



**Warsaw, 23 November 2015**

## ***Dr. Mircea Dincă with the 2015 Dream Chemistry Award statuette***

*Romanian chemist Dr. Mirca Dincă from MIT is this year's winner of the 2015 Dream Chemistry Award international competition. This is how the Scientific Committee has expressed its appreciation for the forward-looking project for the production of catalysts that mimic catalysis occurring in cells.*

The Dream Chemistry Award (DCA) is awarded for a visionary research project in chemistry and where it borders with other natural and technical sciences. This year's 2015 DCA statuette and 15,000 euros was won by Dr. Mircea Dincă from the Massachusetts Institute of Technology (MIT) in Cambridge, USA, for his project for the production of catalysts that mimic catalysis occurring in biological cells. The presentations of the five finalists of the current edition of the Dream Chemistry Award, culminating in the emergence of a winner, were held today in Warsaw at the headquarters of the contest organizer, the Institute of Physical Chemistry of the Polish Academy of Sciences (IPC PAS).

“Chemistry is not particularly well-renowned throughout society. People easily remember the few industrial accidents, and forget about the thousands of other things that are owed to chemistry. And yet it has had a significant share in, at the least, prolonging our lives from 40 to 80 years. My dream project is to not only increase the efficiency of chemical processes in industry, but also to improve the public's perception of the whole field,” said Dr. Dincă, winner of the 2015 Dream Chemistry Award.

Dr. Dincă conducts research on the catalysis of chemical compounds that play an important role in contemporary industry. His long-term goal is to minimize the energy and environmental costs associated with the manufacture of chemical products. His inspiration is provided by nature, especially the cells of living organisms, where catalytic reactions occur with particularly high efficiency.

“Dreams are an integral part of science. I think that even among Nobel Prize winners the majority are really dreamers. But science gives us, scientists, something more than just a dream: it gives us the ability to materialize these beautiful ideas, to transform them into effect,” said Dr. Dincă.

The other 2015 Dream Chemistry Award finalists are:

- Dr. Eric Daniel Głowacki from Johannes Kepler University in Linz, Austria, for his project of biocompatible materials to build bioelectronic interfaces;

- Dr. Denis Menshykau from Bayer Technology Services in Leverkusen, Germany, for a project to create drugs with molecules that have structures that are individually adjusted to the characteristics of a given patient's body;
- Dr. Yogesh Surendranath of the Massachusetts Institute of Technology in Cambridge, USA, for a project on the uses of catalysis to capture carbon dioxide in graphene;
- Dr. Jiayin Yuan from the Max Planck Institute of Colloids and Interfaces in Potsdam, Germany, for a project to build a power plant generating electricity through appropriate ion membranes, using a the salinity gradient between freshwater and saltwater.

“The projects submitted by the finalists of the current edition of the Dream Chemistry Award are the dreams of pragmatists, convinced of the possibility of putting their ideas into practice. In some cases, the prospect of implementing these dreams does not seem particularly distant,” commented Prof. Marcin Opałło, director of the Institute of Physical Chemistry of the PAS.

The Dream Chemistry Award Competition is open to young scientists under the age of 36 years from all over world, who presented their doctoral thesis (in this year's competition) in 2008 or later. For their submission to be accepted, the candidate must have been nominated by a researcher holding the academic doctoral degree or higher, with at least ten years' experience in exact/life sciences since the date of publication of his/her first scientific paper.

The Honorary Committee of the Dream Chemistry Award competition is made up of renowned chemists: Nobel laureate Prof. Richard R. Schrock (MIT), Prof. Krzysztof Matyjaszewski (Carnegie Mellon University) and Prof. Bartosz Grzybowski (Uslan National Institute of Science and Technology). The decision on the awarding of the prize is made by the Scientific Committee composed of several professors from the best Polish scientific institutions specializing in chemistry, physics, biology, medicine and materials science.

The winner of the previous Dream Chemistry Award was Dr. Evan Spruijt, a chemist from Ecole Superieure de Physique et de Chimie Industrielles (ESPCI) in France. He was awarded the prize for his project for the production of microdroplets of water that could be programmed in such a way as to automatically grow and divide in the appropriate physico-chemical conditions – thus modelling the most important characteristic of living cells.

Detailed information about the Dream Chemistry Award competition can be found at: <http://www.ichf.edu.pl/dreamchemistryaward/>

The Institute of Physical Chemistry of the Polish Academy of Sciences (<http://www.ichf.edu.pl/>) was established in 1955 as one of the first chemical institutes of the PAS. The Institute's scientific profile is strongly related to the newest global trends in the development of physical chemistry and chemical physics. Scientific research is conducted in nine scientific departments. CHEMIPAN R&D Laboratories, operating as part of the Institute, implement, produce and commercialise specialist chemicals to be used, in particular, in agriculture and pharmaceutical industry. The Institute publishes approximately 200 original research papers annually.

