



**Tufts**  
UNIVERSITY

School of  
Engineering

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## Department of Chemical & Biological Engineering Alumni Newsletter

### Welcome from the Department Chair

Dear Friends,

The 2007-08 academic year was notable for the many outstanding honors our faculty received. Professor Flytzani-Stephanopoulos was recognized by the International Precious Metals Institute for her contributions to research in precious metals. Professor Jerry Meldon was appointed to the international advisory board for *Indian Chemical Engineer*, and Professor Kyongbum Lee's research on fat cells was featured by the Associated Press. In addition, I was extremely honored to receive the 2008 National Medal of Honor from the Korean president.

On behalf of the entire faculty, I am pleased to welcome two new faculty members, Drs. David Vinson and Steve Matson. They are the first Professors of the Practice to join our department and bring years of valuable experience to our curriculum. We still have an open position for an Assistant Professor, and will be continuing our search into the upcoming academic year.

This year we have several events planned, and I sincerely hope we will see some alumni participation. This spring we will welcome our Advisory Board members back to the Tufts campus. We've taken a year hiatus to focus our attention on their previous recommendations, and look forward to sharing our progress with them. Our next alumni dinner will take place in the spring semester as well. The date has been fixed for May 2nd, and the most up-to-date information can always be found on our newly revamped website! Finally, the next Jeanne and Martin Sussman lecture will take place in the fall semester.

Many thanks to all our alumni that have contributed to making Tufts a leader in chemical and biological engineering.

*Dr. Nakho Sung, Department Chair*

### Two Professors of the Practice Appointed

We are pleased to welcome our newest faculty members, Dr. David Vinson and Dr. Steve Matson, who join us this fall as our first two Professors of the Practice. Dr. Vinson earned his Ph.D. from Lehigh University in Pennsylvania and brings to the department years of industrial experience with Air Products and Chemicals, Inc. Most recently, Dr. Vinson was responsible for identifying and developing the next generation advanced control technologies in his role as Principal Engineering Associate. He is a registered professional engineer in Pennsylvania and is a senior member of AIChE, IEEE and ISA.

Dr. Matson earned his Ph.D. from the University of Pennsylvania. During his largely industrial career, Dr. Matson has specialized in several areas of separations and biotechnology. In 1984 he founded Sepracor, Inc. He is currently engaged in founding ConTechs Associates Inc., a not-for-profit entity that aims to team up senior engineering volunteers in the U.S. with engineering professors and students in developing countries for the purpose of performing project work with both educational and societal value. He is also principal of Arete Technologies, a consulting and contract research company that specializes in membranes and



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Dr. David Vinson



Dr. Steve Matson

membrane processes, bioseparations and biocatalysis, and intellectual property management. He has received the Professional Progress Award of AIChE and is a Fellow of the American Institute for Medical and Biological Engineering. In 1995 Dr. Matson was elected to the National Academy of Engineering.

## Nakho Sung Receives Korean National Medal of Honor

Dr. Nakho Sung was one of three recipients of the 2008 National Medal of Honor, "Chang-Jo Jang," the highest honor bestowed to scientists and engineers by the Korean Government.

Professor Sung was recognized for his scholarly achievements in the area of Polymers and Interface Science and Engineering; contributions he has made to the modernization of Korean Industry through a leadership role in technology transfer and development; and the enhancement of the stature of Korean scientists and engineers through education and the promotion of U.S.-Korea cooperation in science and technology.

Professor Sung has been a technical advisor to many South Korean companies and research Institutions for the past 30 years, providing guidance on the development of R&D operations, conducting educational and research seminars/workshops to technical staff, and acting as a leader in developing technologies and new businesses. He also has played a pivotal role in science and technology collaborations between the U.S. and Korea. In 2001-2002, he served as the President of Korean-American Scientists and Engineers Association (KSEA), a national non-profit organization of over 6,000 members, located near Washington D.C. During 2005-2006, Professor Sung was the President of Korean-American University Professors Association of North America (KAUPA), a national non-profit organization with over 2,000 members.



