

## 8. Annex

### Annex 1: List of most important publications of the NCCR

T. Hyster, L. Knörr, T.R. Ward and T. Roviš, *Biotinylated Rh(III) complexes in engineered streptavidin for accelerated asymmetric C–H activation*, **Science** 338, 500 (2012).

J. Lobo-Checa, M. Matena, K. Muller, J.H. Dil, F. Meier, L.H. Gade, T.A. Jung and M. Stohr, *Band formation from coupled quantum dots formed by a nanoporous network on a copper surface*, **Science** 325, 300 (2009).

L. Gross, F. Mohn, N. Moll, P. Liljeroth and G. Meyer, *The Chemical Structure of a Molecule Resolved by Atomic Force Microscopy*, **Science** 325, 1110-1114 (2009).

A. Socoliuc, E. Gnecco, S. Maier, O. Pfeiffer, A. Baratoff, R. Bennewitz and E. Meyer, *Atomic-scale control of friction by actuation of nanometer-sized contacts*, **Science** 313, 207-210 (2006).

T. Franosch, M. Grimm, M. Belushkin, F.M. Mor, G. Foffi, L. Forró, S. Jeney, *Resonances arising from hydrodynamic memory in Brownian motion*, **Nature** 478, 85-88 (2011).

M.P. Stewart, J. Helenius, Y. Toyoda, S.P. Ramanathan, D.J. Muller and A.A. Hyman, *Hydrostatic pressure and the actomyosin cortex drive mitotic cell rounding*, **Nature** 469, 226-230 (2011).

J. Cai, P. Ruffieux, R. Jaafar, M. Bieri, T. Braun, S. Blankenburg, M. Muoth, A.P. Seitsonen, M. Saleh, X. Feng, K. Müllen and R. Fasel, *Atomically precise bottom-up fabrication of graphene nanoribbons*, **Nature** 466, 470–473 (2010).

L. Hofstetter, S. Csonka, J. Nygard and C. Schönenberger, *Cooper pair splitter realized in a two-quantum-dot Y-junction*, **Nature** 460, 906 (2009).

D. Fotiadis, Y. Liang, S. Filipek, D.A. Saperstein, A. Engel, K. Palczewski, *Rhodopsin dimers in native disc membranes*, **Nature** 421, 127-128 (2003).

F. Huber, H. P. Lang, N. Backmann, D. Rimoldi, and Ch. Gerber, *Direct detection of a BRAF mutation in total RNA from melanoma cells using cantilever arrays*, **Nature Nanotechnology** 8, 125-129 (2013).

M. Plodinec, M. Loparic, C.A. Monnier, E.C. Obermann, R. Zanetti-Dallenbach, P. Oertle, J.T. Hyotyla, U. Aebi, M. Bentires-Alj, R.Y.H. Lim and C.-A. Schoenenberger, *The Nanomechanical Signature of Breast Cancer*, **Nature Nanotechnology** 7, 757-765 (2012).

S.W. Kowalczyk, L. Kapinos, T. Magalhães, P. van Nies, R.Y.H. Lim and C. Dekker, *Single-Molecule Transport Across an Individual Biomimetic Nuclear Pore Complex*, **Nature Nanotechnology** 6, 433-438 (2011).

B. Radisavljevic, A. Radenovic, J. Brivio, V. Giacometti and A. Kis, *Single-layer MoS<sub>2</sub> transistors*, **Nature Nanotechnology** 6, 147 (2011).

T. Braun, M.K. Ghatkesar, N. Backmann, W. Grange, P. Boulanger, L. Letellier, H.P. Lang, A. Bietsch, C. Gerber, M. Hegner, *Quantitative time-resolved measurement of membrane protein-ligand interactions using microcantilever array sensors*, **Nature Nanotechnology** 4, 179-185 (2009).

M. Stolz, R. Gottardi, R. Raiteri, S. Miot, I. Martin, R. Imer, U. Staufer, A. Raducanu, M. Düggelin, W. Baschong, A.U. Daniels, N.F. Friederich, A. Aszodi, U. Aebi, *Early detection of aging cartilage and osteoarthritis in mice and patient samples using atomic force microscopy*, **Nature Nanotechnology** 4, 186-192 (2009).

S. Wu, R. Huber, M.T. Gonzalez, S. Grunder, M. Mayor, C. Schönenberger and M. Calame, *Molecular Junctions based on aromatic coupling*, **Nature Nanotechnology** 3, 569-574 (2008).

J. Zhang, H. P. Lang, F. Huber, A. Bietsch, W. Grange, U. Certa, R. Mckendry, H.-J. Güntherodt, M. Hegner, and Ch. Gerber, *Rapid and label-free nanomechanical detection of biomarker transcripts in human RNA*, **Nature Nanotechnology** 1, 214-220 (2006).