#### **PROFILES OF THE FINALISTS:**

##### **Dr. Mircea Dincă**

A chemist from Romania, currently working as an Assistant Professor at the Massachusetts Institute of Technology in Cambridge, USA. He studied at Princeton University, has a doctorate in inorganic chemistry, on hydrogen storage in metal organic microporous materials, defended in 2008 at the University of California in Berkeley. At the MIT he worked, among others, on issues related to electrocatalysis. He specializes in functional inorganic organometallic materials chemistry, he is particularly interested in porous materials and high-nuclearity metal clusters. He is the author of 68 publications, cited 7,400 times.

##### **Dr. Eric Daniel Głowacki**

A chemist at Johannes Kepler University in Linz, Austria, the author of 33 scientific articles cited nearly 800 times. He studied at the University of Rochester in the US, received his doctorate in 2013 at the Johannes Kepler University with a thesis on technical chemistry. He is mainly engaged in bioelectronics, supramolecular chemistry and crystal engineering. He collaborates with research groups from Japan, the United States, Italy, Croatia, Germany and Poland. He is the main organizer of the International Winterschool on Bioelectronics in Kirchberg, Austria. He is a native speaker in Polish and English, speaks both Russian and German fluently, as well as speaking Czech, French, Romanian and Turkish.

## Dr. Denis Menshykau

Originally from Mińsk in Belarus, he studied physical chemistry in Russia at Moscow State University. He received his doctorate in Britain, where in 2010 at the University of Oxford he defended his thesis in the field of computational methods in electrochemistry. Currently, he works as a researcher at Bayer Technology Services in Leverkusen, Germany. He deals with the modelling of cardiovascular physiology and hemodynamics, in the context preclinical trials and the early phases of drug development, as well as methods of data and image analysis. He is the author of 24 scientific articles, cited 300 times.

## Dr. Yogesh Surendranath

In 2006 he graduated from the University of Virginia, USA, and defended his Ph.D thesis, written at the Massachusetts Institute of Technology in Cambridge, USA, in 2011. He is the author of 45 scientific papers cited 3,000 times; the co-inventor of six patents. His group at MIT's Department of Chemistry conducts research, among others, on catalysis and energy storage. In particular, he deals with the development of new methods of controlling the selectivity and efficiency of reactions occurring at the interface between solids and liquids. His work focuses on the creation of functional inorganic interfaces in combination with the conversion of electrochemical energy.

## Dr. Jiayin Yuan

A chemist from Germany, currently working at the Department of Colloid Chemistry at the Max Planck Institute of Colloids and Interfaces in Potsdam. With the prestigious European ERC Starting Grant he obtained in 2014 he runs his own research group. He studied at the Shanghai Jiao Tong University in China, and the University of Siegen in Germany. He was awarded a doctorate in polymer chemistry in 2009 at the German University of Bayreuth, and defended his habilitation in 2015 at the University of Potsdam. He is the author of 100 scientific articles, cited 2,600 times.

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### **LINKS:**

<http://www.ichf.edu.pl/dreamchemistryaward/>  
The website of the Dream Chemistry Award.

<http://www.ichf.edu.pl/>  
The website of the Institute of Physical Chemistry of the Polish Academy of Sciences.

<http://www.ichf.edu.pl/press/>  
Press releases of the Institute of Physical Chemistry of the Polish Academy of Sciences.

### **IMAGES:**

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Winner of the 2015 Dream Chemistry Award: Dr. Mircea Dincă, a chemist from the Massachusetts Institute of Technology in Cambridge, USA. (Source: IPC PAS, Grzegorz Krzyżewski)

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Dr. Mircea Dincă, a chemist from the Massachusetts Institute of Technology in Cambridge, USA, delivering his lecture at the Institute of Physical Chemistry of the Polish Academy of Sciences in Warsaw. (Source: IPC PAS, Grzegorz Krzyżewski)

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The finalists of the international 2015 Dream Chemistry Award competition at the Institute of Physical Chemistry of the Polish Academy of Sciences in Warsaw, Poland. From the left: Dr. Denis Menshykau, Dr. Yogesh Surendranath, Dr. Mircea Dincă, Dr. Jiayin Yuan and Dr. Eric Daniel Głowacki. (Source: IPC PAS, Grzegorz Krzyżewski)

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The Dream Chemistry Award statuette and 15,000 Euro wait for a chemist-visionary with the most interesting future-oriented research project. The annual global Dream Chemistry Award Contest is organised for young researchers by the Institute of Physical Chemistry of the Polish Academy of Sciences in Warsaw, Poland. (Source: IPC PAS, Grzegorz Krzyżewski)