Mudd In Your Eye

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Liu Wins Major National Science Foundation Grant

Assistant Professor Tianbo Liu has been awarded a highly-competitive Faculty Early Career Development Award (CAREER) by the National Science Foundation (NSF) in the amount of $451,157 to fund his research through 2011.

According to the NSF, the CAREER program "recognizes and supports the early career-development activities of those teacher-scholars who are most likely to become the academic leaders of the 21st century." NSF established the program "in recognition of the critical roles played by faculty members in integrating research and education, and in fostering the natural connections between learning and discovery. The intent of the program is to provide stable support at a sufficient level and duration to enable awardees to develop careers as outstanding teacher-scholars in the context of the mission of their institution."

Tianbo Liu's research group (L to R): undergraduate Kevin Tempest, graduate student Melissa L. Kistler, undergraduate Anish Bhatt, Visiting Research Scientist Tong Li (now at British Oxygen), undergraduate Katrina Cokleski, Postdoctoral fellow Guang Liu (now at GE-Shanghai), Tianbo Liu. Not pictured: graduate student Joe Pigga, CESAR Fellow Rick Merritt, and summer 2006 CESAR students Kristen Tamburro and Siaw Mei Lo.

Liu's research concentrates on a new type of solution system known as macro-ionic solutions. In a conventional solution, ions are distributed homogenously—anions are attracted to cations but will repel other anions. But when the anions become larger, that is, macro-ions, Liu finds that the macro-anions attract other macro-anions. "They have such different behavior from well-known solution systems such as small ions, surfactants and colloidal suspensions that they represent a transitional stage between simple ions and complex biomacromolecules," Liu says.

Liu has coined the word "blackberry" to describe the new single-layer, hollow, spherical structure formed when soluble macro-ions come together. Liu's research will seek to answer a number of questions about these interesting and unusual blackberries: What are their detailed structures and properties? How can these structures be determined by standard chemical and physical techniques? How do the changes of internal and external conditions affect their formation and structure? "And most importantly, "Liu emphasizes, "why are these large anions attracted to each other? Can we use blackberries as model systems to explore the properties of polyelectrolyte solutions that remain poorly understood?"

Liu anticipates that his work will provide new input into related fields such as catalytic, electronic, magnetic and biomedical materials. As an example Liu notes "that the inorganic blackberry structure has a biomembrane nature that is soft, robust and permeable to cationic species, which may also find applications as controlled drug carriers, nanocontainers, or biomimetic materials."

According to chemistry department chairman Robert A. Flowers II, receiving an NSF CAREER award on the first submission of a proposal is "uncommon and is recognition of the major impact of Tianbo's work." Liu admits that this grant is very important to his research as well as his career development, and is appreciative of the notice taken of his work by the scientific community.

Liu joined the chemistry department for the spring 2005 term. He has created a new Lehigh course, "Complex Solutions and Self-Assembly" to introduce both graduate and undergraduate students to these new macro-ionic solutions. He also has four papers *in press* for 2006 in the *Journal of Cluster Science, The Journal of the American Chemical Society*, and the *Journal of Chemical Education*, including the first paper to describe research with an all-Lehigh list of authors.

For more on Tianbo Liu, see *Mudd in Your Eye* http://www.lehigh.edu/~inche/feb2005news.pdf and Liu's chemistry department web page at http://www.lehigh.edu/%7Einliu/ .

Alumni News

Joseph Alex (B.S. 1971) is completing 30 years of entrepreneurship in the pigment chemicals business. Alex is founder, president and CEO of Alex Color Company, a large manufacturer of low-cost, high quality aqueous dispersions of pigments for use in water-based inks, coatings, art supplies, landscape mulches and numerous other applications. Alex Color is located in Ashland, PA. See http://www.alexcolor.com/.

Adam Baughman (B.S. 2004) began working in September 2005 on a Ph.D. in chemical and biological engineering at Rensselaer Polytechnic Institute.

Charles F. Beam (Ph.D. University of Maryland 1970, Lehigh Post-doctoral Fellow 1971–1972) received the 2006 American Chemical Society Award for Outstanding Undergraduate Research. Beam joined the College of Charleston in 1982, where he is Professor of Chemistry. He has more than 85 research publications and he and or his students have made more than 135 presentations at scientific meetings. The award honors "a chemistry faculty member whose research in an undergraduate setting has achieved wide recognition and contributed significantly to chemistry and the professional development of undergraduate students." More on Beam can be found in the Research Corporation Spring 2006 newsletter at http://www.rescorp.org/Uploads/news/spring2006.pdf (page 10).