Prof. Sung with two of his former Tufts Ph.D. students (L-R) Prof. Yongsoo Kang (G86) and his wife; Prof. Sung; Dr. Hyung Joon Paik (G95)

### News Brief:

Jerry Meldon has been named to the international advisory board for *Indian Chemical Engineer*, a quarterly journal of the Indian Institute of Chemical Engineering that publishes original research, interpretative reviews and discussion of new development in all areas of chemical engineering.



## Maria Flytzani-Stephanopoulos Honored by IPMI

The International Precious Metals Institute (IPMI) honored Professor Maria Flytzani-Stephanopoulos last June with the Henry J. Albert award, given annually in recognition of outstanding theoretical and experimental contributions to the science and technology of precious metals. She was chosen specifically for her investigations into novel nanoscale catalysts and sorbents for air pollutant control in power generation and for the production of clean hydrogen for fuel cell use. The award, consisting of a palladium medal struck in the likeness of Henry J. Albert, is sponsored by IPMI and BASF Co. It was presented to Professor Flytzani-Stephanopoulos at the annual IPMI conference at the J.W. Marriott Desert Ridge Resort and Spa in Phoenix, Arizona.



Left: Prof. Flytzani-Stephanopoulos receives her award from Dr. Robert Ianniello of BASF Catalysts LLC

# Alumni Updates

We love hearing from our alumni! If you have news (promotions, weddings, births, retirement etc.) or stories of your Tufts experience you would like to share with your classmates, please fill out the survey on [page 6](#).

**Thomas W. Peterson, E72**, Dean of the College of Engineering at the University of Arizona, has been selected as the new assistant director of the National Science Foundation's (NSF) Directorate for Engineering. His appointment begins in January 2009.

In December 2007 Pfaltz & Bauer Rare and Fine Chemicals Owner and President **Mark D. Halperin, E72**, announced his company's acquisition of the assets of Easter Chemical Corporation, which markets highly specialized chemicals to researchers and manufacturers. This is the first acquisition for Pfaltz & Bauer.

**Capt. Paul Marconi, E84**, is the newest commanding officer of Naval Base Point Loma in San Diego, California. The change of command ceremony took place on June 30th, 2008. Prior to assuming command of Point Loma, Capt. Marconi was stationed in the office of the Secretary of Defense in the Pentagon.

**Jonathan Targett, E86**, has joined the materials science team at University College London; this follows a career in international marketing in the chemical sand control equipment industries. He is currently working on characterization of the crystal structure of a pharmaceutical solid that exists in various polymorphic forms. Last year Jonathan took part in a synchrotron experiment at the European Synchrotron Radiation Facility in Grenoble, France.

**Dr. Tasoula Kyprianidou-Leodidou, G87/G90**, has been nominated as the representative of Cyprus in 2 out of the 4 committees of the newly established European Chemicals Agency, located in Helsinki. She represents Cyprus in the Member State Committee and in the FORUM for the implementation of chemicals legislation (under the umbrella REACH regulation).

In August 2007 **Joe Eldridge, E97/G98**, was appointed Vice President of Engineering and Chief Technology Officer of PermissionTV, a leading interactive internet video technology platform provider. Previously, Joe served as COO at Agency.com, where he managed offices worldwide. He also held senior technology management positions at the company, including technical director, portal practice lead and head of technology for the London and Amsterdam offices. Prior to that, he spent several years developing software solutions and managing IT systems and resources for the biotechnology industry. (Adapted from materials provided by PermissionTV – Aug. 9, 2007)

**Lisa Schupmann, E05/G07**, married Chen Wu, E03/G04/M08 in May of 2008. We wish them every happiness in their new life together!

