionary finance
Head: Hens T.

Macro risk, systemic risks and international finance
H: Imbs J.

New methods in theoretical and empirical asset pricing
H: Trojani F.

Equilibrium asset pricing
H: Dumas B.

Module "Corporate Finance"
Coordinator: Degeorge F.

Corporate finance, market structure and the theory of the firm
H: Habib M.

Dynamic corporate finance and financial innovation
H: Morellec E.

Module "Risk Management"
Coordinator: Mancini L.

Credit risk and non-standard sources of risk in finance
H: Gibson R.

Interest rate and volatility risk
H: Barone-Adesi G.

Module "Quantitative Methods in Finance"
Coordinator: Scaillet O.

Mathematical methods in financial risk management
H: Schweizer M.

Financial econometrics for risk management
H: Scaillet O.

Programme

Swiss Doctoral School in Finance
Supervisor: Morellec, E. and Paolella, M.

Heads of Individual Research Projects, Modules and Supervisors of Doctoral School

Barone-Adesi Giovanni, Prof.	Facoltà di Scienze Economiche, Università della Svizzera Italiana, Lugano
Degeorge François, Prof.	Facoltà di Scienze Economiche, Università della Svizzera Italiana, Lugano
Dumas Bernard, Prof.	Ecole des HEC, Université de Lausanne
Gibson Rajna, Prof.	Institut für schweizerisches Bankwesen, Universität Zürich
Habib Michel, Prof.	Institut für schweizerisches Bankwesen, Universität Zürich
Hens Thorsten, Prof.	Institut für schweizerisches Bankwesen, Universität Zürich
Imbs Jean, Prof.	Ecole des HEC, Université de Lausanne
Mancini Loriano, Prof.	Institut für schweizerisches Bankwesen, Universität Zürich
Morellec Erwan, Prof.	Ecole des HEC, Université de Lausanne
Paolella Marc, Prof.	Institut für schweizerisches Bankwesen, Universität Zürich
Scaillet Olivier, Prof.	Ecole des HEC, Université de Genève
Schweizer Martin, Prof.	Departement Mathematik, ETH Zürich
Trojani Fabio, Prof.	Schweizerisches Institut für Banken und Finanzen, Universität St. Gallen

Members of the Advisory Board

Brennan Michael, Prof.	University of California, Los Angeles, US
Duffie Darrell, Prof.	Stanford University, California, US
Foellmer Hans, Prof.	Humboldt Universität, Berlin, DE
Gourieroux Christian, Prof.	University Paris IX, FR
Pagano Marco, Prof.	University of Napoli, IT
Stulz René, Prof.	Ohio State University, Colombus, US
Uppal Raman, Prof.	London Business School, GB

Topics

Assessing risks and modelling their impact on agents' micro- and macroeconomic decision-making processes represents the central theme that unites the research topics covered by FINRISK. Thus the main research questions during the second phase (2005-09) relate to the analysis and the modelling of risks. They are examined in four FINRISK research modules as follows:

- Asset Pricing and Portfolio Management: How do risks affect asset prices and investors' portfolio decisions?
- Corporate Finance: How do risks affect corporations' fundamental decisions?
- Risk Management: How should financial and non-financial risks be quantified and managed?
- Quantitative Methods in Finance: Which are the mathematical and statistical tools that are necessary to provide meaningful answers to the above cited research questions?

Achievements

In the following we identify four main areas in which substantial achievements have been generated since the start of FINRISK in 2001.

Research

By now our research efforts have reached a phase of maturation. Within the first five years FINRISK has produced about 350 working papers. Furthermore our research work has generated more than 200 publications in internationally renowned academic journals. Please check our website for more detailed information on our research output.

Knowledge transfer

Starting with the dissemination of the booklet "Risk and Risky Management", and following up with two conference series on applied research topics, we have attempted to popularise our research activities within the Swiss financial services industry. The constant interactions with practitioners at conferences, workshops and seminars contribute to install a mutually beneficial dialogue with the Swiss finance community.

Education

A close cooperation between the doctoral programmes in Geneva and Lausanne, Lugano, Sankt Gallen as well as in Zurich has been established over the past years. We now offer a large variety of specialised doctoral courses in finance to more than 100 students from Swiss universities. Furthermore, the annual Swiss Doctoral Workshop in Finance provides an ideal forum for our students to present their research to a mix of local and international faculty. Ultimately, our efforts have led to the launching of the Swiss Finance Institute PhD program in finance.

Structural Effects

The activities of FINRISK have contributed to the fact that both the Universities of Zurich and Lausanne have recently declared Finance to be one of their top priority research areas. In 2006, the Swiss Bankers Association, recognising the importance of research and high level education in finance for the reputation of the Financial Centre Switzerland, has launched the Swiss Finance Institute that aims to secure and extend the research and educational efforts of FINRISK in the long-term, see also www.swissfinanceinstitute.ch .

Further information see www.nccr-finrisk.uzh.ch

Third Party Cooperation

(in progress)

Research Institutions

- Centre de Recherche en Mathématiques, Statistique et Economie Mathématique, Univ. de Paris, FR
- Centre de recherches sur la gestion, Université Paris Dauphine, Paris, FR
- Dept. de Fundamentos del Analisis Economico, Universidad de Alicante, ES
- Dépt. de finance, HEC, Montréal, CA
- Dépt. Finance et Economie, HEC, Paris, FR
- Dépt. Finance, Université de Cergy Pontoise, FR
- Dept. of Economics, Harvard University, Cambridge, US
- Dept. of Economics, London School of Economics and Political Science, GB
- Dept. of Economics, University of Calgary, CA
- Dept. of Economics, Univ. of California, San Diego, US
- Dept. of Economics, University of Napoli, IT
- Dept. of Economics, University of Virginia, Charlottesville, US
- Dept. of Finance and Management Science, University of Alberta, Edmonton, CA
- Dept. of Finance, Boston University, US
- Dept. of Finance, Caltech, Pasadena, US
- Dept. of Finance, Carnegie Mellon Univ., Pittsburgh, US
- Dept. of Finance, Columbia University, New York, US
- Dept. of Finance, Concordia University, Montreal, US
- Dept. of Finance, Cornell University, Berkeley, US
- Dept. of Finance, Duke University, Durham, US
- Dept. of Finance, George Mason University, Fairfax, US
- Dept. of Finance, Norwegian School of Economics and Business Administration, Bergen, NO
- Dept. of Finance, Stanford University, US
- Dept. of Finance, University of California, Berkeley, US
- Dept. of Finance, University of Minnesota, US
- Dept. of Finance, University of Rochester, US
- Dept. of Finance, University of Toronto, CA
- Dept. of Finance, Washington University, St Louis, US
- Dept. of Statistical and Actuarial Sciences, Univ. of Western Orlando, Ontario, CA
- Dept. of Statistics, University of Leipzig, DE

- Faculty of Commerce, University of British Columbia, Vancouver, CA
- Federal Reserve Bank of New York, US
- Finance & Economics Division, University of Columbia, New York, US
- Finance Dept., Columbia Business School, New York, US
- Finance Dept., Fuqua School of Business, Duke University, Durham, US
- Finance Dept., The London Business School, GB
- Finance Dept., The Warton School, Univ. of Pennsylvania, Philadelphia, US
- Finance Dept., University of California, Los Angeles, US
- Inst. für Mathematik, Humboldt Univ. Berlin, DE
- Inst. of Finance and Accounting, London Business School, GB
- Inst. of Finance, Ohio State University, Columbus, US
- Inst. of Mathematical Economics, University of Bielefeld, DE
- Lab. Finance-Assurance, CREST, Paris, FR
- Manchester School of Accounting and Finance, University of Manchester, GB
- Research Dept., European Central Bank, Frankfurt, DE
- Research Dept., International Monetary Fund, Washington, US
- School of Economic Studies, University of Manchester, GB
- School of Mathematics, University of Leeds, GB

Economy / Industry

- Associazione Bancaria Ticinese, Lugano, CH
- Banca Del Ceresio, Lugano, CH
- Banca della Svizzera Italiana, Lugano, CH
- Banque de France, Paris, FR
- Banque Nationale de Paris (BNP) Paribas, London, GB
- Caisse des Dépôts et Consignations (CDC) Ixis Capital Markets, Paris, FR
- Cédric Bancaire Privée, Geneva, CH
- Cortal Consors S.A., Paris, FR
- CS Group, Zurich, CH
- CSS Krankenversicherungen, Luzern, CH
- LGT Capital Management AG, Zürich, CH
- Standard & Poors, London /Leeds, GB
- Zurich Financial Services Group, Zürich, CH

Others

- AZEK, Bülach, CH
- Banca della Svizzera Italiana (BSI) Gamma Foundation, Lugano, CH
- Swiss Nat. Bank, Bern, CH

Financial Valuation and Risk Management
NCCR FINRISK

Statistical Input – Output Data

Funding source (CHF)	Year 5	Year 6	Year 7	Year 8	Total	%
SNSF funding	3 000 000	3 000 000	2 500 000	2 500 000	11 000 000	49
Self-funding from home institution[1]	663 428	652 000	1 043 667	1 465 350	3 824 445	17
Self-funding from project participants	1 344 000	1 401 500	1 280 745	1 280 745	5 306 990	24
Third-party funding	295 804	256 000	805 000	805 000	2 161 804	10
Total	5 303 232	5 309 500	5 629 412	6 051 095	22 293 239	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	IT	FR	CN	BE	
Management	2.80[3]	5	42	7	58	4	2	1	2	0	1	2
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	62	14	23	48	77	15	13	9	5	5	0	24
Postdoctoral students	14	3	21	11	79	2	5	4	2	0	0	2
Research associates	0	0	0	0	0	0	0	0	0	0	0	0
Senior researchers[4]	48	6	13	42	88	14	6	9	8	1	4	11
Other staff	7	5	71	2	29	6	0	1	1	0	0	0
Total	133.80	33	23	110	77	41	26	24	18	6	5	39

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Linder Wolf, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Antille Gaillard Gabrielle, Prof.	Swiss National Science Foundation, Berne, CH
Errunza Vihang R., Prof.	Faculty of Management, McGill University, Montreal, CA
Foray Dominique, Prof.	Swiss National Science Foundation, Berne, CH
Geman Hélyette, Prof.	School of Economics, Mathematics and Statistics, University of London, GB
Leland Hayne E., Prof.	Haas School of Business, University of California, Berkeley, US
Servaes Henri, Prof.	London Business School, GB
Sørensen Michael, Prof.	Department of Applied Mathematics and Statistics, University of Copenhagen, DK

NCCR Office SNSF

Bachmann Stefan, Dr.	Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern, phone: + 41 (0)31 308 23 49, fax: + 41 (0)31 305 29 71, sbachmann@snf.ch

The Power and Meaning of Images
NCCR Iconic Criticism

Research

The power of images: image politics
Heads: Boehm G., Vischer Th.