Twyla Briddell (M.S. 2006) is now a chemist with the DuPont Agricultural Chemical Division. She presented a paper on "α-Halocinnamyl imines derived from 4-amino-1,2,4-triazoles as antitumor agents" before the Organic Chemistry Division of the 38th Middle Atlantic Regional ACS Meeting, June 5–7, 2006, at Hershey, PA. This paper was based on her Lehigh thesis research.

H. Donald Burns (M.S. 1972, Ph.D. 1974) has published a paper on "Screening cascade and development of potential Positron Emission Tomography radiotracers for mGluR5: in vitro and in vivo characterization" in *Molecular Imaging in Biology* **2005**, *7*, 314–323. Burns is Senior Fellow and Group Head, Department of Imaging Research, Merck Research Laboratories, West Point, PA,

Gary S. Calabrese (B.S. 1979, Ph. D. MIT) is vice president and chief technical officer of Rohm and Haas. He was recently featured in an interview published in *Chemical & Engineering News* (3 April 2006, p. 26). "Our mission," he told C&EN's Marc S. Reisch, "is to keep coming up with cool stuff on a regular basis."

Matthew Henry (Ph.D. 2004) completed a postdoctoral position at Pacific Northwest National Laboratory in Richland, WA and has accepted a position as a research chemist at GlaxoSmithKline in Upper Merion, PA.

Virginia Hunsberger (M.S. 1999) was a research scientist at Armstrong (Cork) World Industries in Lancaster, PA until that facility was closed. She is now at the Pennsylvania Department of Environmental Protection in Harrisburg., working in a group that assesses laboratories that do environmental testing such as drinking water.

Michele S. Jetter (Ph.D. 1989) presented a paper on "The discovery, design, synthesis and SAR of TRPV1 (VR1) antagonists" at the 38th Middle Atlantic Regional ACS Meeting, June 5-7, 2006, at Hershey, PA. Michele is with Johnson and Johnson Pharmaceutical Research and Development in Spring House, PA.

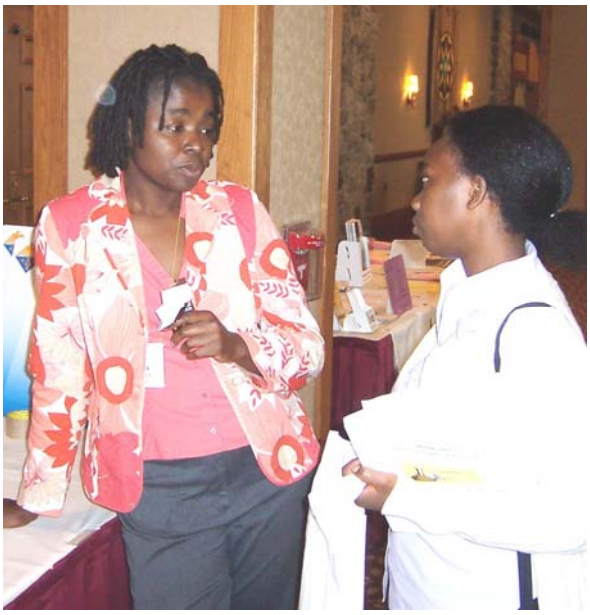
John A. Minatelli (M.S. 1972, Ph.D. 1974) was interviewed for the March 13, 2006 issue of *Chemical & Engineering News* on "Custom Chemical Manufacturers." John is senior director for commercial development at Ferro Pfanstiehl Laboratories in Waukegan, Illinois. Ferro Pfanstiehl, according to John, "has commissioned a new Class IV containment kilo lab for low-volume production of high-potency APIs (active pharmaceutical ingredients)." John added, "The $4.3 million facility offers production quantities up to 5 kg for customers with a preclinical or Phase I compound." Since his Lehigh doctorate John has had a long career in fine-chemical synthesis and scale-up beginning with Uniroyal, Zeeland Chemicals, Catalytica, and Ferro Pfanstiehl.

Shang Li (Ph.D. 1997) has resigned from OraSure and taken on a new job at Church & Dwight in Princeton, NJ. He is the manager of their diagnostics R&D, responsible for the technical aspect of the two largest OTC diagnostic products on the market and new development for disposable tests using microfluidics, optoelectronics, and instrument-read formats.