## In Memoriam

We mourn the loss of the following friends  
between Jan. 2007 and July 2008:

Cosmo R. Camelio, E64, of Raleigh, North Carolina  
Francis S. Delacey, E48, of Waltham, Massachusetts  
Marshall J. Derby, E64, of Lexington, Massachusetts  
Joseph P. DiFonzo, E56, of Lewiston, New York  
Leonard W. Donoghue, E37, of Silver Spring, Maryland  
Stephen V. Foti, Jr., E43, of Hallandale, Florida  
Kenneth D. Hay, E37, of Manawa, Wisconsin  
Dr. Boris M. Krantz, E60, of Bedminster, New Jersey  
Vito C. Lazzaro, E36, of San Diego, California  
Samuel S. Ribok, E37, of Delray Beach, Florida  
James P. Snow, E62, of Everett, Massachusetts  
Joel P. Stacey, E39, of South Orleans, Massachusetts  
William F. Toothe, E50, of Martinsburg, Pennsylvania  
Dale A. Walker, E51, of Cypress, Texas  
Marlen G. Whippen, E51, of Salt Lake City, Utah

## Alumni Spotlights

### Edward D. Cohen, E58

Edward writes "Since I retired from Du Pont in 1998, I have been consulting, teaching continuous education classes and writing articles for magazines. My teaching has led to travel to many foreign countries. I am also Technical Consultant for the Association of Industrial Metallizers, Coaters and Laminators (AIMCAL)."

"One of my best memories of Tufts is the orientation lecture given by Andy Levesque at the start of the unit operations class. The lessons I got from that lecture have helped me throughout my entire career."

### Ken Spatola, E70

Ken writes: "The excellent foundation Tufts provided held me in good stead for 35+ years in the chemicals and plastics industry: Union Carbide, Rohm & Haas, Ciba and now Image Polymers. Dustin Hoffman was right on track in 'The Graduate!' It has provided a good support level for a family of four and I've loved the work."

His fondest memory of Tufts? "Making what seemed like 10,000 Möbius strips out of polyethylene with classmate and friend, Al Niebanck, for a tower packing efficiency experiment."



## Department Celebrates Inaugural Sussman Lecture

In the fall of 2005 the Department received a gift of \$100,000 from the Estate of Professor Martin V. Sussman. In accordance with Professor Sussman's wishes, this gift was named the Jeanne and Martin Sussman Endowed Fellowship and Lectureship fund, which provides a fellowship for Chemical and Biological Engineering undergraduates as well as a Department-hosted lectureship series.

The inaugural Jeanne and Martin Sussman Lecture in Chemical and Biological Engineering took place on December 10th, 2007. Dr. Klavs F. Jensen presented "Microsystems for Accelerating Chemical and Biological Studies" to ChBE alumni, faculty, colleagues and current graduate students in the Coolidge Room, Ballou Hall.

Klavs F. Jensen is Warren K. Lewis Professor and Head of the Chemical Engineering Department at the Massachusetts Institute of Technology. He received his chemical engineering education from the Technical University of Denmark (M.Sc.) and University of Wisconsin-Madison (Ph.D.). His research interests revolve around microfabrication, testing, and integration of microsystems for chemical and biological discovery, synthesis and processing. Chemical kinetics and transport phenomena related to processing of materials for biomedical, electronic and optical applications are also topics of interest along with development of simulation approaches for reactive chemical and biological systems, specifically simulation across multiple length and time scales. He is the co-author of more than 450 publications including several edited volumes and 18 U.S. patents. He is the recipient of several awards, including a National Science Foundation Presidential Young Investigator Award, a Camille and Henry Dreyfus Foundation Teacher-Scholar Grant, a Guggenheim Fellowship, and the Allan P. Colburn, Charles C.M. Stine, and R.H. Wilhelm Awards of the American Institute of Chemical Engineers. Professor Jensen is a member of the U.S. National Academy of Engineering and a Fellow of the Royal Society of Chemistry. He serves on the Steering Committee for the International Conference on Miniaturized Systems for Chemistry and Life Sciences (mTAS) and chaired the 2005 Conference in Boston.