Image, architecture and word
H: Beyer A.

Time in the image
H: Boehm G., Brandstetter G.

The image of writing
H: Loprieno A.

The literary text as iconic criticism
H: Simon R.

The epistemic image – Visualization in science, technology and humanities
H: Hagner M., Renner M., Vetter T.

Graduate School „Image and Knowledge“

1.10.05 – 30.9.08
Supervisors: Boehm G. / Schwarte L.

Heads of Individual Research Projects

Beyer Andreas, Prof.	Department of the History of Art, University of Basel
Boehm, Gottfried, Prof.	Department of the History of Art, University of Basel
Brandstetter Gabriele, Prof.	Institut für Theaterwissenschaften, Freie Universität Berlin
Hagner Michael, Prof.	Chair for Science Studies, ETH Zürich
Loprieno Antonio, Prof.	Institute of Egyptology, University of Basel
Renner Michael, Prof.	Department Visual Communication, University of Art and Design, Basel, FHNW
Simon Ralf, Prof.	Institute of German Studies, University of Basel
Vetter Thomas, Prof.	Computer Science Department, University of Basel
Vischer Theodora, Dr.	Schaulager, Münchenstein/Basel

Members of the Advisory Board

not yet realised

Home Institution

University of Basel

Start of the NCCR

October 1, 2005

NCCR Management

Director
Boehm Gottfried, Prof.

Managing Director
Orlando Budelacci, Dr.
phone: + 41 (0)61 207 18 05

Administrative Manager
Dunkel Helen, Mrs.
phone: + 41 (0)61 267 18 03

Administrative Assistant
Heike Freiberger, Dr.
phone: + 41 (0)61 267 18 10

Communications
Segato Marion
phone: + 41 (0)61 267 18 08

Advancement of Women
Heike Freiberger, Dr.

Knowledge and Technology Transfer
Bernold Thomas, Dr.
phone: + 41 (0)61 267 18 02

Education and Training
Schwarte Ludger, Dr., Ass.-Prof.

Address

eikones/NCCR Iconic Criticism
University of Basel
Rheinsprung 11
4051 Basel

phone: + 41 (0)61 267 18 10
fax: + 41 (0)61 267 18 11
bildkritik@unibas.ch

Public Relations

• Homepage

Web Address

www.eikones.ch

Third Party Cooperation

Programmes

- DFG-Projekt "Visuelle Navigation. Entwicklung und Kritik schematischer Karten"
- Forschergruppe "Bild – Schrift – Zahl", "Das Technische Bild"
- Graduiertenkollegs (GK) "Bild Körper Medium. Eine anthropologische Perspektive", "Körperinszenierungen", "Mediale Historiographien"
- Independent Research Group "Das wissende Bild"
- Sonderforschungsbereiche (SFB) 427, 447, 615, 626

Research Institutions

- Ägyptologisches Inst., Universität Leipzig, DE
- Center for Art and Media (ZKM), Karlsruhe, DE
- Centro Internazionale di Studi di Architettura Andrea Palladio, Vicenza, IT
- Datenströme GbR, Berlin, DE
- Dept. of Adult and Continuing Education, University of Glasgow, GB
- Dept. of Egyptology, Hebrew University, Jerusalem, IL
- Dept. of German, Northwestern University, Chicago, US
- Dipart. di Discipline storiche, artistiche, archeologiche e geografiche, Università di Verona, IT
- Ecole des Hautes Etudes en Sciences Sociales (EHESS), Paris, FR
- Fachgebiet Formale Modelle, Logik und Programmierung (FLP), Technische Universität, Berlin, DE
- Facultad de Arquitectura, Diseño y Urbanismo, Univ. de Buenos Aires, Buenos, AR
- Fakultät Bildende Kunst, Hochschule der Künste Berlin, DE
- Fakultät Medien, Bauhaus-Universität Weimar, DE
- Hermann von Helmholtz-Zentrum für Kulturtechnik, Berlin, DE
- Inst. für Ägyptologie, Universität München, DE
- Inst. für deutsche Literatur, Humboldt-Universität Berlin, DE
- Inst. für deutsche Sprache und Literatur, Humboldt-Universität Berlin, DE
- Inst. für Film- und Theaterwissenschaften, Freie Universität Berlin, DE
- Inst. für Informatik, Humboldt-Univ. Berlin, DE
- Inst. für Mathematik, Humboldt-Univ. Berlin, DE
- Inst. für Neuere deutsche Literatur, Justus-Liebig-Universität, Giessen, DE
- Inst. für Philosophie, Technische Universität Darmstadt, DE

The Power and Meaning of Images

NCCR Iconic Criticism

Topics

The digital revolution, which has been unfolding globally since the beginning of the nineties, turns the old, inert image into an extremely flexible instrument that everyone can use, serving global communication and, above all, the generation of knowledge. Especially in the natural sciences, many new insights can only be realized with iconic methods. Images no longer illustrate what was first thought; they now represent an independent mode of thinking.

The knowledge society has become a society of images. This transformation can probably only be compared with such epochal moments as the invention of the printing press or the general spread of literacy since the eighteenth century. Now we are all users and producers of images – but without necessarily understanding how they create meaning, how their power is generated, and what becomes of reality when it is understood as a function of the flexible perspective of the image. That is the starting point for our project: the image-oriented society is increasingly dependent on iconic criticism if it wants to master its problems.

The paradigm of the image, which had not previously existed, deserves the scholarly attention language has received for centuries. Linguistics is a matter of course; iconic criticism must be one, too. The two complement each other – but only if the particular capacity of the image can be determined. This demands a fundamental reorientation, for we are used to identifying knowledge with language. The meaning potentials of the image create new openings to the present, to history and tradition, and into the future. An iconic criticism that addresses epistemic principles and exemplary applications is – as mentioned above – the task of a generation.

Statistical Input – Output Data

Funding source (CHF)	Year 1	Year 2	Year 3	Year 4	Total	%
SNSF funding	1 775 000	1 775 000	1 775 000	1 775 000	7 100 000	39
Self-funding from home institution[1]	641 699	1 271 469	1 697 316	1 714 516	5 325 000	29
Self-funding from project participants	1 030 368	836 608	1 643 337	1 643 337	5 153 650	29
Third-party funding	190 859	312 292	0	0	503 151	3
Total	3 637 926	4 195 369	5 115 653	5 132 853	18 081 801	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	IT	US	AT	ES	
Management	4.67[3]	4	57	3	43	4	2	1	0	0	0	1
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	25	18	72	7	28	9	12	3	0	1	1	1
Postdoctoral students	11	3	27	8	73	1	9	2	0	0	0	1
Research associates	1	0	0	1	100	0	0	1	0	0	0	0
Senior researchers[4]	13	2	15	11	85	3	9	1	2	0	0	0
Other staff	4	1	25	3	75	3	1	0	0	0	0	0
Total	58.67	28	46	33	54	20	33	8	2	1	1	3

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Levy René, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Bätschmann Oskar, Prof.	Swiss National Science Foundation, Berne, CH
Belting Hans, Prof.	Institut für Kunstwissenschaft, Staatliche Hochschule für Gestaltung Karlsruhe, DE
Cohn Danièle, Prof.	Ecole des Hautes Etudes en Sciences Sociales, Centre de Sociologie du Travail et des Arts CESTA, Paris, FR
Daston Lorraine, Prof.	Max-Planck-Institut für Wissenschaftsgeschichte, Berlin, DE
Elkins James, Prof.	Department of Art History, School of the Art Institute, Chicago, US
Jäger Ludwig, Prof.	Lehrstuhl für Deutsche Philologie, RWTH Aachen, DE
Krämer Sybille, Prof.	Institut für Philosophie, Freie Universität Berlin, DE
Suter Christian, Prof.	Swiss National Science Foundation, Berne, CH
Waldenfels Bernhard, Prof.	München (Emeritus Universität Bochum), DE
Wellbery David E., Prof.	Department of Germanic Studies, University of Chicago, US

NCCR Office SNSF

Bachmann Stefan, Dr.	Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern phone: + 41 (0)31 308 23 49, fax: + 41 (0)31 305 29 71 sbachmann@snf.ch

- Inst. für Philosophie, Universität Wien, AT
- Inst. für Sprach- und Kommunikationswissenschaft, Rheinisch-Westfälische Technische Hochschule (RWTH), Aachen, DE
- Inst. für Vorderasiatische Archäologie, Freie Universität Berlin, DE
- Inst. of Archaeology and Antiquity, University of Birmingham, GB
- Internationales Forschungszentrum Kulturwissenschaften (IFK), Wien, AT
- Kulturwissenschaftliches Seminar, Humboldt-Universität Berlin, DE
- Kunstgeschichtliches Inst., Unversität Bochum, DE
- Kunsthistorisches Inst. Florenz, Max-Planck-Inst., Florenz, IT
- Kunsthistorisches Inst., Universität Köln, DE
- Kunsthistorisches Seminar, Humboldt-Univ. Berlin, DE
- Kunsthistorisches Seminar, Ruhr-Universität Bochum, Ornament-Netzwerk, DE
- Kunsthistorisches Seminar, Universität Hamburg, DE
- Leerstoelgroep Theaterwetenschap, Universiteit van Amsterdam, NL
- Max-Planck-Inst. für Hirnforschung, Frankfurt a.M., DE
- Museo Gregoriano Egizio, Vatican Museum, Vatican City State (Holy See), VA
- Research Network "History of Scientific Objects", Max-Planck-Inst. für Wissenschaftsgeschichte, Berlin, DE
- Seminar für Archäologie und Kulturgeschichte Nordostafrikas, Humboldt-Universität Berlin, DE
- Seminar für Ästhetik, Humboldt-Univ. Berlin, DE
- Tandemprojekt "Ikonotext. Historische Wahrnehmungsformen in Text und Bild", Universität Leipzig, DE
- Vakgroep Duits, Universiteit Gent, BE
- Zentrum für Bewegungsforschung, Inst. für Theaterwissenschaft, Freie Universität Berlin, DE
- Zentrum zur Erforschung der Frühen Neuzeit, Johann Wolfgang-Goethe-Universität Frankfurt a. M., DE

Others

- IG Tanz - Tanzbüro Basel, CH
- Mediathek tanz.ch, Zürich, CH
- Stiftung Bibliothek Werner Oechslin, Einsiedeln, CH

International Trade Regulation: From Fragmentation to Coherence

NCCR Trade Regulation

Home Institution
University of Berne

Start of the NCCR
September 1, 2005

NCCR Management

Director
Cottier Thomas, Prof.
thomas.cottier@wti.org

Deputy Director
Kaufmann Christine, Prof.
christine.breining@rwi.uzh.ch

Sauvé Pierre, Mr.
pisauve@hotmail.com

Ziegler Andreas, Prof.
andreas.ziegler@unil.ch

Scientific Coordinator

Brown Susan, Dr.
susan.brown@wti.org

Administrative Coordinator
Vetter Margrit, Ms.
margrit.vetter@wti.org

Administrative Assistant
Kövesdi Olivia, Ms.
olivia.koevesdi@wti.org

IT Administrator
Steiger Christian, Mr.
christian.steiger@wti.org

Science Editor
Kaplan Susan, Ms.
susan.kaplan@wti.org

Knowledge and Technology Transfer
Brown Susan, Dr.

