

PRESS RELEASE

Artificial evolution for medical application

2014 Karl Heinz Beckurts Award goes to Prof. Dr. Andreas Marx

Berlin, 11/26/2014

Prof. Dr. Andreas Marx of the University of Konstanz is this year's recipient of the Karl Heinz Beckurts Award. The 30,000 Euro award will be presented to Marx on Monday, December 1, 2014, at 5:30 pm in Max-Joseph-Saal at the Munich Residenz. With its nomination, the Beckurt Foundation is recognizing a scientist whose truly interdisciplinary way of thinking has inspired him to join together the scientific disciplines of chemistry, biology, and biotechnology. Marx' approach has already resulted in important applications that have since found their way into medical diagnostics and cancer therapy, among others.

The focus of Andreas Marx' research is on the biochemistry of DNA polymerases, the group of enzymes that is in charge of making sure the genetic material is replicated properly during cell division: The job of the polymerases is to create copies of the original DNA, which are ultimately distributed among the daughter cells. With his research, Andreas Marx has laid the foundation for science's ability to modify DNA polymerases. Simulating evolution in his lab, Marx and his team have developed protocols for high-throughput screening of polymerases for any modification that makes them particularly well-suited for certain applications – like, for instance, early diagnosis of cancer.

“Especially set against the background of an aging society, Andreas Marx' research has several important implications,” stresses Prof. Dr. Anke Kaysser-Pyzalla, chairwoman of the Karl Heinz Beckurts Foundation and the Helmholtz Center Berlin's scientific director. “It's helped give physicians a greater sense of security with respect to diagnosis, treatment, and prognosis of disease. Thanks to Marx' work, therapies have become more targeted, have produced increases in patients' quality of life, and have helped offset the high costs associated with imprecise diagnoses.”

The **Karl Heinz Beckurts Foundation** was founded by the Helmholtz Association in 1987 in memory of researcher and manager Prof. Dr. Karl Heinz Beckurts. From 1973 to 1976, Beckurts was head of the large-scale equipment work group (GF, the organization that would years later become the Helmholtz Association). In 1976, Beckurts became chairman of what was then the Jülich Nuclear Research Facility and, in 1980, became a member of the board of the Siemens AG. In 1986, Beckurts became the tragic victim of a terrorist attack. The Foundation's annual award is given in recognition of exceptional scientific and technological achievements that are relevant to industry.

As a member of the Helmholtz Association of German Research Centers e.V., Germany's largest scientific organization, the **Helmholtz Center Berlin for Materials and Energy (HZB)** operates and develops large-scale equipment for photon-based (synchrotron radiation) and neutron-based research at internationally competitive - often unparalleled - research facilities. HZB research topics include materials research for energy technologies as well as magnetic and functional materials. The development of thin film solar cells is at the forefront of solar energy research conducted at the center. Chemical fuels that have been derived from sunlight represent yet another important research emphasis.

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