The next Jeanne and Martin Sussman Lecture in Chemical and Biological Engineering will take place in 2009.



L-R: Prof. Nakho Sung, Prof. Klavs Jensen, Ann Sussman and Prof. Christos Georgakis

## Alumni Spotlight:

### Bess Beikoussis Gorman, E85

Bess is an attorney in private practice, specializing in zoning, permitting and environmental law. Her husband, David, is also an attorney, specializing in construction litigation. Together, they traveled to Russia five times to bring home their three lovely children, Aleksey, Alexander, and Olga.

Bess remembers "doing coal water-slurry research with Professor Botsaris. We had to design a system to better measure viscosity of high coal content slurries. We tried all sorts of plastic tubing, but McDonald's straws worked the best!"

## News Briefs

- The next **Alumni Dinner** will take place on **May 2, 2009** in the new Tufts University Boat House! All alumni are warmly invited to attend. Mark your calendar now; formal invitations will be sent this winter! Details for this and all events are published on the Department website as they become available; please check back often!

- **Please Note:** E-mail is our preferred method of communicating upcoming events to alumni. Please make sure we have your current e-mail address so you won't be left out of the loop!

- The Winter 2008 issue (vol 42 no. 1) of *Chemical Engineering Education* featured a six-page article on the Tufts ChBE department. The entire article can be found on the ChBE website.

- Tufts ChBE has a brand new website! Our revamped website launched in September 2008. Our new address is: <http://engineering.tufts.edu/chbe>

- What began as a simple petition has now become a reality! In the fall of 2007 ChBE staff initiated a petition to create a dedicated recreational green space for the residents of the Science & Technology Center. Tufts central administration responded very positively and approved construction on the green space, which took place in July. We are extremely grateful to President Larry Bacow, John Roberto, John Vik and Barbara Rubel for listening to our concerns and for improving the quality of our working and learning environment. See the photos of our new space on **page 5!**

## 2008-09 Committee Chairs

- Graduate Program Chair:  
Christos Georgakis
- Undergraduate Curriculum Chair:  
Dan Ryder
- Special Lectureship Committee  
Chairs:  
Christos Georgakis &  
Maria Flytzani-Stephanopoulos
- Department Seminar Series  
Coordinator: Kyongbum Lee

## Faculty Awarded Wittich Grants

Five ChBE faculty members will receive collaborative research awards from the Wittich Energy Sustainability Research Initiation Fund, supported by the Peter and Denise Wittich Family Fund for Alternative Energy Research. Professors Meldon and Ryder were awarded funding for "Development of a Membrane System for Enhanced CO<sub>2</sub> Reforming Applications." Professor Kaplan, with Professors Omenetto and Amsden from the Biomedical Engineering Department, will receive support for "Microbial rhodopsin and silk based photovoltaic devices." Professors Yi and Flytzani-Stephanopoulos were selected for their proposal "Viral Templated Nanocatalysis for Sustainable Energy." Research proposals were ranked based on degree of innovation, potential impact of the seed funding, degree of interdisciplinary collaboration, budget realism and the degree to which opportunities for additional funding are created.

The goal of the Peter and Denise Wittich Family Fund for Alternative Energy Research is to support research efforts that will lead to the discovery of new, more sustainable ways of producing and using energy. The program focuses on strengthening the research infrastructure upon which new technologies can be built by providing funds for the purchase of new equipment and salary support for research fellow and technical assistants.

## New Faculty Research Initiatives

- Professor Jerry Meldon is currently working on three new projects in the area of Clean Energy and Environment. The first, conducted in collaboration with Professor Dan Ryder, studies the hydrogen permeation properties of composite metallic membranes. His second project involves testing of a novel process for separating oxygen from air. In the third project, Professor Meldon is exploring techniques for upgrading landfill gas. While he is on leave this academic year, Professor Meldon is working on the capture of CO<sub>2</sub> from power plant flue gas and air.

