

IN MEMORIAM, DAVID SCHAUER, DVM, PHD

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It is with a deep sense of loss and profound sadness that we regrettably acknowledge the sudden death of our friend and colleague, Dr. David Schauer, on June 7, 2009—one day after his 48th birthday. David Schauer was known not only for his keen scientific mind but also as a friend whose empathy and compassion touched countless individuals, students, friends, and family. David's personality and nonjudgmental nature evoked a sense of genuine trust and caring. His students loved him for his openness, unpretentious manner, and ability to sit down with them to discuss research projects or talk about personal issues or life in general. As Carol, his wife of 25 years, noted, "David really built relationships with the people he interacted with. Even in peripheral committees he was involved in, people talked about how close they felt to him." This sentiment is indeed echoed by the many scientific colleagues he interacted with at the Massachusetts Institute of Technology (MIT) or those at the national and international level. David was born in New York but spent his youth in North Carolina, where he graduated with honors in biology from the University of North Carolina in 1983. He was then accepted into the School of Veterinary Medicine at North Carolina State University. He chose this career path after being counseled by a research veterinarian and mentor, Dr. James Pick. He convinced David that a veterinary education would allow David to establish solid foundations in science and comparative biology. Indicative of David's passion for science, he continued working in the laboratory during his veterinary education with Dr. Paul Orndorff, professor of veterinary microbiology and former graduate student of Dr. Stanley Falkow. Paul fondly recollected how David conducted with skill and precision his experiments, largely self directed, and published his first two first-authored papers while in Dr. Orndorff's laboratory. He graduated with a doctorate in veterinary medicine in 1987 and took a position as an intern in private practice for one year in California before joining the laboratory of Dr. Stanley Falkow at Stanford University. David's research

on *Citrobacter rodentium*, Stanley notes, was entirely selected by David. Dr. Falkow considers the publications resulting from these studies as being seminal contributions on the role of microbes in inflammatory bowel disease and lower bowel cancer. David's sincere and outgoing personality also had a major impact in the Falkow laboratory. "He was respected for his wisdom and this, in turn, led to a constant parade of students and colleagues alike who wanted to speak with David to seek his counsel and discuss ideas." David graduated with a doctorate in microbiology and immunology in 1993 from Stanford University and was recruited to MIT as an assistant professor in the Division of Comparative Medicine with a joint appointment with what is now the Department of Biological Engineering. In 1999 he was promoted to associate professor, and four years ago he became a full professor. David became increasingly involved with undergraduate and graduate education at MIT, both in the department and at the university-wide level. He served on the MIT Undergraduate Curriculum Committee as chairman and was the co-director of a new interdepartmental program in microbiology established at MIT in 2007. David will be long remembered as a gifted and dedicated teacher both to undergraduate and graduate students at MIT as well as the Chulabhorn Graduate Institute in Bangkok, Thailand, where he taught during the summer. David's research was supported on a continuous basis by the National Institutes of Health throughout his career at MIT. His studies on microbial pathogenesis of gastrointestinal pathogenic bacteria, particularly *Citrobacter rodentium*, a murine model of enteropathogenic *Escherichia coli*, and enterohepatic heliobacters are widely known and respected. David's research provided important insights



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AWARDS AND HONORS

Scott Manalis received the 2009 MIT Everett Moore Baker Memorial Award for Excellence in Undergraduate Teaching



Professor **Scott Manalis** is the recipient of the 2009 MIT Everett Moore Baker Memorial Award for Excellence in Undergraduate Teaching. This award is presented to faculty members in recognition of exceptional interest and ability in the instruction of undergraduates. This is the only teaching award in which the nomination and selection of the recipients is done entirely by the students. This award is given in memory of Everett Moore Baker, Dean of Students from 1947-1950. Professor Manalis received this award during the Institute Awards Convocation on May 5, 2009.

Linda Griffith received the Clemson Award for Basic Research



Professor **Linda Griffith**, Director of Biotechnology Process Engineering Center, has received the 2009 Clemson Award for Basic Research from the Society for Biomaterials.

The Clemson Award for Basic Research is given to awardees who have contributed to the basic knowledge and understanding of the interaction of materials with tissue. The contribution may employ a new

theoretical concept, new material development or original study of the functioning or interactions of a material in the biological environment.