Robyn Lynch (B.S. 2006) has taken a job with Ortho Clinical Diagnostics (a division of Johnson and Johnson) in Raritan, NJ.

George Marchesini (M.S. 1989) is an associate director in the Regulatory Affairs ChemPharm Development Group of Johnson & Johnson in Raritan, NJ. "Our role is to provide strategic regulatory guidance for the chemical and pharmaceutical development of J&J compounds to meet worldwide health authority expectations. We interface internally with J&J scientists and externally with outside partner companies and with the FDA, European and worldwide health authorities in support of J&J regulatory filings. We support regulatory filings for worldwide clinical trials and new drug applications to ensure timely approval."

Christine Martey-Ochola (Ph.D. 2001) has joined the faculty of the Department of Chemistry at Villanova University, Villanova, PA, as assistant professor of chemistry. Christine was formerly on the faculty of Shippensburg University. She was the organizer and presiding chair for a symposium on undergraduate research held at the 38th Middle Atlantic Regional ACS Meeting, June 5–7, 2006, at Hershey, PA. She is shown below chatting with a student about her poster presentation.



Gary Newhart (B.S. 1982, M.S. 1997, M.S. Johns Hopkins University, 1984) is currently Environmental Unit Leader for the EPA Hurricane Katrina response. As an undergraduate Gary was a student research assistant in analytical chemistry, evaluating heavy metals in paint sludge. After receiving his B.S. in Earth Sciences, majoring in chemistry and geology, he received a Charles A. Culpepper Fellowship to the Woods Hole Marine Biological Laboratory's Ecosystems Center, funded to participate in acid rain/sulfur cycling research, studying terrestrial and aquatic ecosystems. "Following the MBL, I was fortunate to work in laboratories at the Woods Hole Oceanographic Institute in a chemistry and ocean physics laboratory, using tracers to track and model ocean water, and in a nitrogen cycling and isotope analysis laboratory. Both laboratories allowed me to work as part of the science staff at sea." When the laboratory's funding was redirected to the University of Maryland's Horn Point Environmental Laboratories, Newhart switched to environmental consulting in Boston, working on nationwide contaminated groundwater and soil issues at Groundwater Technology and at Camp Dresser and McKee (CDM). When he was transferred to CDM's office in New Jersey, Newhart returned to Lehigh for an advanced degree.

"That is when I was very fortunate to have Ned Heindel re-enter my world. I started out as a graduate student in chemistry, interested in applied environmental chemistry and geochemistry, but following Heindel's recommendation to seek [the late] Irwin Kugelman's input, I moved over to the civil engineering department to complete an M.S. in geotechnical/civil engineering, studying the movement of polycyclic aromatic hydrocarbons (PAHs) in clay soils. Heindel arranged for the use of a laboratory in Mudd to analyze samples that I generated during this work." Newhart then went to Sandia National Laboratories in New Mexico, studying the effects of electrokinetics at mixed waste landfills, then on to work for the EPA in Edison, NJ, providing technical assistance to the EPA's Environmental Response Team (ERT), and then he worked in Cincinnati at the EPA ERT office. "I have worked in all of the lower 48 States, Puerto Rico, England, Germany and Thailand on contaminated groundwater and soil issues, ocean issues and natural (and not so natural) disasters, using geochemical, geophysical, and hydrogeological tools and techniques. I'm a science diver for the EPA, working on health assessments of artificial reefs. I've worked on groundwater and soil treatment at diverse sites nationwide; and when the twin towers came down I was part of the team sampling air quality. I was involved in writing standard operating procedures to treat the Hart Senate Office Building and area post offices following the anthrax attacks; and since August 29th, 2005 I've been in New Orleans and Dallas working on the Hurricane Katrina response, on teams collecting multimedia samples early in the response, working with the US Coast Guard evaluating the oil releases at off shore drilling rigs, and now evaluating the results of the air, water, and sediment analyses."

Michael R. Pavia (B.S. 1977, Ph.D. University of Pennsylvania) has joined the board of directors of Azevan Pharmaceuticals, Bethlehem, PA, a company developing novel therapeutics for the treatment of disorders of stress, mood, and behavior. Pavia joined Oxford Bioscience Partners in Boston as an Entrepreneur-in-Residence in 2002. Prior to joining Oxford, he was Chief Technology Officer at Millennium Pharmaceuticals, and has twenty years experience in pharmaceutical research and discovery.