Education and Training
Brown Susan, Dr.

Advancement of Women
Biber-Klemm Susette, Dr.

Communication
N.N.

Address
NCCR Trade Regulation
World Trade Institute
Hallerstrasse 6
3012 Bern

phone: + 41 (0)31 631 30 80
fax: + 41 (0)31 631 36 30
http://www.nccr-trade.ch/

Research

Research Cluster A Constitutional Topics
Coordinator:
Kaufmann C.
Alternate: Ziegler A.

Constitutionalism and multilayered governance
Head: Peters A., Armingeon K.
Alternate Leader: Lebeck C.

Decision-making in the WTO and in other international organizations
H: Dupont C., Ziegler A.
AL: Elsig M.

Special and differential treatment, variable geometry and regionalism
H: Baldwin R.
AL: Carpenter T.

The role of human rights in trade regulation
H: Kaufmann C.
AL: N.N.

Research Cluster B Unresolved Regulatory Issues
Coordinator: Baldwin R.
Alternate: Graber C.

Regulation sustainable agriculture in WTO law and policy
H: Lehman B.
AL: Aerni P.

Energy in WTO law and policy
H: Cottier T.
AL: Ziaeebigdeli S.

The WTO and the legal protection of cultural diversity in a digital networked environment
H: Graber C.
AL: Burri Nenova M.

Developing trade rules for services: Prudential standards, trade remedies, competition and migration
H: Sauvé P.
AL: Panizzon M.

Genetic engineering in international trade regulation and policy: Intellectual property, technical regulation and the impact of human rights
H: Cottier T.
AL: Biber-Klemm S.

Research Cluster C Establishing Regulatory Linkages in International Trade, Investment and Finance
Coordinator: Baltensperger E.
Alternate: Gugler P.

International trade and finance
H: Baltensperger E.
AL: Herger N.

Multilateral rules on trade and investment
H: Gugler P.
AL: Chaisse J.

Trade in primary commodities: Financial sustainability and market structures
H: Nissanke M.
AL: Ferrarini B.

Platforms, Programmes etc.

Annual NCCR conference

Biannual IP workshops and symposia

Topics

WTO rules increasingly impinge upon areas of law and policy including environmental protection, agricultural and regional policies, labour standards, human rights and culture. The purpose of NCCR Trade Regulation is to develop innovative, concrete policy recommendations that reflect a better balance between economic and other regulatory objectives, taking into consideration insights from the disciplines of law, economics and political science. Substainability will be a key criterion for all proposals. The project is premised on the idea that academia is going to have an increasingly important role to play in conceptualizing the regulatory debates of the future, and, in particular, elucidating the value-related choices enjeux. Such thinking has to take place outside of the political arena as it cannot be based on short-term rationales.

Heads of Individual Research Projects and Subprojects

Aerni Philipp, Dr.	c/o World Trade Institute, Bern
Armingeon Klaus, Prof.	Institut für Politikwissenschaft, Universität Bern
Baldwin Richard, Prof.	Graduate Institute of International Studies, Genève
Baltensperger Ernst, Prof.	Volkswirtschaftliches Institut, Universität Bern
Biber-Klemm Susette, Dr.	c/o World Trade Institute, Bern
Burri Nenova Mira, Dr.	c/o World Trade Institute, Bern
Carpenter Theresa, Dr.	Graduate Institute of International Studies, Genève
Cottier Thomas, Prof.	c/o World Trade Institute, Bern
Chaisse Julien, Dr.	c/o World Trade Institute, Bern
Dupont Cédric, Prof.	Graduate Institute of International Studies, Genève
Elsig Manfred, Dr.	c/o World Trade Institute, Bern
Ferrarini Benno	c/o World Trade Institute, Bern
Graber Christoph, Prof.	Rechtswirtschaftliche Fakultät, Universität Luzern
Gugler Philippe, Prof.	Département d'Economie Politique, Université de Fribourg
Herger Nils, Dr.	Volkswirtschaftliches Institut, Universität Bern
Kaufmann Christine, Prof.	Rechtswissenschaftliches Institut, Universität Zürich
Lebeck Carl, Mr.	c/o World Trade Institute, Bern
Lehmann Bernard, Prof.	Institut für Agrarwissenschaft, ETH Zürich
Nissanke Machiko, Prof.	SOAS, University of London, GB
Panizzon Marion, Dr.	c/o World Trade Institute, Bern
Peters Anne, Prof.	Juristische Fakultät, Universität Basel
Sauvé Pierre, Mr.	c/o World Trade Institute, Bern
Ziaeebigdeli Sadeq, Mr.	c/o World Trade Institute, Bern
Ziegler Andreas, Prof.	Droit International Public Centre, Université de Lausanne

Members of the NCCR International Scientific Advisory Board

Ehlermann Claus Dieter, Prof. em.	Wilmer Cutler Pickering LLP, Brussels, BE
Hufbauer Gary, Dr.	Institute of International Economics IIE, Washington D.C., US
Jackson John H., Prof. em.	Georgetown University Law Center, Washington D.C., US
Müller Jörg Paul, Prof.	University of Berne, CH
Ostry Sylvia, Prof.	University of Toronto, CA

Third Party Cooperation

(international cooperations only)

Programmes

- Global Trading System IADB-WTO Joint Research Programme
- SFB 597 "Transformations of the State", University of Bremen, DE

Research Institutions

- Berkman Center for Internet and Society, Cambridge, US
- Business School, Dept. of Economics, University Reading, GB
- Centre for Globalization Studies, Teheran, IR
- Culturelink Network, Zagreb, HR
- Danish Inst. for International Studies (DIIS), Copenhagen, DK
- Dept. of Economics and Sussex European Inst., University of Sussex, GB
- Dept. of Economics, Bosporus University, Istanbul, TR
- Dept. of Economics, Open University, Milton Keynes, GB
- Dept. of Economics, University of Melbourne, AU
- Dept. of International and Applied Economics, Massey Univ., Palmerston North, NZ
- Dept. of Management, Glasgow University, GB
- Dept. of Monetary Theory and Policy, University of Economics, Prague, CZ
- Dept. of Political Economy, University of Genoa, IT
- ECARES, Université Libre de Bruxelles, BE
- Indian Inst. of Foreign Trade, New Delhi, IN
- Inst. of Agricultural Economics and Development, Chinese Academy of Agricultural Sciences, Beijing, CN
- Inst. of Development Studies, University of Sussex, Brighton, GB
- Inst. of Economics at Newton College, Brno, CZ
- Intellectual Property Innovation, Technology and Law, Univ. of Edinburgh, GB
- Law Dept., McGill University, Montreal, CA
- Law School, University of Waikato, NZ
- Max-Planck-Inst. für auslän-disches öffentliches Recht und Völkerrecht, Heidelberg, DE

- North-South Inst., Ottawa, CA
- Queen Mary Intellectual Property Research Inst., University of London, GB
- Research Centre in Industrial Organisation, University Paris XIII, FR
- School of Management and Business, University of Wales, Aberystwyth, GB
- Tanzania Coffee Research Inst. (TaCRI), Moshi, TZ
- Ukiriguru - Agricultural Research and Training Inst., Mwanza, TZ
- World Inst. for Development Economics Research (Wider), United Nations University (UNU), Helsinki, FI

Economy / Industry

- European Broadcasting Union, Geneva, CH
- International Network for Cultural Diversity (INCD), Ottawa, CA
- Malaysian Biotechnology Corporation, Kuala Lumpur, MY
- SRG idée suisse, Zurich, CH
- SUISA Fondation for Music, Zurich, CH
- Swiss Authors' Rights Society for Audiovisual Works (Suissimage), Zurich, CH

Others

- Central bank of the Czech Republic, Prag, CZ
- Commonwealth Secretariat, London, GB
- European Central Bank, Frankfurt, DE
- European Commission, Division of Trade and Investment, Brussels, BE
- Food and Agriculture Organisation, Animal Production and Health Division, Rome, IT
- International Centre For Trade And Sustainable Development (ICTSD), Geneva, CH
- International Coffee Organisation, London, GB
- International Law Association, London, GB
- Society of International Economic Law, London, GB
- Staatssekretariat für Wirtschaft SECO, Bern, CH
- Swiss Federal Institute of Intellectual Property, Berne, CH
- Swiss Federal Office of Communications, Biel, CH
- Swiss Federal Office of Culture, Berne, CH
- Swiss Foreign Ministry (EDA), Berne, CH
- UK Dept. of Trade and Industry, London, GB
- UNCTAD, Geneva, CH
- World Bank, Washington, US
- World Intellectual Property Organization (WIPO), Geneva, CH
- World Trade Organisation, Geneva, CH

International Trade Regulation: From Fragmentation to Coherence

NCCR Trade Regulation

Statistical Input – Output Data

Funding source (CHF)	Year 1	Year 2	Year 3	Year 4	Total	%
SNSF funding	2 600 000	2 600 000	2 600 000	2 600 000	10 400 000	71
Self-funding from home institution[1]	345 050	350 902	347 976	347 976	1 391 904	10
Self-funding from project participants[2]	444 000	444 000	444 000	444 000	1 776 000	12
Third-party funding	252 557	247 443	250 000	250 000	1 000 000	7
Total	3 641 607	3 642 345	3 641 976	3 641 976	14 567 904	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							US	DE	GB	IT	TR	
Management	3.72[3]	7	54	6	46	11	4	1	1	0	0	0
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	30	15	50	15	50	11	0	1	2	3	0	17
Postdoctoral students	4	2	50	2	50	1	0	1	1	0	1	1
Research associates	6	4	67	2	33	1	1	1	1	0	0	2
Senior researchers[4]	30	7	23	23	77	23	2	1	0	0	0	6
Other staff	9	4	44	5	56	4	0	1	0	0	2	2
Total	82.72	39	42	53	58	51	7	6	5	3	3	28

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Opitz-Belakhal Claudia, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Foray Dominique, Prof.	Swiss National Science Foundation, Berne, CH
Low Patrick, Prof.	World Trade Organization, Genève, CH
Maskus Keith E., Prof.	Department of Economics, University of Colorado, Boulder, US
McGrew Anthony, Prof.	School of Social Sciences, University of Southampton, GB
Probst Thomas, Prof.	Swiss National Science Foundation, Berne, CH
Odell John S., Prof.	School of International Relations, University of Southern California, US
Ruiz-Fabri Hélène, Prof.	Unité Mixte de Recherche de Droit Comparé, Université de Paris I, FR
Steger Debra, Prof.	Faculty of Law, University of Ottawa, CA
Tietje Christian, Prof.	Institut für Wirtschaftsrecht, Universität Halle Wittenberg, DE
Van Overwalle Geertrui, Prof.	Centre for Intellectaul Property Rights, Catholic University Leuven, BE

NCCR Office SNSF

Griessen Thomas

Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern
phone: + 41 (0)31 308 23 51, fax: + 41 (0)31 305 29 71
tgriessen@snf.ch

Mediality – Historical Perspectives
NCCR Mediality

Research

Institutionalization

Techniques and methods of medieval continental Germanic literacy
Head: Glaser E., Rübekeil L.

