

Bioengineering Professor Trey Ideker Wins 2009 Overton Prize

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University of California, San Diego bioengineering professor Trey Ideker—a network and systems biology pioneer—has won the International Society for Computational Biology's Overton Prize. The Overton prize is awarded each year to an early-to-mid-career scientist who has already made a significant contribution to the field of computational biology.

Trey Ideker is an Associate Professor of Bioengineering at UC San Diego's Jacobs School of Engineering, Adjunct Professor of Computer Science, and member of the Moores UCSD Cancer Center. He is a pioneer in using genome-scale measurements to construct network models of cellular processes and disease. His recent research activities include development of software and algorithms for protein network analysis, network-level comparison of pathogens, and genome-scale models of the response to DNA-damaging agents.

"Receiving this award is a wonderful honor and helps to confirm that the work we have been doing for the past several years has been useful to people," said Ideker. "This award also provides great recognition to UC San Diego which has fantastic bioinformatics programs both at the undergraduate and graduate level. I could never have done it without the help of some really first-rate bioinformatics and bioengineering graduate students," said Ideker.

Ideker is on the faculty of the Jacobs School of Engineering's Department of Bioengineering, which ranks 2nd in the nation for biomedical engineering, according to the latest US News rankings. The bioengineering department has ranked among the top five programs in the nation every year for the past decade.

The list of press releases (below) from UC San Diego's Jacobs School of Engineering provides a glimpse into Ideker's research program. Following the press release list is more information on Ideker's career and research profile—information excerpted from the International Society for Computational Biology's press release on the 2009 Overton Prize.

Trey Ideker at UC San Diego

[Will Breast Cancer Spread? An Answer from UC San Diego Bioengineers Led by Trey Ideker](#)

[Cell, Heal Thyself: New Systems Biology Model from Trey Ideker Reveals How Cells Repair DNA Damage](#)

[UC San Diego Bioengineering Professor Trey Ideker Named Top 35 Young Scientist by MIT's Technology Review Magazine](#)

[Cells Use Mix-and-Match Approach to Tailor Regulation of Genes, according to research from Trey Ideker's Bioengineering Lab](#)

[Trey Ideker Part of Technology Commercialization Project Funded by UC San Diego's von Liebig Entrepreneurism Center](#)

UC San Diego Installs Supercomputer| Dedicated to Bioengineering and Computational Biology

January 2009 *Nature Methods* Paper: Cost-effective strategies for completing the interactome

Trey Ideker: Network and Systems Biology

Trey Ideker started his career as an engineer and computer scientist, but an interest in molecular biology led him to the University of Washington's graduate program in molecular biology run by Leroy Hood, founder of the Institute of Systems Biology.

The International Society for Computational Biology (ISCB) press release on the 2009 Overton Prize-- excerpted below--provides an outline of Ideker's career path and a few of his research highlights.

[At the University of Washington, Ideker]...began to model and analyze networks of molecular interactions using genome-scale measurements, an emerging field in which he became a pioneer. He was still a Ph.D. student when, in 2001, he published a classic paper [in the journal *Science*] demonstrating how biological networks are mapped and tested using a systems biology approach that has attracted well over 800 citations to date. He then took a fellowship at the prestigious Whitehead Institute for Biomedical Research in Cambridge, Massachusetts before joining the faculty at UC San Diego in 2003, where he is now an associate professor.

In recent years, Ideker has developed a number of influential bioinformatics methods and resources including Cytoscape, a widely used open source program for visualizing molecular networks. In 2003, his group was the first to demonstrate that protein networks can be aligned and compared across species, just like genome sequences. Since then, he has extended network comparison to incorporate many different interaction types, and used network-based methods to map the DNA damage response, compare host and pathogen networks, and classify diseases.

Ideker has already received many honors and was recognized as one of the top 10 innovators of 2006 by MIT's *Technology Review*.

Aviv Regev, the 2008 ISCB Overton Prize winner, commends the selection of Ideker for the 2009 award. "Trey's work has epitomized the power of integrating innovative computational methods with cutting-edge genomics. His pioneering work has set a model for doing systems biology that has been followed by numerous groups and has impacts for understanding the evolution of biological systems and for treating disease."

The Overton Prize was established in 2001 in memory of G. Christian Overton, a major contributor to the field of bioinformatics and member of the ISCB Board of Directors who died suddenly the previous year. The prize is awarded for outstanding accomplishment to a scientist in the early- to mid-career who has already made a significant contribution to the field of computational biology. Previous recipients are Christopher Burge (Massachusetts Institute of Technology, Boston, USA), David Baker (University of Washington, USA), W. James Kent (University of California, Santa Cruz, USA), Uri Alon (Weizmann Institute of Science, Israel), Ewan Birney (European Bioinformatics Institute, UK), Mathieu Blanchette (McGill University, Canada), Eran Segal (Weizmann Institute of Science, Israel), Aviv Regev (The Broad Institute of Harvard and MIT, USA).

ISCB Award recipients are selected from among nominations received from the computational biology community. The awards committee thoroughly reviews the merits of all nominees and unanimously decides on a recommendation of each award winner to be approved by the ISCB president. Both awards will be presented at the Society's prestigious Annual International Conference on Intelligent Systems for Molecular Biology (ISMB), being held jointly with the European Conference on Computational Biology (ECCB) in Stockholm, Sweden, June 29-July 2.

The International Society for Computational Biology (ISCB) serves over 2500 members from nearly 70 countries around the world by addressing scientific policies, providing access to high quality publications,

organizing regional and international conferences, and serving as a portal to information about training, education, employment and news from related fields.

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