- In August 2008 Professors Hassoun (Computer Science) and Lee received an Emerging Models & Technologies (EMT) award (\$850K, 3 years) from the National Science Foundation to develop a multi-resolution modeling framework for biochemical network simulation. This work combines both experimental and computational investigation of the dynamics of liver drug metabolism and clearance. The long-term expectation is to enable in silico screening of potentially toxic drug candidates in virtual hepatocytes.

- In July 2008 Professors Lee, Pfeifer and Kaplan received a Major Research Instrumentation (MRI) award (\$390K) from the National Science Foundation. This MRI award will fund a new, multi-user LC-MS facility for Tufts' Medford campus. This facility will support a broad array of research projects as well as several undergraduate laboratory classes.



Top: The Science & Technology Center before construction began  
Bottom: The new SciTech recreational green space

# Alumni Survey

This is your opportunity to reconnect and share important milestones - or recent photos! - with your classmates and colleagues. Please return completed surveys to the Department using the addressed envelope provided. Be sure to provide your most recent contact information so you will continue to receive the ChBE newsletter and event invitations! Note: **Your private contact information will never be published.** Thank you for helping us stay connected!

Name: \_\_\_\_\_

Tufts Degree/Year: \_\_\_\_\_

Graduate School/Degree/Year: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Current Employer: \_\_\_\_\_

Current Title: \_\_\_\_\_

What is your fondest memory of the ChBE Department at Tufts? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

News you would like to share (i.e., professional & academic accomplishments, marriage, births, retirement, etc.): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Would you like to become a member of the Friends of the Department Club? All gifts will be recognized on the ChBE alumni website. Simply fill out the form below and return to the Department in the enclosed business reply envelope. Checks should be made out to: Trustees of Tufts College.

Yes! I would like to contribute to the ChBE Department.

\$25  \$50  \$100  \$250  \$500  \$1,000  Other amount: \_\_\_\_\_

I would like my donation to be used for the following purpose:

Undergraduate laboratory improvement  Sussman Scholarship/Lectureship  
 Unrestricted

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## Celebrating the Class of 2008

Faculty and staff hosted the annual Senior Luncheon on the eve of commencement, Saturday, May 17th. Per tradition, each member of the class was individually recognized for their unique achievements during the Luncheon. The Chemical and Biological Engineering Prize, awarded annually to the two highest-ranking seniors, was presented to Katie Rines and Garrett Wojcik. This year's 'Best Professor' contest, as voted by the graduating class, resulted in a tie between Professors Hyunmin Yi and Christos Georgakis. Last year's winner was Professor Kyongbum Lee.

Twenty-three undergraduates received the Bachelor of Science in Chemical Engineering at Tufts University's 152nd Commencement ceremony on May 18th. We were delighted to see three of our outstanding seniors inducted into Tau Beta Pi Engineering Honor Society this year.

Among the School of Engineering graduate diplomas awarded on May 18, Chemical and Biological Engineering students received 4 Master of Engineering degrees, 8 Master of Science degrees and 3 Doctor of Philosophy degrees.

Congratulations to the Class of 2008. We wish you every success in your future as chemical engineers!

### 2007-08 Graduates:

BS CHE

Amanda Lee Baryshyan  
 Timothy Charles Boire  
 Shannon Elizabeth Connelly†  
 Stephen Paul Crimlisk  
 Matthew Ryan Fischler  
 Anthony Giragosian III  
 Ryan Eric Glass  
 Juan Guzman, Jr.  
 Atul Prasad Khare  
 David Patrick Lee  
 Katherine Lutostanski  
 Athina Eleousa Pantelidou  
 Kevin Alexander Pearlstein  
 Claire Pigula  
 Jeremy Robert Plourde  
 Katie Ann Rines† (*summa cum laude*, Dept. of Chemical & Biological Engineering Prize)  
 Danielle Marie Sallese  
 Andrew Sharp  
 Matthew Todd Shuman  
 Tracy Elizabeth Van Tassel  
 Esther Volchek  
 Garrett David Wojcik† (*magna cum laude*, Dept. of Chemical & Biological Engineering Prize)  
 Andrew James Zappala