Brad (Charles B.) Pyle III (B.A. Chemistry 1978, B.S. Chemical Engineering 1978) is now in San Antonio, TX with Tesoro Petroleum as a technical specialist for the IT Department. He's not sure if he's "left the dark side or entered the dark side." With stops along the way at Diamond Shamrock, Anaquest, and a few other places, he is now enjoying River Walk in San Antonio in addition to being the bridge between plant engineering and IT. Brad has a 23-year old son who is back from a year in Iraq.

Roger Sandwick (Ph.D. 1988) received the Perkins Award for Excellence in Teaching at Middlebury College in 2005. Before going to Middlebury in 2002 Sandwick was chairman of the chemistry department at SUNY Plattsburgh and received the SUNY Chancellor's Award for Excellence in Teaching. At Lehigh Sandwick received the Student Chemistry Fellowship and the Hornor Fellowship. One of his research areas is the Maillard Reaction, which produces the brown color on cooked foods and produces unwanted side products in physiological systems. (Photo courtesy Middlebury College).

In Memoriam

John Spanton (M.S. 1995), senior research technician at Exxon Chemical Company in Linden, NJ, passed away on 10 October 2005. John was Lehigh's first distance education graduate in chemistry.

Daniel A. Lima, Visiting Research Scientist, 1984–1993, died 29 May 2006 in Ocala, FL. Dan was 75. He obtained a Ph.D. in organic chemistry from the University of Maryland and after a long career in industrial chemistry, he purchased Sapon Labs, a small fine-chemicals manufacturer. Dan renamed and relocated the firm as Overlook Industries to Alpha, NJ, and operated it for more than a decade before selling the business and joining the Lehigh staff. Dan served as the deputy director in the Center for Molecular Biosciences and Biotechnology and then joined the Chemistry Department as Visiting Research Scientist where he participated in training several generations of students in laboratory techniques. Dan and his wife Gil relocated to Wilmington, NC, and then to Ocala, FL. He is survived by his wife, Gildanna Lima; son, Mark D. Lima; and daughter, Audrey Lima.

Faculty News

Former Lehigh Chemistry faculty member **Michael S. Freund**, currently the Canada Research Chair in Conducting Polymers and Electronic Materials at the University of Manitoba, has been appointed to an editorial board of Britain's Royal Society. Mike will serve on the board of *Proceedings of the Royal Society Part A: Mathematical, Physical & Engineering Sciences.*

K. Jebrell Glover, formerly a postdoctoral fellow at MIT, will join the faculty in August as assistant professor of chemistry. Glover's broad interests lie in addressing the fundamental questions surrounding the interactions of lipid bilayers with proteins. Using various biophysical techniques, namely NMR and analytical ultracentrifugation, he aims to understand the behavior of proteins in the lipid milieu on a molecular level. His research capitalizes on the use of bicelles, a "native-like" membrane mimic which has great potential to overcome some of the hurdles that have limited the study of membrane proteins. His most recent paper (with E. Weerapana, M. M. Chen, and B. Imperiali), "Direct biochemical evidence for the utilization of UDP-bacillosamine by PglC, an essential glycosyl-1-phosphate transferase in the Campylobacter jejuni N-linked glycosylation pathway," *Biochemistry* **2006** , 45, (16), 5343–5350 was cited as a "hot article" by the American Chemical Society.

R. Sam Niedbala has received two research grants. The first is from the NIH National Institute for Dental Research for work on the Point Detection of Pathogens in Oral Samples via Upconverting Phosphor Technology. This is a collaborative UO1 grant between Lehigh, University of Pennsylvania Engineering School and the New York University Dental School. The second grant on the Detection of Passive Smoke Exposure in Children and Adults using Oral Based Rapid Test Technology was a Clinical Innovator Award from Flight Attendant Medical Research Institute in Boca Raton, FL. It was given solely to Niedbala's group at Lehigh.

