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Press release supplementary information

Scientific careers of 2015 Marie Heim-Vögtlin prize winners

Armelle Corpet

In search of an anti-cancer barrier

Armelle Corpet's work is focused on the study of senescence, a cell cycle arrest mechanism that is triggered when the cell is stressed or a cancer gene is activated. This cellular process is a particularly effective anti-cancer barrier in the prevention of the development of tumours.

Armelle Corpet is particularly interested in the changes observed at the level of chromatin organisation, the complex structure into which DNA is compacted and that regulates the accessibility and activation of genes. Her results demonstrate the essential role of two proteins, histone H3.3 and its chaperone DAXX, which undergoes mutations in certain cancers such as glioblastoma, in maintaining the chromatin structure during senescence. In contributing to improving the decoding of cellular signals that promote or maintain senescence, Armelle Corpet's field of research is of fundamental biomedical importance with obvious implications for the treatment and prevention of tumours.

Ms Corpet has obtained a permanent post as lecturer at the University of Lyon 1, equivalent to assistant professor (50% research, 50% teaching). Her work concentrates on the study of chromatin dynamics in cells infected by herpes simplex virus 1.

Anna Nele Meckler

Understanding yesterday's climate to predict tomorrow's

While doing her doctorate in paleo-oceanography at the ETH Zurich, Anna Nele Meckler studied ancient marine sediments. Her particular interest lied in the influence of the marine nitrogen cycle on the climate during a period of climate change.

Postdoc at California Institute of Technology (Caltech), Anna Nele Meckler expanded her expertise by studying another form of geological archive, stalagmites collected from caves in Borneo, in the West Pacific region. By measuring the chemical composition of these geological samples it is possible to reconstruct extremely old climate events such as changes in temperature. At Caltech she helped to develop a new indirect method for measuring temperatures of the past, termed “clumped isotope thermometry”. This technique is based on the analysis of very small differences in the distribution of isotopes present in carbonate minerals and can be applied to marine fossils.

At the end of her MHV funding period, Anna Nele Meckler obtained a fellowship from the Bergen Research Foundation and a prestigious ERC Starting Grant to launch her research group at the University of Bergen in Norway. There she continues her work on the reconstruction of the climate in ancient geological periods with high greenhouse gas concentrations in order to better predict future climate change.