From spoken to written word: The scripting of the Germanic languages from a comparative perspective
H: Fischer A.

The transition from papyrus to paper as reflected in Arabic papyri and papers
H: Kaplony A.

Communication with images of glass, light, and color: The media character and significance of glass painting in Switzerland until the end of the Middle Ages
H: Kurmann-Schwarz B.

Interference

The staging of writing: Translation, vocality, and intentionality of writing in Scandinavian literature of the middle ages
H: Glauser J.

Texts and images – Education and conversation. Media circumstances and functional interferences
H: Lutz E. C.

Orality – visuality – writing / oralité – visualité – ecriture
H: Wetzel R.

Display

Complex medialities of the late middle ages: The example of vernacular religious plays
H: Kiening C.

Mediality of the pilgrimage: "Advertising" between magic imagining and calculated cult propaganda
H: Rendtel C., Wittmer-Butsch M.

Media display of relics in medieval Rome
H: Claussen P.C.

Violence and morality: Discourses, images, and media flux around 1500
H: Burghartz S.

Instrumentalization

The image of ruling power and its relationship to law in the transition from the middle ages to the early modern period
H: Thier A.

Media of order: Practices for handling legal records and changes in political culture (1200–1500)
H: Teuscher S.

Cartography of power
H: Stercken M.

Documentary sources and language elaboration in the late French middle ages
H: Gleßgen M.

Functions of Latin versification in the middle ages
H: Stotz P.

Transference

"Transference" as a basic concept of mediality (literature and visual culture)
H: Naumann B.

"Crossmapping" – Transference in philosophy, literature, and visual culture
H: Bronfen E.

Rhetoric of transference in the late 18th and early 19th centuries
H: Müller Nielaba D.

Transference of knowledge: Media-related and disciplinary constellations in Stifter and Musil
H: Wagner K.

A history of the representation of flesh in Western art
H: Stoichita V.

Home Institution
University of Zurich

Start of the NCCR
October 1, 2005

NCCR Management

Director
Kiening Christian, Prof.
phone: + 41 (0)44 634 25 53
ckiening@access.uzh.ch

Deputy Director
Glessgen, Martin-D., Prof.
phone: + 41 (0)44 634 36 20
glessgen@rom.uzh.ch

Research Manager
Stercken Martina, PD Dr.
phone: + 41 (0)44 634 51 16
stercken@hist.uzh.ch

Knowledge and Technology Transfer
Thier Andreas, Prof.

Education and Training
Glauser Jürg, Prof.

Advancement of Women
Naumann Barbara, Prof.

Address
NCCR Mediality
University of Zurich
Rämistr. 69
8006 Zürich
phone: + 41 (0)44 634 51 19
sekretariat@mediality.ch

Web Address
www.mediality.ch

Mediality – Historical Perspectives
NCCR Mediality

Third Party Cooperation

Research Institutions

- Ältere deutsche Germanistik, Universität Trier, DE
- Anglistische Literatur- und Kulturwissenschaft, Universität Bern, CH
- Centre for Medieval Studies (CMS), University of Bergen, NO
- Centre for Medieval Studies, University of Oslo, NO
- Dept. of Comparative Literature, Stanford University, US
- Dept. of German, University of Berkeley, US
- Dept. of Germanic Studies, University of Chicago, US
- Dept. of History, University of Maynooth, IE
- Deutsches Seminar, Albert-Ludwigs-Universität, Freiburg i. Br., DE
- Deutsches Seminar, Eberhard-Karls-Universität, Tübingen, DE
- Ecole Nationale des Chartes, Paris, FR
- Fachbereich 05: Gesellschaftswissenschaften, Universität Kassel, DE
- Fachbereich Germanistik und Kunstwissenschaften, Philipps-Universität Marburg, DE
- Fachbereich Literaturwissenschaft, Universität Konstanz, DE
- Fakultät der Geisteswissenschaften, Universität Amsterdam, NL
- German Medieval and Linguistic Studies, University of Oxford, GB
- Historisches Inst., Universität Stuttgart, DE
- Historisches Seminar, Abteilung für Westfälische Landesgeschichte, Universität Münster, DE
- Historisches Seminar, Universität Lausanne, CH
- Historisches Seminar, Universität Strasbourg, FR
- Hochschule für Gestaltung und Kunst Zürich, CH
- Inst. für Allgemeine und Vergleichende Literaturwissenschaft, Universität Frankfurt, DE
- Inst. für Bildende Kunst und Kulturwissenschaften, Kunstuniversität Linz, AT
- Inst. für Deutsche Sprache und Literatur, Universität Köln, DE

Topics

Media both enable and influence communication. This can be clearly seen from modern communication technologies which have brought about a fundamental change in our societies. However, the phenomenon can also be observed in earlier eras which possess their own form of mediality. The National Centre of Competence in Research (NCCR) "Mediality. Historical perspectives" looks into the link between the forming of cultural meaning and media forms and how this has changed over the passage of time.

Its 20 individual projects are purposely not devoted primarily to the present day, its mass media and diverse media theories. The study instead looks mainly at the Middle Ages and the Early Modern Period, in other words the very era which saw the emergence of the conditions leading to modern mediality.

In the Middle Ages and Early Modern Period writing was by no means a customary skill but was surrounded by an aura. There were no mass media at that time. Communication was a face to face interchange. However, wide-ranging changes also took place in these times. Communication networks developed, the use of paper increased, new types and combinations of texts and images emerged and the printing press broadened communication.

This development can be best observed where there is an interface between or transformation of media forms, where they become the subject of discussion and reflection. The aim of the NCCR "Mediality. Historical perspectives" is to plumb the historical dimensions of mediality, to provide an insight into the various forms, phenomena and processes, categories, models and metaphors in which communication appears. The objective is also to combine historical and systematic perspectives and to present the situation today in a more focused light.

Leading house is the Competence Centre for Medieval Studies at Zurich University. The Universities of Basel, Freiburg and Geneva are also participating in the project which encompasses historical and linguistic sciences, cultural and art sciences. It provides a broad network for experts on the Middle Ages as well as for media historians and offers a framework for concentrated and innovative training for young scientists.

Heads of Individual Research Projects

Bronfen Elisabeth, Prof.	Englisches Seminar, Universität Zürich
Burghartz Susanna, Prof.	Historisches Seminar, Universität Basel
Claussen Cornelius, Prof.	Kunsthistorisches Seminar, Universität Zürich
Fischer Andreas, Prof.	Englisches Seminar, Universität Zürich
Glaser Elvira, Prof.	Deutsches Seminar, Universität Zürich
Glauser Jürg, Prof.	Deutsches Seminar, Universität Zürich
Glessgen Martin-Dietrich, Prof.	Romanisches Seminar, Universität Zürich
Kaplony Andreas, Prof.	Orientalisches Seminar, Universität Zürich
Kiening Christian, Prof.	Deutsches Seminar, Universität Zürich
Kurmann-Schwarz Brigitte, PD Dr.	Kunsthistorisches Seminar, Universität Zürich
Lutz Eckart Conrad, Prof.	Departement für Germanistik, Université de Fribourg
Müller-Nielaba Daniel, Prof.	Deutsches Seminar, Universität Zürich
Naumann Barbara, Prof.	Deutsches Seminar, Universität Zürich
Rendtel Constanze, Dr.	Historisches Seminar, Universität Zürich
Rübekeil, Ludwig, PD Dr.	Deutsches Seminar, Universität Zürich
Stercken Martina, PD Dr.	Historisches Seminar, Universität Zürich
Stoichita Viktor, Prof.	Département d'Histoire de l'Art et Musicologie, Université de Fribourg
Stotz Peter, Prof.	Mittellateinisches Seminar, Universität Zürich
Teuscher Simon, Prof.	Historisches Seminar, Universität Basel
Thier Andreas, Prof.	Rechtswissenschaftliches Institut, Universität Zürich
Wagner Karl, Prof.	Deutsches Seminar, Universität Zürich
Wetzel René, Prof.	Département de Langue et Littérature Allemands, Université de Genève
Wittmer-Butsch Maria, Dr.	Historisches Seminar, Universität Zürich

Statistical Input – Output Data

Funding source (CHF)	Year 1	Year 2	Year 3	Year 4	Total	%
SNSF funding	1 425 000	1 425 000	1 425 000	1 425 000	5 700 000	67
Self-funding from home institution[1]	326 994	622 553	752 953	567 500	2 270 000	27
Self-funding from project participants[2]	124 450	60 751	60 751	60 751	306 703	4
Third-party funding	25 128	216 848	0	0	241 976	3
Total	1 901 572	2 325 152	2 238 704	2 053 251	8 518 679	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	IT	AT	GB	RO	
Management	2.35[3]	2	50	2	50	1	3	1	0	0	0	0
Master students	4	4	100	0	0	0	4	0	0	0	0	0
Doctoral students	19	11	58	8	42	14	1	1	1	0	0	2
Postdoctoral students	5	3	60	2	40	2	2	0	0	1	0	1
Research associates	0	0	0	0	0	0	0	0	0	0	0	0
Senior researchers[4]	30	10	33	20	67	15	14	0	1	0	1	0
Other staff	3	2	67	1	33	3	0	0	0	0	0	0
Total	63.35	32	49	33	51	35	24	2	2	1	1	3

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Opitz-Belakhal Claudia, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Coleman Janet, Prof.	Department of Government, London School of Economics, GB
Geary Patrick J., Prof.	Department of History, University of California, Los Angeles, US
Hasler Martin, Prof.	Swiss National Science Foundation, Berne, CH
Kasten Ingrid, Prof.	Institut für Deutsche und Niederländische Philologie, Freie Universität Berlin, DE
Krüger Klaus, Prof.	Kunsthistorisches Institut, Freie Universität Berlin, DE
Landfester Ulrike, Prof.	Swiss National Science Foundation, Berne, CH
Ruhe Doris, Prof. em.	Würzburg (emeritus Universität Greifswald), DE
Strohschneider Peter, Prof.	Institut für Deutsche Philologie, Universität München, DE
Vosskamp Wilhelm, Prof.	Institut für deutsche Sprache und Literatur, Universität Köln, DE