Keith Schray and **Jeanne Berk** were the driving force behind the second annual university-wide undergraduate research symposium held on 27 April. Seventy-two participants gave 36 poster and 8 oral presentations representing 36 faculty mentors. More than 200 students attended, including a tour group from the admissions office. "Raising the profile of research opportunities at Lehigh to prospective students is a primary goal of this program," Schray says. This event was extensively advertised in the *Brown & White*, and external posters and a large banner over University Walk were also used. Manpower was supplied by the Gamma Omicron chapter of Alpha Chi Sigma (http://www.lehigh.edu/~inaxe/).

New Alumni – Class of 2006

Ph.D. Chemistry

Hongyu Xu – *Dissertation*: Carbonylation of Heterocyclic Compounds.

Yang Zhang – *Dissertation*: Mechanistic Studies and Synthetic Applications of Ce(IV) Reagents.

Ph.D. Polymer Science and Engineering

Robert Krzysztof Oldak – *Dissertation:* Molecular Interactions and Adhesion.

M.S. Chemistry

Vernon C. Alford, Jr., Kelley Corinne Caflin, Jennifer Lynn Carson, Michelle F. Clasquin, Melissa Ann Curley, Allison Kay Dunn, Ryan J. Fealy, Marie Ferrentino, Dongmei Huang, Lee Michael Katrincic, Melissa Lynne Kistler, Edward Arthur Scanzano, Aaron Raymond Scott, Joseph Wade Swink, Eric Awa Teyim, Kathryn Lee Thompson, Frank Steven Weston, Matthew Thomas Whitney.

M.S. Pharmaceutical Chemistry

Adrienne Elizabeth Balitza, Maria Elizabeth Barnett, Theresa Marie Booth, Twyla A. Briddell, Krista Ann Burke, Mitchell Colletto, Caroline Kathleen Ferraro, Kristen M. Gelatko, Paul Adam Humecky, Hamza Kandoussi, Kelly Madigan Matulevich, Moriamo Obajinmi, Priya Parganiha, Jason Erik Parker, James Haydn Peers, Vanessa Lynn Sherman, Jeannie Chow Wong, Hsiao-wen (Sylvia) Wu.

M.S. Polymer Science and Engineering

David Joseph Cooper, Jr., Ruth E. Hook, Julia Pavlova, Tracy L. Wickmann, Li Zhang.

B.A. Chemistry

Richard Grey Wyne, Alysa Brielle Zellner.

B.S. Chemistry

Gregory Edward Constable, James John Devery III, Melissa Ann Liberatore, Jared Daniel Moretti, Frederick Emil Nytko III, Kevin Elton Tempest.

B.S. Biochemistry

Shafia Ashraf, Kristin Baltrusaitis, Scott Frederick Blumhoff, Ashley Michelle Cetola, Vamsi Krishna Kancherla, Robyn Michelle Lynch, Matthew Ray Miller, Christine Marie Stroka, Laura Kate Tom, Sallie Marie Wemple.

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Student Honors - 2006

Jared D. Moretti — American Chemical Society Award presented to an outstanding senior major in chemistry or chemical engineering.

Matthew R. Miller — American Institute of Chemists Award presented to an outstanding senior majoring in chemistry, chemical engineering or biochemistry.

Christine M. Stroka — Merck Index Award presented to an outstanding senior chemistry major who has been active in student affairs.

Vamsi K. Kancherla — Harry M. Ullman Chemistry Prize presented to a high ranking senior in the chemistry department.

Kevin E. Tempest — William H. Chandler Senior Chemistry Prize, established in 1920 by Mrs. Chandler, presented to a high ranking senior in the chemistry department. The Chandler Prize is also awarded to a high ranking chemistry major in the sophomore and junior classes.

Lauren C. Kaczka — Alpha A. Diefenderfer Award presented to the highest-ranking junior in analytical chemistry. It is sponsored by the American Chemical Society Division of Analytical Chemistry.

Megan Conrad — sanofi-aventis Award in Organic Chemistry, presented to the student with the highest grade average for the sophomore organic chemistry course.

James Devery — sanofi-aventis Award in Organic Chemistry Research, selected by a faculty committee and based on the quality of senior research in synthetic organic chemistry.

Frederick Nytko III — Hybercube, Inc. Scholar Award presented to a senior chemistry major who has shown outstanding promise in theoretical chemistry and molecular modeling.

Joseph Labukas — The Newton W. (B.S. 1901) and Constance N. Buch Graduate Student Fellowship, established 1972 by the estate of Constance N. Buch for graduate students pursuing an advanced degree in chemistry.