ME CHE

Ryan M. Bouldin  
 Adam D. Kroft

ME BIOT

Nicholas R. Dion  
 Jason Y. Wong

MS CHE

Cheryl Lynn Goldwasser  
 Kyle S. McElearney  
 Ming Pan  
 Saba Parsa  
 Michael J. Pistorino  
 Charalampos Siampanis

MS BIOT

Ying Hao Lai  
 Guangquan Shi

PhD CHE

Weiling Deng  
 Fernando Lima  
 Praveen Ram Menta Prasanna

† Tau Beta Pi



Top Left: Professors Nakho Sung and Blaine Pfeifer recognize seniors (L-R) Danielle Sallese, Tracy Van Tassel, Kevin Pearlstein and Andrew Zappala

Left: M.S. student Brett Boghigian (E07) receives the "Best Teaching Assistant" award from Professor Nakho Sung

Above, L-R: Professor Blaine Pfeifer, Tim Boire, Andrew Sharp, Steve Crimlisk

## Recent Faculty Publications

### Aurelie Edwards

W. Zhang and A. Edwards, "A model of nitric oxide tubulovascular cross talk in a renal outer medullary cross section." *Am J Physiol Renal Physiol* 292: F711-F722 (2007).

A. Edwards and T.L. Pallone, "Modification of cytosolic calcium signaling by subplasmalemmal microdomains." *Am J Physiol Renal Physiol* 292: F-827-F1845 (2007).

A. Edwards and T.L. Pallone, "Ouabain modulation of cellular calcium stores and signaling." *Am J Physiol Renal Physiol* 293: F1518-F1532 (2007).

C. Cao, W. Lee-Kwon, K. Payne, A. Edwards and T.L. Pallone, "Descending vasa recta endothelia express inward rectifier potassium channels." *Am J Physiol Renal Physiol* 293: F1248-F1255 (2007).

Q. Zhang, C. Cao, Z. Zhang, W.G. Wier, A. Edwards and T.L. Pallone, "Membrane current oscillations in descending vasa recta pericytes." *Am J Physiol Renal Physiol* 294: F656-F666 (2008).



### **2007-08 ChBE Faculty.**

Top row, L-R: Christos Georgakis, Blaine Pfeifer, Jerry Meldon, Hyunmin Yi, Kyongbum Lee, Dan Ryder, Howard Saltsburg. Bottom Row (L-R): Maria Flytzani-Stephanopoulos, Nakho Sung, Aurelie Edwards. Not pictured: David Kaplan

### Maria Flytzani-Stephanopoulos

W. Deng, Colin Carpenter, Nan Yi, and M. Flytzani-Stephanopoulos, "Comparison of the activity of Au/CeO<sub>2</sub> and Au/Fe<sub>2</sub>O<sub>3</sub> catalysts for the CO oxidation and the water-gas shift reactions." *Invited paper, Topics in Catalysis* 44:199-208 (2007).

D. Pierre, W. Deng, M. Flytzani-Stephanopoulos, "The importance of strongly bound Pt-CeOx species for the water-gas shift reaction: catalyst activity and stability evaluation." *Invited paper, Topics in Catalysis* 46:363-373 (2007).

X. She, M. Flytzani-Stephanopoulos, "Activity and stability of Ag-alumina for the selective catalytic reduction of NO<sub>x</sub> with methane in high-content SO<sub>2</sub> gas streams." *Catal.Today* 127: 207-218 (2007).

W. Deng, A.I. Frenkel, R. Si, M. Flytzani-Stephanopoulos, "Reaction-relevant gold structures in the low temperature water-gas shift reaction on Au-CeO<sub>2</sub>" *J. Phys. Chem. C/* (2008) 112:12834-12840.