NCCR Office SNSF

Bachmann Stefan, Dr.	Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern, phone: + 41 (0)31 308 23 49, fax: + 41 (0)31 305 29 71, sbachmann@snf.ch

- Inst. für Deutsche und Niederländische Philologie, Freie Universität Berlin, DE
- Inst. für Germanistik, Germanistische Mediävistik, Universität Erlangen-Nürnberg, DE
- Inst. für Kunstgeschichte, Radboud-Universität Nijmegen, NL
- Inst. für Linguistik / Romanistik, Universität Stuttgart, DE
- Inst. für Philosophie, Freie Universität Berlin, DE
- Inst. für Theaterwissenschaft, Freie Universität Berlin, DE
- Inst. for Nordisk Filologi, University of Copenhagen, SE
- Istituto Svizzero di Roma, Rom, IT
- Lab. de Français Ancien, Université d'Ottawa, CA
- Lehrstuhl für Deutsche Sprachwissenschaft, Katholische Universität Eichstätt-Ingolstadt, DE
- Lehrstuhl für Deutsche Sprachwissenschaft, Universität Bamberg, DE
- Maison Méditerranéenne des Sciences de l'Homme, Aix-en-Provence, FR
- Mediävistisches Inst., Universität München, DE
- Medieval English Studies, Harvard University, US
- Medieval Studies, University of Oslo, NO
- Medieval Studies, University of Reykjavik, IS
- Musikwissenschaft, Universität Hamburg, DE
- Newsham College, University of Cambridge, GB
- Philosophisches Seminar, Universität Basel, CH
- Romanische Philologie, Freie Universität Bozen, IT
- Royal Irish Academy, University of Dublin, IE
- Schweizerische Akademische Gesellschaft für Germanistik (SAGG), Genf, CH
- Section d'histoire de l'art, Université de Lausanne, CH
- Sorbonne, Université Paris, FR
- Università degli Studi della Tuscia, Viterbo, IT
- University of California (several Dept.s), Berkeley, US
- Vitrocentre Romont, Centre Suisse de Recherche et d'information sur le Vitrail, Romont/FR, CH
- Zentrum für Datenverarbeitung, Eberhard Karls Universität Tübingen, D

Challenges to Democracy in the 21st Century
NCCR Democracy

Home Institution
University of Zurich

Start of the NCCR
October 1, 2005

NCCR Management
Director
Kriesi Hanspeter, Prof.
phone: + 41 (0)44 634 40 10
hanspeter.kriesi@ipz.uzh.ch

Deputy Director
Esser Frank, Prof.
phone: + 41 (0)44 635 20 44
f.esser@ipmz.uzh.ch

Administrative Director
Rosteck Yvonne, Mrs.
phone: + 41 (0)44 634 52 02
rosteck@nccr-democracy.uzh.ch

Administration
Cavegn Barbara, Mrs.

Communication
Rosteck Yvonne, Mrs.

Knowledge and Technology Transfer
Ladner Andreas, Prof.

Education and Training
Papadopoulos Ioannis, Prof.

Advancement of Women
Hug Simon, Prof.
Siegert Gabriele, Prof.

Address
NCCR Democracy
University of Zurich
Stampfenbachstr. 63
8006 Zürich

phone: + 41 (0)44 634 52 01
fax: + 41 (0)44 634 52 00
infodesk@nccr-democracy.uzh.ch

Web Address
www.nccr-democracy.uzh.ch

Public Relations
- Newsletter (print)
- Public events
- Website
- Press releases
- E-Newsletter

Research

Module "Expanding Democratic Governance in the International Realm"
Leader: Cederman L.–E.

Democratizing global institutions: the WTO as an emerging polity
Head: Dupont C.

Promoting democracy in the EU and its near abroad
H: Lavenex S., Schimmelfennig F.

Democratizing divided societies in bad neighborhoods
H: Cederman L.-E.

From national to supra-national democracy in the European Union
H: Caramani D.

Legitimacy and democracy in multilateral integration
H: Cheneval F.

Module "Changing Relations between Input, Throughput, and Output in Public Governance"
Leader: Papadopoulos I.,

The impact of internationalization on Swiss policy processes in comparative perspective
H: Papadopoulos I.

Assessing the trend towards new regionalism in Swiss metropolitan areas
H: Kübler D.

Cantonal strategies for the development of Swiss metropolitan areas: potential and limits
H:Kübler D.

Information on public performance – Creation, diffusion and utilization
H: Widmer T., Bonfadelli H.

Democratic structures and processes and the provision of public goods
H: Bernauer T., Koubi V.

Module "Changing Structures and Actors of Political Communication"
Leader: Esser F.

Democracy in the media society – Theoretical support and empirical validation of a societal term
H: Imhof K.

Mediatization and structural change within political actors and organizations
H: Jarren O.

The dynamics of political institutions in mediated democracies: Political bargaining and the transformation of the public sphere
H: Marcinkowski F.

Explaining differences in political news a comparative analysis across four Western democracies and four decades
H: Esser F.

Module "Changing Processes and Strategies of Political Participation and Representation – Audience Democracy"
Leader: Siegert G.

The strategies of political actors: process and message
H: Kriesi H.

The strategies and processes of issue selection and construction
H: Siegert G.

The strategies and processes of attitude formation and public participation
H: Bonfadelli H., Wirth W.

Knowledge Transfer Module "The Quality of Democracy"
Leader: Ladner A.

Democracy barometer
H: Bühlmann M., Merkel W.

Civic education
H: Ziegler B., Ladner A.

Smart-voting as a tool for electronic campaigning
H: Ladner A., Trechsel A., Leuthold H.

Judging candidates in e-democracy
H: Lienhard A., Tschannen P.

Quality of journalism
H: Wyss V.

Democratic processes and political behavior
H: Leuthold H.

Media and democracy monitor
H: Trappel J.

Programmes

Doctoral programme
Supervisor: Papadopoulos I.

Research colloquium
Supervisor: Kriesi H.

Peer mentoring programme
Supervisor: Hug S., Siegert G.

Heads of Individual Research Projects

Bernauer Thomas, Prof.	Center for Comparative and International Studies (CIS), ETH Zürich
Bonfadelli Heinz, Prof.	SwissGIS / Institut für Publizistik- und Kommunikationswissenschaft, Universität Zürich
Bühlmann Marc, Dr.	CIS / Institut für Politikwissenschaft, Universität Zürich
Caramani Daniele, Prof.	Institute of Political Science, University of St. Gallen

Topics

Well-functioning democratic processes and institutions constitute the backbone of political legitimacy, social stability, economic growth, and prosperity. However, a realistic assessment of the state of democracy today must acknowledge that democratic regimes are faced with serious challenges that threaten to undermine their legitimacy. Citizens in Western democracies are increasingly disillusioned with their political leaders and institutions. Beyond established liberal democracies, the process of democratization has proven to be more difficult than expected.

The NCCR Democracy wants to show why and explain what can be done about it. It examines two key challenges to democracy in the 21st century: On the one hand, nation-states are suffering from a severe loss of problem-solving capacity in the wake of globalization. On the other hand, the "mediatization of politics," i.e. the intrusion of the media into the political process, constitutes a serious threat to traditional models of representative democracy and profoundly alters the character of public debate. While both developments are real threats to the democratic process, they also represent opportunities for new forms of political participation and representation, as well as for political legitimation. The main goals of the NCCR Democracy are to propose designs for new political decision-making processes and to devise strategies to improve the quality of democracy. The NCCR is based on four basic research modules and a fifth applied research module charged with finding practical applications that implement the research results. The NCCR also provides an interdisciplinary doctoral program in its two core disciplines – political science and media and communication science.

Cederman Lars-Erik, Prof.	Center for Comparative and International Studies (CIS), ETH Zürich
Cheneval Francis Prof.	Philosophisches Seminar, Universität Zürich
Dupont Cédric, Prof.	Institut Universitaire de Hautes Etudes Internationales, Genève
Esser Frank, Prof.	SwissGIS / Institut für Publizistik- und Kommunikationswissenschaft, Universität Zürich
Imhof Kurt, Prof.	SwissGIS / Institut für Publizistik- und Kommunikationswissenschaft, Universität Zürich
Jarren Otfried, Prof.	SwissGIS / Institut für Publizistik- und Kommunikationswissenschaft, Universität Zürich
Koubi Vally, Prof.	Volkswirtschaftliches Institut, Universität Bern
Kriesi Hanspeter, Prof.	CIS / Institut für Politikwissenschaft, Universität Zürich
Kübler Daniel, Prof.	CIS / Institut für Politikwissenschaft, Universität Zürich
Ladner Andreas, Prof.	IDHEAP, Universität Lausanne
Lavenex Sandra, Prof.	Politikwissenschaftliches Seminar, Universität Luzern
Leuthold Heiri, Dr.	Geographisches Institut, Universität Zürich
Lienhard Andreas, Prof.	Institut für Öffentliches Recht, Universität Bern
Marcinkowski Frank, Prof.	Institut für Kommunikationswissenschaft, Universität Münster
Merkel Wolfgang, Prof.	Wissenschaftszentrum Berlin für Sozialforschung
Papadopoulos Ioannis, Prof.	Institut d'Etudes Politiques et Internationales, Université de Lausanne
Schimmelfennig Frank, Prof.	Center for Comparative and International Studies (CIS), ETH Zürich
Siegert Gabriele, Prof.	SwissGIS / Institut für Publizistik- und Kommunikationswissenschaft, Universität Zürich
Trappel Josef, Dr.	SwissGIS / Institut für Publizistik- und Kommunikationswissenschaften, Universität Zürich
Trechsel Alexander, Prof.	European University Institute, Florence
Tschannen Pierre, Prof.	Institut für Öffentliches Recht, Universität Bern
Widmer Thomas, PD Dr.	CIS / Institut für Politikwissenschaft, Universität Zürich
Wirth Werner, Prof.	SwissGIS / Institut für Publizistik- und Kommunikationswissenschaft, Universität Zürich
Wyss Vinzenz, Prof.	Zürcher Hochschule Winterthur
Ziegler Béatrice, Prof.	Pädagogische Hochschule der Fachhochschule Aargau Nordwestschweiz

