Press Release

2015 Chemistry for the Future Solvay Prize

The 2015 "Chemistry for the Future Solvay Prize" is awarded to Professor Ben Feringa for his groundbreaking research on molecular motors

Brussels, November 18, 2015 --- The "Chemistry for the Future Solvay Prize" 2015, is handed over by Her Majesty Queen Mathilde to Dutch scientist Professor Ben Feringa for his work on unidirectional molecular motors, a research field that paves the way to new therapeutic and technological applications with nanorobots. *"The Solvay Prize rewards decisive breakthroughs in scientific research achieved today and destined to shape the chemistry of the future. The research by Professor Ben Feringa allows us to anticipate a variety of scientific developments, chiefly in healthcare, and underlines chemistry's essential role, as a science and as an industry, in delivering solutions for society and help human progress. We wish Professor Feringa and his team every success in their research,"* said Solvay CEO Jean-Pierre Clamadieu, who chaired the Solvay Prize ceremony.

Ben Feringa, Professor at the University of Groningen, and his teams have over the past 15 years focused on revealing the potential of synthetic chemistry to create new structures and novel functional materials such as molecular switches and motors to perform ultra-precise and controlled actions. His research found that by using light, molecules at nanometer scale can be manipulated and turned into motors. His breakthrough design of the first rotary molecular motor sets the stage for a range of future applications, such as storage of information on a molecular scale, the development of responsive materials or smart catalysts for chemical processes, while in healthcare they could be used to develop artificial muscles or as medication that can be switched on and off for precision therapy. Within the next twenty or thirty years, these molecular motors will power nanorobots which will be capable of better targeting specific molecules in therapeutic treatments.

"I am greatly honored by the prestigious Solvay Prize which is also a superb recognition for my team of talented students whom I've had the privilege to guide beyond the frontiers of the chemical sciences. Inspired and intrigued by the machinery of life we went on a quest to control motion at the nanoscale. Our ability to govern dynamic functions, as we demonstrated with our molecular motor, is essential for the development of responsive molecular systems that will form the basis for a whole range of smart products in the future," said Ben Feringa, who is also Vice-Chairman of the Royal Academy of Sciences of the Netherlands." I am convinced that the creative power of synthetic chemistry will bring unimaginable solutions to the sustainable society of the future and to the wellbeing of mankind."

Solvay created the prize in 2013 to celebrate its creation 150 years before by Ernest Solvay and to perpetuate his commitment as a dedicated and inspired supporter of scientific research. The prize of € 300,000 aims to recognize every other year a major scientific discovery that lays the foundation of the chemistry of the future while promoting human progress. It underlines chemistry's essential role, as a science and as well as an industry, to help solve some of the most pressing issues facing our planet.

The independent jury of six international scientists chose to award Professor Feringa, because "He has paved a road to the future of chemistry by synthesizing directional molecular motors," said Hakan Wennerström, President of the jury. "The jury pays tribute to one of the most creative chemists of the present day."

Enclosure 1: Biography of Ben Feringa

Ben L. Feringa obtained his PhD degree at the University of Groningen in the Netherlands under the guidance of Professor Hans Wynberg. After working as a research scientist at Shell in the Netherlands and at the Shell Biosciences Centre in the UK, he was appointed lecturer and in 1988 full professor at the University of Groningen and named the Jacobus H. van't Hoff Distinguished Professor of Molecular Sciences in 2004. He was elected Foreign Honory member of the American Academy of Arts and Sciences and is member and vice-president of the Royal Netherlands Academy of Sciences. In 2008 he was appointed Academy Professor and was knighted by Her Majesty the Queen of the Netherlands.
Feringa's research has been recognized with a number of awards including the Koerber European Science Award (2003), the Spinoza Award (2004), the Prelog gold medal (2005), the Norrish Award of the ACS (2007), the Paracelsus medal (2008), the Chirality medal (2009),the RSC Organic Stereochemistry Award (2011), Humboldt Award (2012), the Grand Prix Scientifique Cino del Duca (French Academy 2012), the Marie Curie medal (2013) and the Nagoya Gold Medal (2013). The research interest includes stereochemistry, organic synthesis, asymmetric catalysis, optopharma, molecular switches and motors, self-assembly and molecular nanosystems.

Academic and industrial career

1969-1978	Undergraduate and graduate studies in chemistry, University of Groningen
	PhD at Department of Organic Chemistry, University of Groningen, Thesis: Asymmetric Oxidations of Phenols; supervisor Prof. Dr. Hans Wynberg
1978-1982	Research Chemist (organic synthesis, oxidation processes, photochemistry), Royal Dutch Shell, Shell Laboratories, Amsterdam.
1979-1982	Lecturer Amsterdam (Hogere Analistenschool).
1982-1983	Research Chemist (Bioorganic Chemistry), Shell Biosciences Laboratories, Sittingbourne, UK.
1983-1984	Project Leader Homogeneous Catalysis, Shell Research Laboratories, Amsterdam.
1984-1988	Lecturer Organic Chemistry, University of Groningen.
1988-	Appointed successor of Prof. Dr. H. Wynberg; chair of Organic Chemistry, Professor of Organic Chemistry, University of Groningen.
1991-1995	Chairman Department Organic and Molecular Inorganic Chemistry
2003-2011	Director Stratingh Institute for Chemistry
2003-	Jacobus H. van 't Hoff Distinguished Professor of Molecular Sciences
2008-	Academy Professor; Royal Netherlands Academy of Sciences
2011-	Hans Fischer Honorary Fellow, Institute for Advanced Studies, TU Munich

Enclosure 2: The Jury 2015

Håkan Wennerström, President of the jury, is Professor of theoretical and physical chemistry at the University of Lund, Sweden. He is a former chairman of the jury for the Nobel Prize in Chemistry.

Paul Chaikin, Professor of Physics at the New York University, USA, specializes in solid state physics, in particular soft matter.

Press release

Christopher Dobson, John Humphrey Plummer Professor of Chemical and Structural Biology at the University of Cambridge, and Master of St John's College, Cambridge, UK, is a specialist in protein folding and misfolding.

Gerhard Ertl, Professor emeritus at the Department of Physical Chemistry, Fritz-Haber-Institut der Max-Planck-Gesellschaft in Berlin, Germany, won the Nobel Prize in Chemistry for his studies of chemical processes on solid surface.

Jean-Marie Lehn, Professor at the Institut d'Etudes Avancées de l'Université de Strasbourg and Professor emeritus at the Collège de France in Paris. Lehn, an early innovator in the field of supramolecular chemistry, received the Nobel Prize in Chemistry for his synthesis of cryptands.

Peter G. Schultz is Professor at the Scripps Research Institute in California USA and Director of the California Institute for Biomedical Research. He was awarded the first Chemistry for the Future Solvay Prize.

Paul Baekelmans, Science Adviser to the Solvay Group, is Professor emeritus at the Université Libre de Bruxelles. He chairs the Conseil National de Chimie of the Académie des Sciences de Belgique.

Patrick Maestro, member of the Académie des Technologies in France, Scientific Director of Solvay, was at the origin of the creation of several joint teams between Solvay, CNRS and universities worldwide.

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