

September 1, 2017

Heinrich Emanuel Merck Award for Analytical Science of Merck KGaA, Darmstadt, Germany Goes to Professor Francesco Ricci

- Italian chemist to win prestigious science award worth €15,000
- Recognition of young researchers who develop new methods in chemical analysis

Darmstadt, Germany, September 1, 2017 – Merck KGaA, Darmstadt, Germany, a leading science and technology company, today announced that Professor Francesco Ricci from the University of Rome, Tor Vergata, Italy, will receive the 2017 Heinrich Emanuel Merck Award for Analytical Science of Merck KGaA, Darmstadt, Germany. The Italian chemist will receive the recognition worth €15,000 for his groundbreaking development of nature-inspired DNA-based nanodevices for sensing applications. The award ceremony will take place today within the scope of the analytical conference Euroanalysis at the Stockholm University in Sweden.

“Professor Ricci developed an innovative, highly selective bio-based assay-tool, which offers a crucial added value for rapid and inexpensive detection of biomarkers. It is relevant for medicinal research and will improve the quality of human life,” explained Klaus Griesar, head of science relations at Merck KGaA, Darmstadt, Germany. The awardee studied strategies of nature to develop sensors for diagnostic applications that employ the same mechanisms of biomolecular receptors. One “detection”-strategy of these receptors is a binding-induced conformational change. The shift of conformation occurs through the binding of a target molecule. Based on this natural recognition mechanism, Ricci’s research group used synthetic DNA oligonucleotides to develop optical and electrochemical sensors. These analytical devices are enabled to detect a wide range of antibodies, proteins and further analytes relevant in medicinal research. According to the jury the elucidated method presents a crucial advantage, as the detection of such

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markers originally required multiple steps, component-intensive processes and sophisticated laboratory equipment. In contrast, Ricci's single-step method offers a rapid and inexpensive detection while still providing high selectivity.

Born in 1977, Ricci studied chemistry at the University of Rome, Tor Vergata, and the University of Lund in Sweden. He earned his PhD degree in Analytical Chemistry at the University of Rome, Tor Vergata, in 2005 for his thesis on "Prussian Blue"-based sensors and biosensors. A year later, he became Senior Researcher at the Chemistry Department of the University of Rome, Tor Vergata. From 2006 to 2013, Ricci spent several visiting periods - two years in total - as a post-doc researcher in the Chemistry and Biochemistry Department at the University of California, Santa Barbara (UCSB), United States. In June 2013, he filled the position as Visiting Professor in the same department at the UCSB supported by the Marie Curie Outgoing Fellowship. Since April 2014, Ricci is Associate Professor at the Laboratory of Biosensors and Nanomachines of the Chemistry Department at the University of Rome, Tor Vergata.

Since 1988, the Heinrich Emanuel Merck Award of Merck KGaA, Darmstadt, Germany has been recognizing scientists under the age of 45 whose work focuses on new methods in chemical analysis and the development thereof in applications aimed at improving the quality of human life, for example in fields such as life science, environmental protection and the biosciences.

Heinrich Emanuel Merck Award of Merck KGaA, Darmstadt, Germany – previous winners

Merck KGaA, Darmstadt, Germany began granting the Heinrich-Emanuel-Merck Award of Merck KGaA, Darmstadt, Germany in 1988 to mark the centennial of the first standardization of analytical methods by Dr. Karl Krauch, a Merck KGaA, Darmstadt, Germany chemist. This list of the prizewinners documents the significance of the prize in the analytical sciences community, which has often laid the groundwork for important discoveries.

Former Award winners are:

1988	Professor M. Hiraide, Japan; Professor O.S. Wolfbeis, Austria
1990	Dr. B. Bidlingmeyer, USA; Professor R. Niessner, Germany
1993	Professor A. Amirav, Israel
1996	Professor D.J. Harrison, Canada; Professor A. Manz, United Kingdom
1998	Professor R. Zenobi, Switzerland
2000	Professor N. Dovichi, Canada
2002	Professor J.V. Sweedler, USA
2004	Professor Y. Baba, Japan
2007	Dr. A. Makarov, Germany; Professor S. Nie, USA
2010	Professor Luisa Torsi, Italy
2012	Professor Aaron Wheeler, Canada
2015	Professor Petra Dittrich, Switzerland

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