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Featured Article

Karger presented with Bergman Medal

Barry Karger, an internationally recognized researcher and founder of the Barnett Institute of Chemical and Biological Analysis, has been presented with the prestigious and rarely awarded Torbern Bergman Medal.

Foundation awards fellowship for cystic fibrosis research

Lawrence Mulcahy, of the Antimicrobial Discovery Center and Department of Biology, has received a Postdoctoral Fellowship Award from the Cystic Fibrosis Foundation, the leading organization in the United States devoted to combating cystic fibrosis.

The award will support Mulcahy's work on multi-drug tolerance of the pathogen Pseudomonas aeruginosa.

In the media

• Boston Globe columnist Yvonne Abraham cites Dave Czeniuk of the Center for the Study of Sport in Society in figuring out post-game violence by Boston Celtics fans.

• Christopher Bosso, associate dean of the School of Social Science, Urban Affairs and Public Policy, talks about plans to resume offshore oil drilling.

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Karger presented with Bergman Medal

Professor Barry Karger accepts a commemorative plaque from James Waters, founder of the Waters Corp., a major supporter of the Barnett Institute. Photo/LAUREN MCFALLS

Barry Karger may soon need to build another shelf for his honors.

The internationally recognized researcher and founder of the Barnett Institute of Chemical and Biological Analysis, has been presented the rarely awarded Torbern Bergman Medal.

Among the most prestigious analytical chemistry awards, presented every other year to a single recipient, the medal, which was presented to Karger at an earlier ceremony, was celebrated June 23 at a reception featuring congratulatory remarks at the Egan Center.

Professor Graham Jones, associate director of the Barnett Institute and chair of the Department of Chemistry and Chemical Biology, praised Karger for his insights and keen ability to see the future of chemical analysis, and find the Barnett Center's niche. Among his career-defining accomplishments, Karger helped develop polymer matrices used in the famous Human Genome Project, which sequenced DNA.

"Barry has now garnered over 10 internationally significant awards because of his pioneering research," Jones said.

The Bergman Medal denotes those working to make a "paradigm shift in life science" through the role of mass spectrometry, according to a press release.

Karger, holder of 36 patents and author of over 300 publications, was joined by his wife Dr. Trudy Karger, and notable guests: Robert Matz, a biotechnology consultant; James Waters, founder of the Waters Corp., a major supporter of the Barnett Institute; James Green, senior vice president of preclinical and clinical development science at Biogen-Idec Inc.; and Marilyn Hoffman, a member of the Barnett family.

University President Joseph Aoun joined in the honors, along with interim provost Stephen Zoloth.

While accepting the award, Karger reflected on how the institute and Northeastern have grown in stature over the years.

“Years ago, people used to say that Northeastern University was one of the best-kept secrets,” Karger said. “Today, the times are much, much more exciting, and our work is having a widely recognized impact in the field” of bioanalytical chemistry.

Karger said the Bergman Award, which he accepted in Sweden earlier this month, touched him. He was also recently elected as an honorary member of the Hungarian Academy of Sciences and named recipient of this year’s Csaba Horvath Medal.

— Susan Salk

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Lawrence Mulcahy

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The award will support Mulcahy's work on multi-drug tolerance of the pathogen Pseudomonas aeruginosa.

"The role that persisters play in maintaining chronic bacterial infections that develop in the lungs of cystic fibrosis (CF) patients is currently unknown," said Mulcahy, a postdoctoral research associate.

“Persisters are dormant drug tolerant, not resistant, variants of the wild-type population. We have hypothesized that persisters are important in clinical infections, but to date have not done experiments to test this hypothesis. The funding from the Cystic Fibrosis Foundation will allow me to pursue this question for the first time.”

A major complication of cystic CF is the acquisition of a chronic infection of the lungs by P. aeruginosa. While antibiotic resistance may not present a problem during the initial stages of antibacterial therapy, most CF patients succumb to this pathogen as antibiotic therapy fails to eradicate P. aeruginosa completely.

Collaborating closely with Stephen Lory from the Department of Molecular Genetics and Microbiology at Harvard Medical School and Jane L. Burns of the University of Washington at Seattle and Seattle Children's Hospital, Mulcahy will use the award to study how P. aeruginosa escapes eradication initially.

CF patients invariably acquire this pathogen and eventually die from the infection which is untreatable with current therapeutics.

“The recalcitrance of the pathogen has been puzzling, since antibiotics can effectively suppress the growth of clinical isolate in vitro,” explained Mulcahy. “I plan to test the hypothesis that recalcitrance is due to the production of dormant persister cells by the pathogen, which survive antibiotic treatment, and then repopulate the infection.”

Founded in 1955, the Cystic Fibrosis Foundation is a nonprofit, donor-supported organization with the mission to assure the development of the means to cure and control cystic fibrosis and to improve the quality of life for those with the disease.

Mulcahy will conduct his work at the Antimicrobial Discovery Center under the mentorship of Kim Lewis, professor of biology and director of the center.

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