Faculty members garner honors, recognition during International Year of Chemistry

By Steve Koppes
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The University of Chicago's Chemistry Department faculty has completed the first quarter of the International Year of Chemistry with a series of honors and recognitions, including the previously noted Wolf Prize, which will be awarded in May to Stuart Rice, the Frank P. Hixon Distinguished Service Professor Emeritus in Chemistry.

In February, Thomson Reuters ranked Dmitri Talapin, assistant professor in chemisty, Milan Mrksich, professor in chemistry and a Howard Hughes Medical Institute Investigator, and Rustem Ismagilov, professor in chemistry, on its list of the most influential 100 chemists in the world based on the highest citation impact scores for chemistry papers published from 2000 to 2010. UChicago was one of nine institutions appearing three or more times on the list.

Also breaking into the top 100 was Yugang Sun of Argonne National Laboratory, which UChicago Argonne LLC manages for the U.S. Department of Energy. Sun is a scientist at Argonne's Center for Nanoscale Materials.

Citation impact is a weighted measure of influence that seeks to reveal consistently superior performance. Only chemists who had published at least 50 papers during the period were included in the analysis. All chemists in the top 100 scored a citation impact five times higher than the average of 11.07. All three ranked UChicago chemists do interdisciplinary work in materials or biology that would not have been counted in this survey.

This year, Talapin also was named recipient of the 2011 Outstanding Young Investigator Award given by the Materials Research Society. The award recognizes outstanding interdisciplinary scientific work in materials research by a young scientist or engineer who also shows exceptional promise as a developing leader in the materials area. Talapin was cited "for methodological developments of synthesis and self-assembly of inorganic nanocrystals and for fundamental studies transforming colloidal nanostructures into electronic and optoelectronic materials."

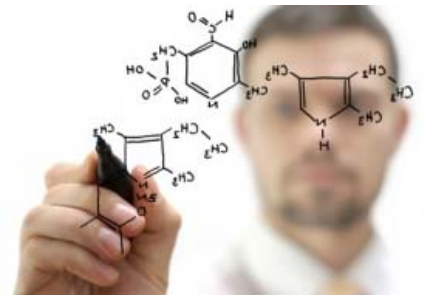
In January, Ismagilov also was awarded the distinction of Fellow of the American Association for the Advancement of Science. The AAAS cited Ismagilov "for developing microfluidic tools for studying chemical reactions that will lead to understanding of how non-linearities in complex networks control dynamics in space and time."

Editors Choice for 2010

The editors of the *Journal of Chemical Physics* also have selected two papers published by UChicago researchers as "Editors Choice for 2010" that present groundbreaking research.

One of those papers, written by Steven Sibener, the Carl William Eisendrath Distinguished Service Professor in Chemistry, and four co-authors, is titled "Helium atom diffraction measurements of the surface structure and vibrational dynamics of CH3-Si (111) and CD3-Si (111) surfaces." The paper's co-authors are James Becker and Ryan Brown of Sibener's research group and Erik Johansson and Nathan Lewis of the California Institute of Technology.

Sibener, along with Argonne's Seth Darling, also took first place in the photography category of the 2010 *Science*/National Science Foundation International Science & Engineering Visualization Challenge for an atomic force microscopy image that appeared on the cover of the Feb. 18, 2011 issue of *Science*.



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Steve Koppes
News Officer for Physical Sciences
The University of Chicago News Office
skoppes@uchicago.edu
(773) 702-8366

Reserved for members of the media.

Linguistics faculty, graduate students receive key honors
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The other editors choice from UChicago, “General approach to polymer chains confined by interacting boundaries,” was written by Karl Freed, the Henry G. Gale Distinguished Service Professor in Chemistry, and co-authors Jacek Dudowicz, senior scientist in the James Franck Institute; Evgeny Stukalin, former postdoctoral associate in chemistry, now at the University of North Carolina, Chapel Hill; and Jack Douglas, PhD’86, research chemist at the National Institute of Standards and Technology.

Freed also is co-author of an article that was featured on the cover of the March 2010 issue of *Protein Science*. The article, titled “Protein structure prediction enhanced with evolutionary diversity: SPEED,” was based on the doctoral research of Joe DeBartolo, PhD’10, now a postdoctoral scholar in biochemistry & molecular biology at UChicago. His co-authors were Glen Hocky, ’09, now a doctoral student in chemical physics at Columbia University; Michael Wilde, research scientist at Argonne; Jinbo Xu, assistant professor at Toyota Technological Institute at Chicago, Tobin Sosnick, professor in biochemistry & molecular biology; and Freed.

Most-cited current publications

Luping Yu, professor in chemistry, and his associates, meanwhile, published two papers that have become the fifth and eighth most-cited current publications in chemistry as determined by ScienceWatch.com, which provides a comprehensive, open online resource for science metrics and analysis.

The fifth most-cited paper was “Highly efficient solar cell polymers developed via fine-tuning of structural and electronic properties,” published in 2009 in the *Journal of the American Chemical Society*.

Co-authoring the paper were Yongye Liang, PhD’09, now a postdoctoral associate at Stanford University; Danqin Feng, former postdoctoral scientist at UChicago; Yue Wu, director of research and development at Solarmer Inc.; Szu-Ting Tsai of Solarmer; Gang Li, vice president of engineering, Solarmer; Claire Ray, a UChicago undergraduate in chemistry; and Yu. This research was mentioned in the March April 2010 issue of the *Science Watch* newsletter.

The eighth most-cited paper was “For the bright future—Bulk heterojunction polymer solar cells with power conversion efficiency of 7.4%,” published in 2010 in *Advanced Energy Materials*. This paper also ranked 10th in the *ScienceWatch.com list of Hottest Research Papers of 2010.*

Co-authoring this paper, which garnered 65 citations, were Liang, Tsai, Wu, Li, Ray and Yu, as well as Zheng Xu, senior researcher at Solarmer; and Jiangbin Xia of Solarmer. In February, ScienceWatch.com published an interview with Yu about the paper.

Gregory Hillhouse, professor in chemistry, on June 4 will receive the 2011 Norman Maclean Faculty Award during UChicago’s annual Alumni Awards ceremony. Hillhouse’s award citation is “for his outstanding teaching, mentoring, and guidance of chemistry students for nearly three decades, motivating and inspiring them in the classroom and beyond.”

Argonne National Laboratory, Chemistry, Chemistry Honors, Department of Energy, Dmitri Talapin, faculty, Gregory Hillhouse, International Year of Chemistry, Karl Freed, Luping Yu, Materials Research Society, Milan Mrksich, Milestones, Rustem Ismagilov, Seth Darling, Steven Sibener, Stuart Rice, Toyota Technological Institute at Chicago, UChicago Argonne LLC, Ygang Sun

5801 South Ellis Avenue
Chicago, Illinois 60637
(773) 702-1234