- M. Kisiel, E. Gnecco, U. Gysin, L. Marot, S. Rast and E. Meyer, *Suppression of electronic friction on Nb films in the superconducting state*, **Nature Materials** 10, 119-122 (2011).
- L. Gross, F. Mohn, N. Moll, G. Meyer, R. Ebel, W.M. Abdel-Mageed and M. Jaspars, *Organic structure determination using atomic resolution scanning probe microscopy*, **Nature Chemistry** 2, 821-825 (2010).
- C. Latta, A. Högele, Y. Zhao, A.N. Vamivakas, P. Maletinsky, M. Kroner, J. Dreiser, I. Carusotto, A. Badolato, D. Schuh, W. Wegscheider, M. Atatüre and A. Imamoglu, *Confluence of resonant laser excitation and bi-directional quantum dot nuclear spin polarization*, **Nature Physics** 7, 758 (2009).
- S. Sahoo, T. Kontos, J. Furer, C. Hoffmann, M. Gräber, A. Cottet and C. Schönenberger, *Electric field control of spin transport*, **Nature Physics** 1, 99–102 (2005).
- M. Kumar, M. Grzelakowski, J. Zilles, M. Clark and W. Meier, *High permeable polymeric membranes based on the incorporation of the functional water channel protein Aquaporin Z*, **PNAS USA** 104, 20719-20724 (2007).
- D. Kölbl, D.M. Zumbühl, A. Fuhrer, G. Salis and S. F. Alvarado, *Breakdown of the Korringa Law of Nuclear Spin Relaxation in Metallic GaAs*, **Phys. Rev. Lett.** 109, 086601 (2012).
- D. Loss, F.L. Pedrocchi and A.J. Leggett, *Absence of spontaneous magnetic order of lattice spins coupled to itinerant interacting electrons in one and two dimensions*, **Phys. Rev. Lett.** 107, 107201 (2011).
- I. Schmid, M.A. Marioni, P. Kappenberger, S. Romer, M. Parlinska, H.J. Hug, O. Hellwig, M.J.Carey and E.E. Fullerton, *How the ferromagnetic orientation is stabilized in an exchange-biased system*, **Phys. Rev. Lett.** 105, 197201 (2010).
- S. Alireza Ghasemi, S. Goedecker, A. Baratoff, Th. Lenosky, E. Meyer and H.J. Hug, *Ubiquitous Mechanisms of Energy Dissipation in Noncontact Atomic Force Microscopy*, **Phys. Rev. Lett.** 100, 236106 (2008).
- P. Simon and D. Loss, *Nuclear spin ferromagnetic phase transition in an interacting 2D electron gas*, **Phys. Rev. Lett.** 98, 156401 (2007).
- S. Gustavsson, R. Leturcq, B. Simovic, R. Schleser, T. Ihn, P. Studerus, K. Ensslin, D.C. Driscoll and A.C. Gossard, *Counting statistics of single-electron transport in a quantum dot*, **Phys. Rev. Lett.** 96, 076605 (2006).
- D.V. Averin and C. Bruder, *Variable electrostatic transformer: controllable coupling of two charge qubits*, **Phys. Rev. Lett.** 91, 057003 (2003).
- G. Upert, F. Bouillère, H. Wennemers, *Oligoprolines as Scaffolds for the Formation of Silver Nanoparticles in Defined Sizes: Correlating Molecular and Nanoscopic Dimensions*, **Angew. Chem. Int. Ed.** 51, 4231 (2012).
- D. Vonlanthen, A. Mishchenko, M. Elbing, M. Neuburger, T. Wandlowski and M. Mayor, *Chemically Controlled Conductivity: Torsion-Angle Dependence in a Single-Molecule Biphenyldithiol Junction*, **Angew. Chem. Int. Ed.** 48, 8886-8890 (2009).
- P. Broz, S. Driamov, J. Ziegler, N. Ben-Haim, S. Marsch, W. Meier, P. Hunziker, *Toward Intelligent Nanosize Bioreactors: A pH-Switchable, Channel-Equipped, Functional Polymer Nanocontainer*, **Nano Letters** 6, 2349-2353 (2006).
- A. Jöckel, M. T. Rakher, M. Korppi, S. Camerer, D. Hunger, M. Mader and P. Treutlein, *Spectroscopy of mechanical dissipation in micro-mechanical membranes*, **Appl. Phys. Lett.** 99, 143109 (2011).
- F. Xue, D.P. Weber, P. Peddibhotla and M. Poggio, *Measurement of statistical nuclear spin polarization in a nanoscale GaAs sample*, **Phys. Rev. B** 84, 205328 (2011).
- P. Tanner, O. Onaca, V. Balasubramanian, W. Meier and C.G. Palivan, *Enzymatic Cascade Reactions inside Polymeric Nanocontainers: A Means to Combat Oxidative Stress*, **Chem. Eur. J.** 17, 4552-4560 (2011).

P. Fesser, C. Iacovita, C. Wäckerlin, S. Vijayaraghavan, N. Ballav, K. Howes, J.-P. Gisselbrecht, M. Crobu, C. Boudon, M. Stöhr, T.A. Jung and F. Diederich, *Visualizing the Product of a Formal Cycloaddition of 7,7,8,8-Tetracyano-p-quinodimethane (TCNQ) to an Acetylene-appended Porphyrin by Scanning Tunneling Microscopy on Au(111)*, **Chem. Eur. J.** 17, 5246 (2011).

L.-A. Fendt, M. Stöhr, N. Wintjes, M. Enache, T. Jung and F. Diederich, *Modification of Supramolecular Binding Motifs Induced by Substrate Registry: Formation of Self-assembled Macrocycles and Chain-Like Patterns*, **Chem. Eur. J.** 15, 11139 (2009).

H.J. Bolink, E. Coronado, R.D. Costa, E. Orti, M. Sessolo, S. Graber, K. Doyle, M. Neuburger, C.E. Housecroft and E.C. Constable, *Long-Living Light-Emitting Electrochemical Cells – Control through Supramolecular Interactions*, **Adv. Mater.** 20, 3910–3913 (2008).