Jongyoon “Jay” Han received the Analytical Chemistry Young Innovator Award for Basic Research

Professor **Jongyoon “Jay” Han**, Associate Professor, is the recipient of the 2009 *Analytical Chemistry* Young Innovator Award, recognized for his contributions for his exceptional technical advancement and innovation in the field of micro- and nanofluidics in his early career.

FACILITIES CORES UPDATES

Genomics and Imaging Facilities Core—Cellomics® High Content Screening Facility

High Content Screening attempts to bridge the gap between high resolution, single-cell imaging of cell morphology, protein localization and content with the statistical reliability of high throughput assays such as flow cytometry. Starting this past summer, such a High Content Screening system has been made available to CEHS members. The system is built around the Cellomics Array-ScanVTI® machine from Thermofisher Scientific (<http://www.cellomics.com/>). It features optics by Carl Zeiss, including an Apo-Tome® module for z-sectioning, a broad spectrum metal halide light source (X-cite® from EXFO), and a 12-bit ORCA-ER® CCD camera from Hamamatsu. These are integrated with automatic acquisition and image analysis software from Thermofisher. The system is also integrated with a Twister II® robot from Caliper LifeSciences that enables fully automated handling of up to 80 standard 96- or 384- microwell plates to facilitate genome-wide RNAi and other large screens. The microscope also contains a regulated environmental chamber for live cell imaging. Apart from managing collection and storage of the image data, the instrument software provides graphical tools for sophisticated assay development, protocol management, and on-line and off-line visualization and analysis. Standard protocols are designed for biologies as diverse as cellular toxicity, molecular translocation, and neuronal profiling. Many additional modules are available with the possibility of modifying them and associated analyses to suit the needs of a specific research project. The facility is located in the Department of Biological Engineering on the second floor of 500 Technology Square and is overseen by Assistant Professor Mark Bathe in the Department of Biological Engineering.

Please follow these links for further information on the system and its capabilities:

<http://lcbb.mit.edu/microscopes/ArrayScanVTI.pdf> and http://lcbb.mit.edu/microscopes/LCBB_Cellomics.pdf

Feel free to contact Professor Mark Bathe at mark.bathe@mit.edu for any inquiries.

CEHS NEWS

CEHS 2009 Poster Session

The CEHS Poster Session, a tradition started in 2004, continues to draw interest from a wide range of CEHS affiliated member labs. This year the poster session was held in May and there were approximately 56 posters presented from several different disciplines. It is the goal of the Center to bring together CEHS members/affiliates labs to highlight their ongoing research projects as well as providing an opportunity for interaction with others which could



CEHS Staff (from left to right) Julie Coiro, Amanda Tat, and Sophie Chan Diaz.

lead to collaborative multidisciplinary approaches in the area of environmental health science.



(from left to right) Mary Ellen Wiltrout, Chandni Valiathan, and Shao-shan Carol Huang.

This year the Center offered prizes to poster participants which were selected by our secret panel of judges.

CEHS 2009 Poster Session Prize winners for the Graduate Student

Awards are:

1st Place (2 way tie): Mary Ellen Wiltrout from the Walker Lab and Shao-shan Carol Huang from the Fraenkel Lab

*Prize - \$300 cash award.

3rd Place: Chandni Valiathan from the Samson Lab.

*Prize: CEHS T-Shirt and Coffee Mug.

CEHS 2009 Poster Session Prize winners for the Postdoc Awards are:

1st Place: Dragony Fu from the Samson Lab.

*Prize - \$500 cash award.

2nd Place: Wan Simon Chan from the Dedon Lab.

*Prize - \$100 cash award.

3rd Place: Charles Knutson from the Tannenbaum Lab.

*Prize: CEHS T-Shirt and Coffee Mug.



(from left to right) Dragony Fu, Charles Knutson, and Wan Simon Chan.



1st and 2nd prizes were made possible by the Myriam Marcelle Znaty Fund.

ANNOUNCEMENT

Professor **Leona Samson** is among 18 scientists nationwide who received the 2009 NIH Pioneer Award which is designed to encourage scientists to explore high-risk projects with the potential to dramatically transform health research. The Pioneer Award program was created to support individual scientists of exceptional creativity at any career level.

Leona Samson plans to use the grant to develop novel ways to measure the ability of cells from different people to protect against the toxic effects of DNA damaging agents. Such differences in cell responses can help explain why some people get cancer and others do not, why some suffer neurological disease and others do not, why some people tolerate cancer therapy and others do not, and why some people age faster than others.