Joseph Teprovich —The William L. Heim Graduate Student Fellowship, established in 1935 for the promotion of research in the chemistry department.

Kelley Caflin — The Chemistry Department Graduate Student Fellowship, established in 1927 as the first research scholarship in the department of chemistry.

Chair's Message

The past six months have brought a number of changes to the department. During the past academic year we completed a successful search for a faculty member with research interests in the area of biological chemistry. We are pleased to welcome K. Jebrell Glover, who comes from MIT where he was a postdoctoral research fellow in the group of Professor Barbara Imperiali. Dr. Glover's research and teaching interests fit an important niche area for the department and we anticipate that his hire will be the first of several in the area of biological chemistry.

Our new faculty are getting off to a great start. Tianbo Liu was the recipient of an NSF CAREER award and Bruce Koel was notified that a proposal recently submitted to the NSF entitled "Structure and Chemistry of Alloy and Oxide Films on Bimetallic Pt Surfaces" was awarded. Sam Niedbala, a professor of practice, was notified that two of his proposals were funded as well. Kai Landskron and Dmitri Vezenov are settling into their newly renovated labs and are busy getting their research programs up and running. We are very excited about the recent funding success of many of our faculty and anticipate further achievement in research activities in near the future.

Renovations are continuing in the department with major changes taking place on the sixth floor which will house the laboratories of Dr. Glover along with updated cold, fermentation and warm rooms necessary to support biologically related research. We are also exploring renovations to the physical chemistry teaching laboratories on the fourth floor of Mudd as well as a part of our efforts to provide outstanding facilities to our undergraduate students. As part of our effort to attract more students to careers in chemistry, the department has developed a flexible curriculum that meets the career goals of undergraduates, from those planning on attending graduate or professional schools, to those with interests in business. This curriculum has been approved by the faculty, administration, and board of trustees and will be put in place this coming fall.

On June 8, the department held a retirement dinner in honor of Gary Simmons at the Inn of the Falcon. Aside from many colleagues and staff, former Simmons Ph.D. students Bruce Beard ('84), Christopher Miller ('00), and Thomas Weir ('84) were on hand to celebrate as well. We will miss Gary greatly and wish him the best in retirement.

Some of the new alumni (*), spouses, guests and faculty, May 2006: L to R, Front Row: Michelle Clasquin,* Kelley Caflin,* Twyla Briddell,* Jo Ann Flanigan, Amanda Peers, Dongmei Huang.* Second Row: Jim Roberts, Keith Schray, Jim Peers,* Frank Weston,* Ryan Fealy,* Chris Kestner, Ned Heindel, Mitchell Colletto,* Junwei Li.

In closing, I want to thank all of you for your continued support of the department. We appreciate receiving your updates and invite you to stop by and see the changes occurring in chemistry here at Lehigh.

—Robert A. Flowers II

Lehigh University Offers Free Continuous Learning for its Alumni!

Today it is essential that employees in industry and business have convenient and flexible access to educational opportunities. Whether it's for better performance or career development, The Office of Distance Education at Lehigh University is dedicated to providing quality programs and courses to students.

As part of the University's commitment to life-long learning, the Office of Distance Education is offering Lehigh alumni the opportunity to take one **Professional Development** online or satellite course per semester offered through LESN or LESN-online at no charge. "With the unstable job market, everyone wants to continue to enhance their knowledge. The wide variety of classes that Lehigh offers gives people a chance to learn a new topic within their industry. Being in the ever-changing pharmaceutical industry, I appreciate the opportunity to learn in-depth details of new areas and/or equipment. Usually I rely on information from other project team members. With the knowledge gained from my on-line classes, I can focus on bigger/better issues for projects", said Shawna Wagner, '93.

It's easy to take advantage of this unique offer. Simply go to www.distance.lehigh.edu and view the list of eligible courses for alumni, as well as distance master's degree programs and certificates for credit, or call Lisa Moughan at 610-758-4372.

Spotlight on Alumni: Tibor Sipos

As the developer of a product for the 30,000 Americans afflicted with cystic fibrosis (CF), Tibor Sipos has dedicated his life to helping these patients extend their lives. "I know how difficult it is for these people. I knew one who died at nine years of age," Sipos says. "It left me with a strong feeling to continue to make better products for them. When you talk with the parents of the kids and you see how much you help them, it gets to you. It touches you deeply."