Partner Institutions

Institut für Völkerrecht, Universität Zürich
Laboratoire de Sociologie Urbaine, Ecole Polytechnique Fédérale de Lausanne
Rechtswissenschaftliches Institut, Universität Zürich
Schweizerisches Institut für Aussenwirtschaft und Angewandte Wirtschaftsforschung, Universität St. Gallen
SIDOS, Universität Neuchâtel
Soziologisches Institut, Universität Zürich
Università della Svizzera Italiana, Lugano
Zentrum für Demokratie (ZDA), Aarau

Third Party Cooperation

Programmes

- EDP
- ERC
- GROW-Net
- IMO
- NCCR Trade Regulation
- NEWGOV
- SELECTS
- SFB 597

Research Institutions

- Dept. of Communication, University of California, San Diego, US
- Dept. of Communication, University of Missouri, Columbia, US
- Dept. of Political Communication, University of Krems, AT
- Dept. of Political Science, University of Koblenz Landau, DE
- Dept. of Politics, University of Exeter, GB
- Dept. of Social Cultural Studies, Free University of Amsterdam, NL
- Dept. of Sociology; University of California, Los Angeles, US
- Economie internationale, Inst. universitaire des hautes études internationales (IUHEI) Genève, CH
- Environmental Policy Research Center, Free University Berlin, DE
- German Inst. for International and Security Affairs (SWP), Berlin, DE
- Inst. für Politikwissenschaft, Fernuniversität Hagen, DE
- Inst. for Environmental Decisions (IED), ETH Zurich, CH
- Inst. of Communication Studies, Leeds University, GB
- Inst. of Local Government Studies, University of Birmingham, GB
- Inst. of Mass Communication and Media Research, Free University Berlin, DE
- Inst. of Mass Communication and Media Research, University of Düsseldorf, DE
- Inst. of Political Science, University of Bern, CH
- Inst. of Political Science, University of Innsbruck, AT
- Inst. of Political Science, University of Munich, DE
- International Public Law, University of Lausanne, CH

- Lab. "Communication et politique", Centre national de la recherche scientifique, Paris, FR
- Ludwig Boltzmann Inst. for European History and Public Spheres, Basel, CH
- Nachwuchsgruppe "Mikropolitik bewaffneter Gruppen", Humboldt Universität zu Berlin, DE
- Pädagogisches Inst., Universität Zürich, CH
- Political Science Dept., University of Oslo, NO
- Professorship "Theory and History of Democracy", Social Science Research Center Berlin, DE
- School of Politics and Interntional Relations, University College Dublin, IE
- Social Sciences Division, University of Oxford, GB
- Vakgroep Politieke Wetenschappen, Vrije Universiteit Brussels, BE
- Zentrum für Sozialpolitik, Universität Bremen, DE

Economy / Industry

- Bertelsmann Transformation Index, Bertelsmann Stiftung, Gütersloh, DE
- Politools, Bern, CH
- Redaktion Schulfernsehen, Schweizer Fernsehen, Zürich, CH

Others

- Study Group on Democratization, National Intelligence Council and Intelligence Community, US Government, Washington
- Bundesamt für Gesundheit (BAG), Bern, CH

Statistical Input – Output Data

Funding source (CHF)	Year 1	Year 2	Year 3	Year 4	Total	%
SNSF funding	1 775 000	1 775 000	1 775 000	1 775 000	7 100 000	48
Self-funding from home institution[1]	745 207	926 166	1 117 505	581 122	3 370 000	23
Self-funding from project participants	890 798	1 079 475	1 130 738	967 387	4 068 398	27
Third-party funding	71 992	225 841	89 562	20 000	407 395	3
Total	3 482 997	4 006 482	4 112 805	3 343 509	14 945 793	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	GR	SE	AT	CA	
Management	4.41[3]	6	33	12	67	7	9	2	2	0	0	0
Master students	0	0	0	0	0	0	0	0	0	0	0	0
Doctoral students	28	15	54	13	46	16	10	0	0	0	0	3
Postdoctoral students	6	2	33	4	67	1	4	0	0	1	0	0
Research associates	19	7	37	12	63	12	7	0	0	1	0	0
Senior researchers[4]	46	5	11	41	89	32	9	3	1	1	2	3
Other staff	38	23	61	15	39	34	2	0	0	0	0	0
Total	141.41	58	37	97	63	102	41	5	3	3	2	6

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Members of the Scientific Advisory Board

de Bens Els, Prof.	Universiteit Gent, BE
Humphreys Peter, Prof.	University of Manchester, GB
Kitschelt Herbert, Prof.	Duke University, Durham, US
Grande Edgar, Prof.	Universität München, DE
Kepplinger Hans Mathias, Prof.	Universität Mainz, DE

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Linder Wolf, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Benz Arthur, Prof.	Institut für Politikwissenschaft, FernUniversität Hagen, DE
Braun Dietmar, Prof.	Swiss National Science Foundation, Berne, CH
Entman Robert, Prof.	School of Media and Public Affairs, The George Washington University, Washington, US
Héritier Adrienne, Prof.	European University Institute, San Domenico di Fiesole, IT
Kaase Max, Prof. em.	Berlin (emeritus Universität Mannheim), DE
Leftwich Adrian, Prof.	Department of Politics, University of York, GB
Mazzoleni Gianpietro, Prof.	Department of Social and Political Studies, University of Milan, IT
Mény Yves, Prof.	European University Institute, San Domenico di Fiesole, IT
Messerli Paul, Prof.	Swiss National Science Foundation, Berne, CH

NCCR Office SNSF

Griessen Thomas	Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern, phone: + 41 (0)31 308 23 51, fax: + 41 (0)31 305 29 71, tgriessen@snf.ch

Swiss Etiological Study of Adjustment and Mental Health
NCCR SESAM

Research

An experimental variation of individual and systemic risk factors: Their significance for etiology and prevention
Head: Bodenmann G.
Perrez M.

Psychobiological programming of the stress response, behavioral self-regulation and parental bonding in infants
H: Hellhammer D. H.
Meinlschmidt G., Bolten M., Holzgreve W.

The impact of grandparental investment on the health and well-being of children and grandchildren
H: Hertwig R.
Wänke M.

Psychobiological consequences of mental health during pregnancy
H: Hösli I.
Holzgreve W., Alder J., Bitzer J.

A transgenerational perspective on risk factors related to neuroticism, affective and substance use disorders
H: Mueller-Spahn F.
Dammann G., Seifritz E., Wilhelm F.

The genetic basis of major psychopathological phenotypes
H: Papassotiropoulos A.
Meyer U.A.

Primate and rodent models of stress-related disorders: Neurobehavioral studies of interactions between stress in early life and adulthood
H: Pryce C.
Knüsel I.

Postnatal programming of human mesolimbic dopaminergic function
H: Schächinger H.
Wilhelm F., Blumenthal T.

Prospective and retrospective parental memory: The accuracy of autobiographical memories of birth and infancy behavior problems
H: Schneider S.
Opwis K., Steinhausen H.-C.

Social determinants of family environments and children's health
H: Siegrist J.
Grob A.

Triadic family functioning in pregnancy and the first 3 months postpartum: An integrated psychosomatic approach to obstetrics and infant development
H: Stadlmayr W.
Bürgin D., Grob A., Favez N., Surbek D.

Autonomic nervous system activity assessed by spectral analysis of fetal and infant heart rate variability and its relationship to psychosocial development
H: Wilhelm F.
Grossman P., Schächinger H.

Database Project
H: N.N.

Non-invasive markers and fetal programming in preeclampsia
H: Holzgreve W., Surbek D., Alder J., Baumann M., Hösli I., Lapaire O., Mohaupt M., Stadlmayr W.

Core Study

H: Margraf J.
Alder J., Bitzer J., Blumenthal T. D., Bodenmann G., Bolten M., Bürgin D., Dammann G., Dittrich K., Favez N., Grob A., Grossmann D. P., Hellhammer D. H., Hertwig R., Holzgreve W., Hösli I., Lieb R., Meinlschmidt G., Meyer U., Müller-Spahn F., Papassotiropoulos A., Perrez M., Pryce C., Schächinger H., Schneider S., Seifritz E., Siegrist J., Stadlmayr W., Steinhausen H. C., Surbek D., Wänke M., Wilhelm F. H., Wolke D.

Heads of Individual Research Projects and Subprojects

Alder Judith, Dr.	Frauenklinik, Universitätsspital Basel
Baumann Marc, Dr.	Klinik und Poliklinik für Frauenheilkunde, Inselspital Bern
Bitzer Johannes, Prof.	Frauenklinik, Universitätsspital Basel
Blumenthal Terry D., Prof.	FBI – Psychobiologie, Universität Trier
Bodenmann José-Guy, Prof.	Institut de recherche et de conseil dans le domaine de la famille, Universität Fribourg
Bolten Margarete, Dr.	Institut für Psychologie, Universität Basel
Bürgin Dieter, Prof.	Prof. em. Dr. med. , Basel
Dammann Gerhard, Dr.	Psychiatrische Klinik Münsterlingen
Favez Nicolas, Prof.	Faculté de Psychologie et des Sciences de l'Education, Université de Genève
Grob Alexander, Prof.	Institut für Psychologie, Universität Basel
Grossman Paul, Dr.	Abteilung für Psychosomatik, Psychophysiologisches Forschungslabor, Universitätsspital Basel

Home Institution
University of Basel

Start of the NCCR
October 1, 2005

NCCR Management

Director
Margraf Jürgen, Prof.
juergen.margraf@unibas.ch

Deputy Director
Grob Alexander, Prof.
alexander.grob@unibas.ch

NCCR Scientific CEO
Lieb Roselind, Prof.
roselind.lieb@unibas.ch

NCCR Administrative CEO
René Angst, Mr.
rene.angst@unibas.ch

Deputy Scientific CEO
Meinlschmidt Gunther, Dr.
gunther.meinlschmidt@unibas.ch

Office
Coste Catherine, Ms.
phone: + 41 (0)61 276 02 78
catherine.coste@unibas.ch

Communication
Habegger Daniel, Mr.
phone: +41 (0)61 276 02 72
daniel.habegger@unibas.ch

Glättli-Dolanc Barbara. Mrs.
phone: +41 (0)61 276 02 73
barbara.glaettli@unibas.ch

Database Manager
Glavic Boris, Mr.
boris.glavic@unibas.ch

Knowledge and Technology Transfer
Habegger Daniel, Mr.
Glättli-Dolanc Barbara, Mrs.

Education and Training
Schneider Silvia, Prof.

Advancement of Women
Schneider Silvia, Prof.