This year, NIH launched another program, to fund highly innovative research, the NIH Director's Transformative R01 (T-R01) Awards.

Linda Griffith received one of the 42 awards, which have no budget cap, no preliminary results are required, and scientists are free to propose new, bold ideas that may require significant resources to pursue. They are also given the flexibility to work in large, complex teams if the complexity of the research problem demands it. Professor **Griffith** will use the grant to build new tools to probe the molecular communications networks between cells and integrate these tools with computational models of network behavior.

Sangeeta Bhatia is also a co-principal investigator on one of the T-R01 grants. She will be working with Professor Charles Rice of Rockefeller University.

"The appeal of the Pioneer, New Innovator, and now the T-R01 programs, is that investigators are encouraged to challenge the status quo with innovative ideas, while being given the necessary resources to test them," said NIH Director Francis S. Collins. "The fact that we continue to receive such strong proposals for funding through the programs reflects the wealth of creative ideas in science today."



Professor **Jongyoon "Jay" Han** has been promoted to the rank of Associate Professor with tenure.

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into the molecular mechanisms evoked by enteric pathogenic bacteria and how the infections caused by these bacteria perturb the gastrointestinal barrier, elicit inflammation, and produce clinically relevant disease. Dr. Vince Young, an assistant professor at the University of Michigan and also a former Falkow graduate student and physician, joined David's laboratory during his infectious disease fellowship at Massachusetts General Hospital. Vince credits David's mentoring and introduction to mouse models as his primary motivation to focus his research on the microbial ecology of the gastrointestinal tract. As Vince describes, David remained a steadfast friend and was readily available for advice, "which was always useful and always cheerfully given." Dr. John Leong, a professor at the University of Massachusetts Medical School, was a friend and collaborator. He describes David's genuine interest in others' experiments and his approach to biological problems on a global scale. John recalls the excitement David and he had regarding a recent grant application to utilize a mouse model of enterohemorrhagic *E coli* infection that David recently developed. As expressed by all when remembering David, John commented on his warmth, humor, and decency. Dr. Scooter Holcombe, a former National Institutes of Health postdoctoral fellow in David's laboratory, currently is a staff veterinarian and immunologist at Massachusetts General Hospital. As David's classmate in veterinary school and a close friend for 25 years, she also echoed these same sentiments. Scooter fondly remembers David's sense of humor and intense focus, whether on the racquetball court or in the laboratory. Dr. Schauer's membership in the National Institutes of Health Gastrointestinal Mucosal Pathobiology Study Section exemplifies the esteem in which David was held by his colleagues. Dr. Richard Peek, a professor at Vanderbilt University and a co-member of this study section, recalls that David "exuded enthusiasm, integrity, and vigor for his work as well as the work of others." David had also recently agreed to be a member of the Crohn's & Colitis Foundation Review Committee. This appointment provides another example of the respect held by his colleagues for David's communicative skills and scientific acumen. David also served on the editorial board for several journals and was a scientific reviewer for many others. His scientific research is chronicled in more than 55 peer-reviewed papers and 20+ chapters and reviews. His colleagues at MIT and his collaborators throughout the world also valued his keen scientific in-

sights and, importantly, his friendship. Professor Peter Dedon, a friend and collaborator at MIT, describes David as a "brilliant scientist and an absolutely wonderful experimentalist." David's family and his Jewish faith were the center of his personal life. He and his family resided in Newton, Massachusetts, and were actively involved in the Jewish temple. He was the proud father of two sons, Nathan and Sam, both young adults; Nathan is a sophomore in college, and Sam is a recent high school graduate. David introduced them both to the Young Judea Summer Camps and the 9-month Young Judea Program in Israel, where he and his wife Carol first started dating. In addition to participating in a variety of sports, David relished the outdoors and always eagerly anticipated camping trips with his family and bike treks with his wife in Europe and Asia. David is survived by his mother, Francine (Ross) Schauer of Scottsdale, Arizona, and two brothers: James of Madison, Wisconsin, and Andrew of Denver, Colorado. We will miss and remember David in many ways, each of us with special thoughts of his warm, gentle spirit, his openness to others' views and ideas, and most importantly how he embraced life, both personally and scientifically, and deeply appreciated its boundless opportunities.



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