Z. Zhou, M. Flytzani-Stephanopoulos, S. Kooi, H. Saltsburg, "The Role of the Interface in CO Oxidation on Au/CeO<sub>2</sub> Multi-layer Nanotowers." *Advanced Functional Materials* 18: 2801-2807 (2008).

R. Si and M. Flytzani-Stephanopoulos, "Shape and Crystal Plane Effect of Nanoscale Ceria on the Activity of Au-CeO<sub>2</sub> Catalysts for the Water-Gas Shift Reaction." *Angewandte Chemie International Edition* 47:2884-2887 (2008).

### Christos Georgakis

F. Lima, C. Georgakis, "Design of output constraints for model-based non-square controllers using interval operability." *J. of Process Control* (2007).

T. Li and C. Georgakis, "Dynamic input signal design for the identification of constrained systems." *Journal of Process Control* (2007).

### David Kaplan

A. Augst, A., D. Marolt, L. E. Feed, C. Vepari, L. Meinel, M. Farley, R. Fajardo, N. Patel, M. Gray, D. L. Kaplan, G. Vunjak-Novakovic, "Effects of chondrogenic and osteogenic regulatory factors on composite constructs grown using human mesenchymal stem cells, silk scaffolds and bioreactors." *J. Royal Society Interface* (2008).

J.D. Platko, M. Deeg, V. Thompson, Z. Al-Hinai, H. Glick, K. Pontius, P. Colussi, C. Taron, D. L. Kaplan, "Heterologous expression of Mytilus californianus foot protein three (Mcfp-3) in *Kluyveroyces lactis*." *Protein Expression and Purification* 57(1):57-62 (2008).

C. Egles, Y. Shamis, J. R. Mauney, V. Volloch, D. L. Kaplan, J. A. Garlick, "Denatured collagen modulates the phenotype of normal and wounded human skin equivalents." *Investigative Dermatology* (2008).

X. Wang, X. Zhang, J. Castellot, I. Herman, M. Iafrazi, D. L. Kaplan, "Controlled release from multilayer silk biomaterial coatings to modulate vascular cell responses." *Biomaterials* 29(7):894-903 (2008).

X. Wang, J. Kluge, G. G. Leisk, D. L. Kaplan, "Sonication-induced gelation of silk fibroin for cell encapsulation." *Biomaterials* 29(8):1054-1064 (2008).

### Kyongbum Lee

J. Yoon and K. Lee, "Metabolic flux profiling of reaction modules in liver drug transformation." *Pac Symp Biocomput* 12: 193-204 (2007).

J. Yoon, Y. Si, R. Nolan and K. Lee, "Modular Decomposition of Metabolic Reaction Networks based on Flux Analysis and Pathway Projection." *Bioinformatics* 23: 2433-40 (2007).



## Recent Faculty Publications (cont.)

J.S. Senocak, Y. Si, C. Moya, W.K. Russell, D.H. Russell, K. Lee and A. Jayaraman, "Effects of forced uncoupling protein 1 expression in 3T3-L1 cells on mitochondrial function and lipid metabolism." *FEBS Lett* 22: 5865-71 (2007).

### Jerry Meldon

J.H. Meldon, O.G. Olawoyin and D.G. Bonanno, "Analysis of Mass Transfer with Reversible Chemical Reaction." *Ind. Eng. Chem. Res.* 46: 6140-6146 (2007).

### Blane Pfeifer

Y. Wang, B. Boghigian and B.A. Pfeifer, "Improving heterologous polyketide production in *Escherichia coli* by overexpression of an S-adenosylmethionine synthetase gene." *Applied Microbiology & Biotechnology* 77(2):367 (2007).

Y. Wang and B.A. Pfeifer, "6-deoxyerythronolide B Production through Chromosomal Localization of the Deoxyerythronolide B Synthase Genes in *E. coli*." *Metabolic Engineering* 10(1): 33-38 (2008).

M. Pistorino and B.A. Pfeifer, "Polyketide Analysis Using Mass Spectrometry, Evaporative Light Scattering, and Charged Aerosol Detector Systems." *Analytical & Bioanalytical Chemistry* 390(4): 1189-93 (2008).