Address
NCCR SESAM
Birmannsgasse 8
P.O. Box
4009 Basel
sesam@unibas.ch

Web Address:
www.sesamswiss.ch

Public Relations
• in preparation

Swiss Etiological Study of Adjustment and Mental Health
NCCR SESAM

Third Party Cooperation

Programmes

- SHARELIFE Employment and health at 50+: A life history approach to European welfare state interventions (CIT 028812)

Research Institutions

- Center for Family Research, University of Lausanne, CH
- Child and Family Research Inst., Center for Community Child Health Research, Vancouver, CA
- Dept. für Psychologie, Persönlichkeitspsychologie, Psychologische Diagnostik und Familienpsychologie, Universität München, DE
- Dept. of Child and Adolescent Psychiatry, University of Berne, CH
- Dept. of Psychology, University of California, Los Angeles, US
- Dept. of Psychology, University of Warwick, GB
- Fakultät Rehabilitationswissenschaften, Universität, Dortmund, DE
- Inst. für Psychologie, Abt. Klinische Psychologie, Psychotherapie u. Diagnostik, Technische Universität Braunschweig, DE
- Inst. of Psychiatry, Kings's College, London, GB
- Lehrstuhl für Entwicklungsförderung und Diagnostik, Humanwissenschaftliche Fakultät, Universität Köln, DE
- Zentrum für Klinische Psychologie und Rehabilitation, Universität Bremen, DE

Economy / Industry

- F.Hoffmann-La Roche AG, Basel, CH

Others

- Freiwillige Akademische Gesellschaft, Basel, CH
- Lichtenstein Stiftung, Basel, CH

Topics

Mental health is one of the society's most precious commodities. The rapid rise in emotional disorders (such as anxiety, depression, addiction or youth violence) is a growing cause for concern. According to WHO estimates, depression will be the second most important cause of premature death and health impairment by 2020.
sesam aims to uncover the complex factors that influence the development of mental health and mental disorders over a person's lifetime. It will identify psychological, social, biological and genetic factors by means of behavioral observations, surveys, interviews and biological analyses. 3000 children will be studied, together with their parents and grandparents, beginning with pregnancy and ending in early adulthood. By integrating the research findings into prevention and treatment efforts, sesam will directly contribute to better mental health promotion.
sesam deals with a highly sensitive area in terms of data protection and ethics. It will comply at all times with the strictest ethical and legal requirements. It will also request the necessary authorisation or approval from the authorities prior to embarking on any work. Like all other research projects, participation is voluntary and those involved may withdraw from the study at any time.

Hellhammer Dirk, Prof.	Institut für Psychologie, Universität Basel
Hertwig Ralph, Prof.	Institut für Psychologie, Universität Basel
Holzgreve Wolfgang, Prof.	Frauenklinik, Universitätsspital Basel
Hösli Irene, Dr.	Frauenklinik, Universitätsspital Basel
Knüsel Irene, Dr.	Verhaltensneurobiologie, ETH Zürich
Lapaire Olaf, Dr.	Frauenklinik, Universitätsspital Basel
Lieb Roselind, Prof.	Institut für Psychologie, Universität Basel
Margraf Jürgen, Prof.	Institut für Psychologie, Universität Basel
Meinlschmidt Gunther, Dr.	Institut für Psychologie, Universität Basel
Meyer Urs, Prof.	Abteilung für Psychiatrische Forschung, Universität Zürich
Mohaupt Markus, Prof.	Klinik und Poliklinik für Nephrologie und Hypertonie, Inselspital Bern
Müller-Spahn Franz, Prof.	Psychiatrische Universitätsklinik Basel
Papassotiropoulos Andreas, Prof.	Institut für Psychologie und Life Science Training Facility, Biozentrum, Universität Basel
Perrez Meinrad, Prof.	Departement für Psychologie, Universität Fribourg
Pryce Christopher, Dr.	Novartis Pharma AG, Basel
Schächinger Hartmut, Prof.	Institut für Psychologie, Universität Basel
Schneider Silvia, Prof.	Institut für Psychologie, Universität Basel
Seifritz Erich, Prof.	Psychiatrische Privatklinik, Sanatorium Kilchberg
Siegrist Johannes, Prof.	Institut für medizinische Soziologie, Heinrich Heine Universität Düsseldorf, DE
Stadlmayr Werner, Dr.	Klinik und Poliklinik für Frauenheilkunde, Inselspital Bern
Steinhausen Hans-Christoph, Prof.	Zentrum für Kinder- und Jugendpsychiatrie, Universität Zürich
Surbek Daniel, Prof.	Klinik und Poliklinik für Frauenheilkunde, Inselspital Bern
Wänke Michaela, Prof.	Institut für Psychologie, Universität Basel
Wilhelm Frank, Prof.	Institut für Psychologie, Universität Basel
Wolke Dieter, Prof.	Department of Psychology and Health, Sciences, Research Institute, University of Warwick

Members of the Advisory Board

Barr Ronald G., Prof.	B.C. Research Institute for Children´s & Women´s Health, Centre for Community Child Health Research, Vancouver, CA
Diener Ed, Prof.	University of Illinois, US
Marmot Michel, Prof.	International Centre for Health and Society, Department of Epidemiology and Public Health, University College London, GB
Meaney Michael, Prof.	Douglas Hospital Research Centre Montreal, Quebec, CA
Moffitt Terrie, Prof.	Institute of Psychiatry, Social, Genetic & Developmental Research Center, London, GB
Rapee Ronald M., Prof.	Department of Psychology, Macquarie University, Sydney, AU
Wadhwa Pathik D., Prof.	Departments of Psychiatry and Human Behavior and Obstetrics & Gynecology, University of California, Irvine, College of Medicine, US
Wettstein Joseph G., Dr.	Department of Neuroscience, F. Hoffmann-La Roche Ltd., Basel

Statistical Input – Output Data

Funding source (CHF)	Year 1	Year 2	Year 3	Year 4	Total	%
SNSF funding	2 480 000	2 480 000	2 600 000	2 640 000	10 200 000	45
Self-funding from home institution[1]	164 349	481 268	864 977	914 408	2 425 002	11
Self-funding from project participants	809 197	820 849	821 049	820 849	3 271 944	14
Third-party funding	157 574	1 038 918	2 966 439	2 637 072	6 800 003	30
Total	3 611 120	4 821 035	7 252 465	7 012 329	22 696 949	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	CA	FR	GB	GR	
Management	6.00[3]	7	37	12	63	6	5	2	2	1	0	4
Master students	18	13	72	5	28	14	3	0	0	0	0	0
Doctoral students	27	26	96	1	4	16	7	0	0	0	0	4
Postdoctoral students	4	3	75	1	25	0	2	0	0	0	1	2
Research associates	9	4	44	5	56	4	4	0	0	0	0	1
Senior researchers[4]	31	5	16	26	84	10	19	1	0	1	1	1
Other staff	13	10	77	3	23	10	2	0	0	0	0	1
Total	108.00	68	56	53	44	60	42	3	2	2	2	13

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Levy René, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Blane David, Prof.	Department of Primary Care and Social Medicine, Imperial College London, GB
DeLoache Judy S., Prof.	Department of Psychology, University of Virginia, US
Eisenberg Nancy, Prof.	Department of Psychology, Arizona State University, US
Esser Günter, Prof.	Institut für Psychologie, Universität Potsdam, DE
Kléber André, Prof.	Swiss National Science Foundation, Berne, CH
Maier Wolfgang, Prof.	Klinik und Poliklinik für Psychiatrie und Psychotherapie, Universitätsklinikum Bonn, DE
Merikangas Kathleen, Prof.	Section on Developmental Genetic Epidemiology, National Institute of Mental Health, Bethesda, US
Pauli Paul, Prof.	Institut für Psychologie, Universität Würzburg, DE
Perrig-Chiello Pasqualina, Prof.	Swiss National Science Foundation, Berne, CH
Rutter Michael Sir, Prof.	Social, Genetic and Developmental Psychiatry Centre, Institute of Psychology, London, GB
Visser Gerard H.A., Prof.	Department of Perinatology, University Medical Centre, Utrecht, NL

NCCR Office SNSF

Christ Urs, Dr.	Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern, phone: + 41 (0)31 308 23 50, fax: + 41 (0)31 305 29 71, uchrist@snf.ch

Home Institution
University of Geneva

Start of the NCCR
September 1, 2005

NCCR Management

Director
Scherer Klaus R., Prof.
phone: + 41 (0)22 379 92 11
Klaus.Scherer@pse.unige.ch

Deputy Directors
van der Linden Martial, Prof.
phone: + 41 (0)22 379 93 41
Martial.VanDerLinden@pse.unige.ch

Mulligan Kevin, Prof.
phone: + 41 (0)22 379 70 51
Kevin.Mulligan@lettres.unige.ch

Scientific Coordinator
Sander David, Dr.
phone: + 41 (0)22 379 92 12
David.Sander@pse.unige.ch

Administrative Manager
Sauge Daniela, Mrs.
phone: + 41 (0)22 379 98 04
Daniela.Sauge@cisa.unige.ch

Administrative Assistant
Souchard Audrey, Ms.
phone: + 41 (0)22 379 98 01
Audrey.Souchard@cisa.unige.ch

Education and Training
Sander David, Dr.
phone: + 41 (0)22 379 92 12
David.Sander@pse.unige.ch

Advancement of Women
Kaiser Susanne, Prof.
phone: + 41 (0)22 379 92 16
Susanne.Kaiser@pse.unige.ch

Schmid Mast Marianne, Prof.
phone: + 41 (0)32 718 13 94
marianne.schmid@unine.ch

Computer and Internet Resources
Grandjean Didier, Dr.
phone: + 41 (0)22 379 92 13
Didier.Grandjean@pse.unige.ch

Kapusova Dajana, Mrs.
phone: + 41 (0)22 379 98 19
Dajana.Kapusova@pse.unige.ch

Communications Officer
MacNamee Terence, Mr.
Terence.Macnamee@cisa.unige.ch

Knowledge and Technology Transfer
Varone Carole, Mrs.
phone: +41 (0)22 379 98 05
Carole.Varone@cisa.unige.ch

Address
NCCR Affective Sciences
CISA Centre Interfacultaire en Sciences Affectives
Université de Genève
7, rue des Battoirs, 1205 Genève
phone: + 41 (0)22 379 98 00
fax: + 41 (0)22 379 98 44

Web Address
www.affective-sciences.org

Affective Sciences: Emotion in Individual Behaviour and Social Processes

NCCR Affective Sciences

Research

Area "Emotion Elicitation and Perception"

Appraisal and motivational processes in the elicitation of emotion
Heads: Scherer K.R., Gendolla G.

Response patterning
H: Scherer K.R., Kaiser S.

Neural architecture of emotion perception and affect-related cognition
H: Vuilleumier P., Landis T.

Area "Emotion Regulation"

Individual and social regulation of emotions in the family
H: Perrez M., Reicherts M.

Work and emotions: issues of stress and social interactions and their relationship to well-being, health, and productivity
H: Semmer N.K., Tschan F.

Emotion regulation, impulsivity, and executive functions
H: van der Linden M.