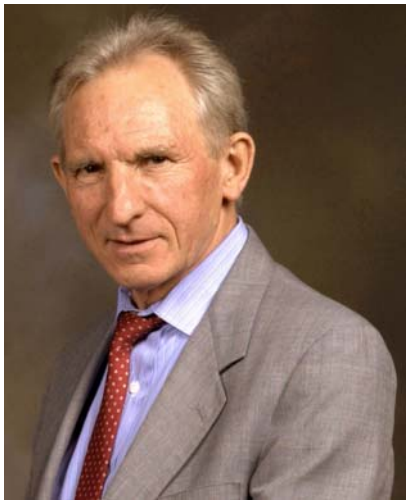
Born in Budapest, Hungary "way back," Sipos came to the United States with his brother on New Year's Eve in 1957 to escape the Russian troops who were rounding up those involved in the 1956 Hungarian uprising. Sipos developed an early interest in chemistry from his father, who was a teacher of chemistry and geology. At the age of nine he managed to set up his own laboratory at home, using chemicals he accumulated as the Russians dismantled the curriculum of his father's school. He later became his father's demonstration assistant.

After working as an analytical technician for McCreath & Sons, Analytical Chemists in Harrisburg, Sipos interviewed at several small Pennsylvania colleges and selected Lebanon Valley because it was "the friendliest" and he was assured of personal attention. He subsequently received his B.S. in chemistry in 1964.

After graduation from Lebanon Valley, Sipos came to Lehigh for graduate work, working with Joseph R. Merkel, a professor of biochemistry who was in a marine science center within the chemistry department. His Ph.D. thesis was on proteolytic enzymes isolated from a marine bacterium.

Rejecting the opportunity for postdoctoral work, Sipos went to work at Baxter Laboratories on Staten Island, a company making industrial enzymes isolated mostly from fungi. Within a short time he had two patents, but then the company moved to Chicago and "that is one place I didn't want to go," Sipos says. He found that Johnson & Johnson was looking for people to develop new technologies in the health science area, and after telling them of his work especially in digestive enzymes, he was offered a job by J&J.

Sipos remained at J&J for 23 years, rising through the ranks from Senior Research Scientist to Director of Oral Biology Research and finally as Manager of Dental Research. It was at J&J that Sipos invented Pancrease for cystic fibrosis patients. Containing digestive enzymes normally released by the pancreas that assist in the digestion of starch, fat and protein, it was made into enteric-coated microspheres and significantly extended the life expectancy of CF patients. Within four years J&J had 95% of the market share. Many company awards followed, including the Johnson Medal, the highest award given by J&J.



At J&J Sipos was responsible for distributing some focused-giving money, and one of those grants went jointly to Merkel and Lehigh's Ned Heindel. During a site visit to Lehigh, Sipos learned from Heindel about the Ben Franklin Technology Partners (BFTP). Sipos admits that he made a lot of money for J&J and having enough confidence, thought he should be able to develop an improved drug product and establish his own company. The problem was that a lot of money was needed for a company start-up. Ben Franklin provided the space in its nationally recognized business incubator and the seed money, making it possible for Sipos to start Digestive Care, Inc., shortly after he took early retirement from J&J.

Starting his own company, Digestive Care, Inc. (http://www.digestivecare.com/), Sipos expanded the original microencapsulation technology that he invented and developed at J&J. Since Pancrease did not treat another problem suffered by CF patients, namely that they are deficient in bicarbonate secretions, Sipos put both the digestive enzymes and a buffer together in a product he called Pancrecarb, which is a microencapsulated and buffered pancrelipase.

Sipos is quick to recognize the significant role of BFTP in his company's success. "The constant attention, valuable business advice, and financial support provided by BFTP at the inception of our company made our job easier and significantly contributed to our success," he states, but also admits that it was difficult to get resources, keep qualified people, and satisfy FDA regulatory requirements.

Today Digestive Care has around thirty employees, a dedicated facility in Bethlehem, and fifteen U.S. and foreign patents. Pancrecarb has recently been found to be highly effective in treating the digestive problems of some HIV patients. Sipos also anticipates a second major product now in clinical trials that will help fight a certain liver disease.

Sipos has never forgotten his Lehigh roots. He often mentors both graduate and undergraduate Lehigh students and has taken an active interest in the CESAR program (http://www.lehigh.edu/~inche/CESAR2/sipos.htm).

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