### Hyunmin Yi

X. Luo, A.T. Lewandowski, H. Yi, G.F. Payne, R. Ghodssi, W.E. Bentley and G.W. Rubloff, "Programmable Assembly of a Metabolic Pathway Enzyme in a Pre-packaged Reusable BioMEMS Device." *Lab on a Chip* 8:420-430 (2008).

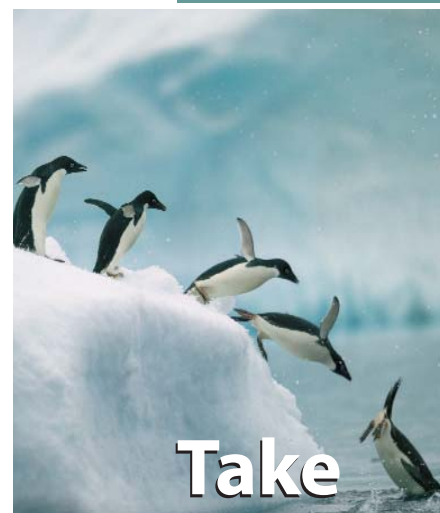
A.T. Lewandowski, H. Yi, X. Luo, G.F. Payne, R. Ghodssi, G.W. Rubloff and W. E. Bentley, "Protein Assembly onto Patterned Microfabricated Devices through Enzymatic Activation of Fusion Pro-tag." *Biotechnology and Bioengineering* 99(3): 499-507 (2008).



L-R: Professor Nakho Sung, Professor Y.A. Liu and Professor Gregory Botsaris

## News Briefs

- The second Gregory Botsaris Lecture took place on October 20th, 2008. We were honored to have Dr. Yih-An Liu (G70), Frank C. Vilbrandt Endowed Professor in the Department of Chemical Engineering at Virginia Polytechnic Institute, as our distinguished speaker. Professor Liu spoke about the "Fundamentals and Industrial Practice of Water Reuse and Wastewater Minimization."
- Professor David Vinson was awarded the AIChE's 2008 Computing Practice Award. Professor Vinson was recognized for his outstanding contributions in the practice and application of chemical engineering to computing and systems technology.



# Take the plunge!

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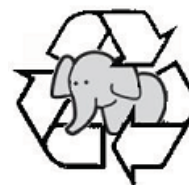
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## Visiting Scientist Walter Juda Brings a Lifetime of Innovation to Tufts

In the past 92 years, Dr. Walter Juda fled Nazi Germany, obtained more than 50 patents, founded three companies, and has been called the “father of clean technology” (Mass High Tech, July 30, 2007). He still swims regularly, and his passion for scientific research remains undimmed since he earned his first chemistry degree from the University of Lyon in France in 1936. Throughout his career, Dr. Juda has been a pioneer in fields as diverse as ion-exchange membranes, fuel cells, hydrogen generators and purifiers, cold fusion and global warming. Now, he is bringing his widely-admired intellectual curiosity to Tufts in his role as Visiting Scientist in the Department of Chemical and Biological Engineering.

Dr. Juda earned his Ph.D. in physical chemistry in 1939 from the University of Lyon. He founded his first company, Ionics, Inc., in 1948. Ionics used Juda’s ion-exchange membrane to desalt brackish water and seawater world-wide, and was bought by GE in 2005. Juda’s second company, Prototech Co., launched in 1961 and focused on fuel cells. In 1992 he founded Walter Juda Associates, which was renamed Hy9 in 1998. Hy9 produces membrane-based hydrogen purifiers and generators. Prior to assuming his new role of Visiting Scientist, Dr. Juda served as adjunct Research Professor in the ChBE Department at Tufts from 1992 to 2006.

Dr. Juda is currently collaborating with Professor Jerry Meldon in a project exploring novel methods of producing hydrogen. The Department is honored to have him back on our team.



Dr. Walter Juda