Area "Social Functions of Emotion"

Emotional foundations of norm compliance and norm enforcement
H: Fehr E.

Emotions, values, and norms
H: Mulligan K.

The importance of emotions in social and legal regulation
H: Flückiger A., Robert C.-N., Roth R.

Myths and rites as cultural expression of emotion
H: Borgeaud P.

Research Foci

Empathy and prosocial behaviour in the lifespan
H: Labouvie-Vief G., Singer T.

Antisocial and impulsive behaviour
H: Van der Linden M., Eliez S.

Self-reflexive emotions
H: Mulligan K., Gendolla G.

Language and culture
H: Borgeaud P., Scherer K.R.

Aesthetic emotions
H: Lombardo P., Scherer K.R.

Appraisal processes in decision making
H: Fehr E., Wranik T.

The Nature and Consequences of Gender Differences
H: Kaiser S., Schmid Mast M.

Methodological Development
H: Renaud O.

Programmes

Graduate School

Post-Doc Program

Workshops

Colloquium

Summer/Autumn Academies

Female Careers: Special Stipends and Mentoring

Lab Rotation

Invited Professorships

Topics

As part of the ongoing "affective revolution" in many different fields of study, this interdisciplinary research centre investigates the phenomenon of human emotion from various research viewpoints and on several levels of analysis.
Research issues being addressed by the NCCR's scientists and scholars fall into three major areas:
1) Emotion elicitation and response patterning (the role of brain structures, individual predispositions, cognitive appraisal, and situational factors; patterning of emotional responses and action tendencies; communication of emotion);
2) Emotion regulation (control of bodily reactions and feelings by social norms and interpersonal expectations; ability to cope with emotions to avoid stress and burnout; loss of control as a risk factor for affective disorders such as pathological anxiety and depression);
3) Emotion in social processes (affective processes in family, workplace, and society as a whole; the role of social norms and values in shaping the nature of the emotional response and its control; the role of religion and myths; the socializing function of shame; effects of economic and socio-political changes on affective experiences and well-being).
Special emphasis is being placed on the application of research findings to deal with social issues in the areas of health, work and organizations, the family, law, the problem of violence, economics, and the arts. The NCCR is also committed to training the first generation of "affective scientists".

Heads of Individual Research Projects and Associates

Borgeaud Philippe, Prof.	Faculté des Lettres, Université de Genève
Fehr Ernst, Prof.	Institut für Empirische Wirtschaftsforschung, Universität Zürich
Flückiger Alexandre, Prof.	Faculté de Droit/Cetel, Université de Genève
Gendolla Guido, Prof.	Faculté de Psychologie et des Sciences de l'Éducation (FPSE), Université de Genève
Kaiser Susanne, Prof.	FPSE, Université de Genève
Labouvie Vief Gisela, Prof.	FPSE, Université de Genève
Landis Theodor, Prof.	Département des Neurosciences Cliniques et Dermatologie, Hôpitaux Universitaires de Genève
Mulligan Kevin, Prof.	Faculté des Lettres/Département de Philosophie, Université de Genève
Nils-Robert Christian, Prof.	Département de Droit Pénal, Université de Genève
Perrez Meinrad, Prof.	Departement für Psychologie, Universität Freiburg
Reicherts Michael, Prof.	Departement für Psychologie, Universität Freiburg
Roth Robert, Prof.	Faculté de Droit, Université de Genève
Scherer Klaus, Prof.	FPSE, Université de Genève
Schmid Mast Marianne, Prof.	Département de Psychologie, Université de Fribourg
Semmer Norbert, Prof.	Institut für Psychologie, Universität Bern
Tschan Franziska, Prof.	Institut de Psychologie du Travail et des Organisations, Université de Neuchâtel
van der Linden Martial, Prof.	FPSE, Université de Genève
Vuilleumier Patrik, Prof.	Faculté de Médecine, Centre Médical Universitaire, Genève

Members of the International Scientific Council

Niedenthal Paula, Prof.	Departement of Psychology, Université de Clermont-Ferrand, FR
Robinson Jenefer, Prof.	Departement of Philosophy, University of Cincinnati, US
Stemmler Gerhard, Prof.	Departement of Psychology, University of Marburg, DE
Salovey Peter, Prof.	Departement of Psychology, Yale University, US

Public Relations

- Newsletter
- Presentation Swiss Houses
- Website
- Participation in radio and TV programs
- Newspaper, magazine interviews and articles
- Nuit de la Science
- Cité des Métiers
- Semaine du Cerveau
- Salon de l'étudiant
- Le temps d'une découverte, Université de Genève
- Journée des filles

Third Party Cooperation

Research Institutions

- Adaptive Systems Research Group, University of Hertfordshire, Hatfield, GB
- Affective Neuroscience Lab, University of Wisconsin, Madison, US
- Austrian Research Inst. for Artificial Intelligence (OFAI), Vienna, AT
- Brain and creativity Inst., University of Southern California, Los Angeles, US
- Cardiff school of psychology, Cardiff, GB
- Centre de droit privé fondamental, Université Robert Schuman, Strasbourg, FR
- Centre européen d'enseignement et de recherche en éthique, Strasbourg, FR
- Centre for the Study of Emotion at the University of Portsmouth, GB
- Cognitive psychopathology Unit, University of Liège, BE
- Computational Neuroscience Group, Kings College of London, GB
- Dept. of History and Archaeology, University of Crete, GR
- Dept. of Philosophy, University of Montreal, CA
- Dept. of Psychiatry, University of Ulm, DE
- Dept. of Psychology, Blaise Pascal University, Clermont-Ferrand, FR
- Dept. of Psychology, Northwestern Univ., Chicago, US
- Dept. of Psychology, Princeton University, US
- Dept. of Psychology, Rutgers University, Brunswik, US
- Dept. of Psychology, Stanford University, Palo Alto, US
- Dept. of Psychology, Tilburg University, NL
- Dept. of Psychology, University of Berkeley, US
- Dept. of Psychology, Univ. of Birmingham, GB
- Dept. of Psychology, University of Chicago, US
- Dept. of Psychology, University of Clermont-Ferrand, FR
- Dept. of Psychology, University of Gent, BE

- Dept. of Psychology, University of Graz, AT
- Dept. of Psychology, University of Munich, DE
- Dept. of Psychology, University of Singapore, SG
- Dept. of Psychology, University of Würzburg, DE
- Dept. of Psychology, Uppsala University, SE
- Dept. of Psychology, Yale University, New Haven, US
- Douglas Psychiatry Research Hospital, Montreal, CA
- Faculté de droit, Université de Louvain-la-Neuve, BE
- Harvard Medical School, Cambridge, US
- Health Psychology Section, University of Ulm, DE
- Inst. Communication Parlée, Université de Grenoble, FR
- Inst. de Neurosciences Cognitives de la Méditerranée (CNRS), Marseille, FR
- Lab. d'Informatique et Communication, Université de Paris, FR
- Lab. d'Informatique pour la Mécanique et les Sciences de l'Ingénieur, (CNRS), Paris, FR
- Language Technology Lab., DFKI, Saarbrücken, DE
- LENA, Hôpital de la Salpêtrière, Paris, FR
- Maine Medical Center, Portland, Maine, US
- Philosophy Dept., University of Manchester, GB
- Psychiatry III, University of Ulm, DE
- Psychology Dept., Central Michigan University, Mount Pleasant, US
- School of Psychology, Queen's University Belfast, IE
- Service de neurologie, Université de Rennes, FR
- Social Psychology Dept., Oxford University, GB
- Stanford Psychophysiology Lab., Dept. of Psychology, Stanford University, US

Economy / Industry

- Firmenich SA, Genève, CH

Others

- Association Fribourgeoise des Inst. pour Personnes Agées, CH
- BAG, Bern, CH
- BSV, Bern, CH
- International Federation of Telephone Emergency Services, Genève, CH
- Swisstransplant, Berne, CH

Statistical Input – Output Data

Funding source (CHF)	Year 1	Year 2	Year 3	Year 4	Total	%
SNSF funding	2 400 000	2 600 000	2 500 000	2 500 000	10 000 000	49
Self-funding from home institution[1]	338 139	415 375	748 300	748 186	2 250 000	11
Self-funding from project participants	1 627 637	2 106 789	1 879 115	1 994 935	7 608 476	37
Third-party funding	92 004	240 650	101 500	0	434 154	2
Total	4 457 780	5 362 814	5 228 915	5 243 121	20 292 630	100

Personnel[2]	Total of Persons	Female	%	Male	%	CH	Most Represented Nations					Other Nations
							DE	FR	IT	US	BE	
Management	4.58[3]	8	53	7	47	8	2	3	0	0	1	5
Master students	0	0	0	2	0	0	0	0	0	0	0	0
Doctoral students	41	22	54	19	46	22	6	7	3	2	1	2
Postdoctoral students	25	13	52	12	48	11	4	5	2	1	0	2
Research associates	3	1	33	2	67	2	1	0	0	0	0	0
Senior researchers[4]	33	10	30	23	70	22	12	1	1	1	2	3
Other staff	9	7	78	2	22	6	0	2	0	0	0	1
Total	117.58	61	48	67	52	71	27	18	8	4	4	13

[1] Personnel costs, equipment and consumables, not included infrastructure and basic equipment
[2] Persons involved in the NCCR in the last reporting period (12 months)
[3] Full-time equivalent, including NCCR-Director and persons in charge of knowledge and technology transfer, and education and training
[4] Including leaders of the individual projects and other organisational units of the NCCR

Evaluation and Monitoring by the Swiss National Science Foundation (SNSF)

Members of the Review Panel

Linder Wolf, Prof. (Chair)	Swiss National Science Foundation, Berne, CH
Clark Margaret, Prof.	Department of Psychology, Yale University, US
Ellsworth Phoebe, Prof.	Department of Psychology, University of Michigan, US
Levy René, Prof.	Swiss National Science Foundation, Berne, CH
Lyons William, Prof.	Department of Philosophy, Trinity College, IR
Menninghaus Winfried, Prof.	Peter Szondi Institut, Berlin, DE
Phelps Elisabeth A., Prof.	Department of Psychology, New York University, US
Reusser Kurt, Prof.	Swiss National Science Foundation, Berne, CH
Ricci Bitti Pio Enrico, Prof.	Dipartimento di Psicologia, Università di Bologna, IT
Rüpke Jörg, Prof.	Professur für Vergleichende Religionswissenschaft, Universität Erfurt, DE
Thoits Peggy A., Prof.	Department of Sociology, University of North Carolina, US

NCCR Office SNSF

Griessen Thomas

Schweiz. Nationalfonds, Wildhainweg 3, 3001 Bern,
phone: + 41 (0)31 308 23 51, fax: + 41 (0)31 305 29 71,
tgriessen@snf.ch