



CHEM NEWS

NEWSLETTER #26 DEPARTMENT OF CHEMISTRY
LEHIGH UNIVERSITY SEPTEMBER 1999



NEWS OF THE DEPARTMENT

Named to the external staff of the Pennsylvania State University Energy Research Center was Lehigh's **Professor John W. Larsen**. John is collaborating with Penn State in fuels and heavy oil research.

Professor Kamil Klier has been invited as a keynote speaker at the 2000 NATO Symposium on Zeolite Chemistry and Physics. Kamil will present his group's latest results on the use of high level periodic structure calculations in conjunction with the SCIENTA ESCA and optical experiments in a lecture entitled "Electronic, Magnetic and Valence Properties of the Zeolites and Their Molecular Complexes".

Assistant Professor Marie C. Messmer presented a lecture entitled "Conformational Studies of Chromatographic Interfaces Employing Non-linear Spectroscopy" at the 1999 ACS Colloid and Surfaces Summer Symposium held recently at MIT. Marie is also applying non-linear spectroscopy techniques in a collaboration with Air Products investigating the structure and phase behavior of their specialty surfactants.

Participating in an international symposium on *Cellular and Molecular Biology of Nitric Oxide* were **Roger A. Egnolf (PhD '90)**, Associate Professor-Penn State University, and **Professor Ned D. Heindel**. Their presentation, "SAR in NOS Inhibitors," appeared in the Nitric Oxide symposium volume, Marcel Dekker (1999).

Professor Emeritus Robert S. Sprague has relocated to a new residence at Moravian Hall Square, Apt. #111B, 175 W. North Street, Nazareth, PA 18064.

The Annual Research Review meeting of the Office of Naval Research held recently in Arlington (VA) saw **Associate Professor Gregory Ferguson** and two of his graduate students participating. Students Steve Grunzinger and Fon Khongtong, a Thai Research Scholar, accompanied Greg.

Professor of Biochemistry, Michael Behe gave a thought-provoking evening presentation at the Gordon Conference on Process Chemistry on the molecular perspectives on evolution and creationism. Mike's content was drawn from his recent book *Darwin's Black Box*.

An obituary on the life and chemical contributions of the late **Professor Emeritus Raymond R. Myers (BS '41, PhD '52)** was printed in *Progress in Organic Coatings*, Volume 37, 111-112 (1999). Ray, a member of the faculty from 1952-1965, left Lehigh for the Chairmanship of the Chemistry Department at Kent State. He was a prolific researcher in coatings technology and rheology.

The Department has added four Adjunct Professors who will assist with teaching and research. They are **Harry G. Brittain** (Discovery Labs), **Francis J. Waller** (Air Products), **James M. Gallo** (Fox Chase) and **Jon C. Glueckstein** (Lehigh U.).

Department Chair **Keith J. Schray** attended a special 60th Birthday Reunion Symposium for about 70 students and postdocs of his former Penn State professor, **Steven Benkovic (LU BA '60)**. Keith Schray was Benkovic's first PhD student at Penn State. Other Lehigh alumni attending were Robert A. Lazarus (BS '74) and Gary K. Smith (PhD '78). The event was held at University Park.

(continued next page)

NEWS OF THE ALUMNI

Telecommuting is here! **Jessica Zuber Pfennig (MS '90)**, has been promoted to Research Information Scientist with Zeneca. Jessica works from home in Poughkeepsie, NY, while awaiting the arrival of her first child. Jessica completed a three-month training course with Zeneca at their Alderley Park (UK) home site. She loves her new assignment and remarked, "Isn't technology wonderful?!"

Another convert to electronic technology is **Matthew Szap (PhD '98)** who uses phones, faxes, and e-mail to direct the Technical Support program of Amersham Biotech (Piscataway, NJ). Matt and his fiancée, Cathy Trimor, have opened a web site [<http://szap.homepage.com>] to announce their forthcoming wedding.

Amy Wan (BS '96) has taken a position as a research chemist with Merck in West Point, PA. Amy is in an analytical group doing stability testing on a new candidate drug product.

Denise L. Rieker (MS '91) has been named Senior Regulatory Affairs Associate at Centeon in King of Prussia. She was formerly a Research Chemist in vaccine R&D with Connaught Laboratories in Swiftwater.

Seeing the world for Kraft Foods is **Josephine Tan (BS '89)**. Josie who started as a chemist with Kraft at their Lehigh Valley Plant was posted to Hong Kong, then Beijing, and now Guangzhou (Canton Province) China. Josie is Quality Assurance Manager for Kraft Foods Greater China Division. Does the job come with a lifetime supply of Velveeta, Josie?

Lori Getts (PhD '96) and her brother **Robert Getts (PhD '91)** were named as Adjunct Professors on the faculty of the Philadelphia College of Osteopathic Medicine. Lori completed her PhD research through the Department's unique collaboration with Fox Chase Cancer Center (Philadelphia).

The birth of John Simon Scassellati, son of **John (DA '91)** and **Fides Scasselatti**, took place on April 24th. Mother, son, and father are all doing well. Congratulations!

James Chovan (PhD '80) reports that his employer, Cephalon, has just gotten marketing approval from FDA for its first self-developed drug. If any alumnus is having trouble staying awake during the day – due to confirmed narcolepsy – you might try Provigil, Cephalon's new product. Jim also noted that **Bob Urban (MS '79 - Chem Eng.)** has just joined his company's R&D staff.

Alumni were active at the Spring ACS Meeting in Anaheim. A new class of dopamine D₃ receptor antagonists was the topic of a paper presented by **Jeffrey A. Leiby (MS '89)**. Jeff is a research chemist with Pharmacia-Upjohn. **Michele Jetter (PhD '89)** gave two papers on her research at the R. W. Johnson Pharmaceutical Research Institute. Michele's papers were on "Imidazole-Substituted Bicyclic Thiophenes as Adrenergic Receptor Binders," and on "Adrenoceptor Agonists for Pain Relief." **Roger A. Egolf (PhD '90)** served as Presiding Officer of a technical session in the History of Chemistry Division.

W. Bruce Trout (BA '74) brought his pre-law daughter to see Lehigh as a possible college choice. Bruce runs a construction code consulting company in Bath, PA.

Michael L. Losee (PhD '67) was named to the Governing Board for Publications of the American Chemical Society. Mike was formerly Director of the ACS Office of Industry Relations. He joined the ACS staff in 1995 when he retired as President of NSC Technologies, a wholly owned subsidiary of Monsanto's NutraSweet Co. Mike is also serving on the Lehigh Chemistry Department's Visiting Committee.

Named as Secretary of the Board for the Priestley House (Northumberland, PA) was **Dr. Frederick C. Strong, III (BS '41)**. Fred, who is a Faculty Associate in Chemistry at Bucknell University, recently published a "History of the Double Blind Test and the Placebo" in *J. Pharm. Pharmacol.*, 1999, 51: 237-238.

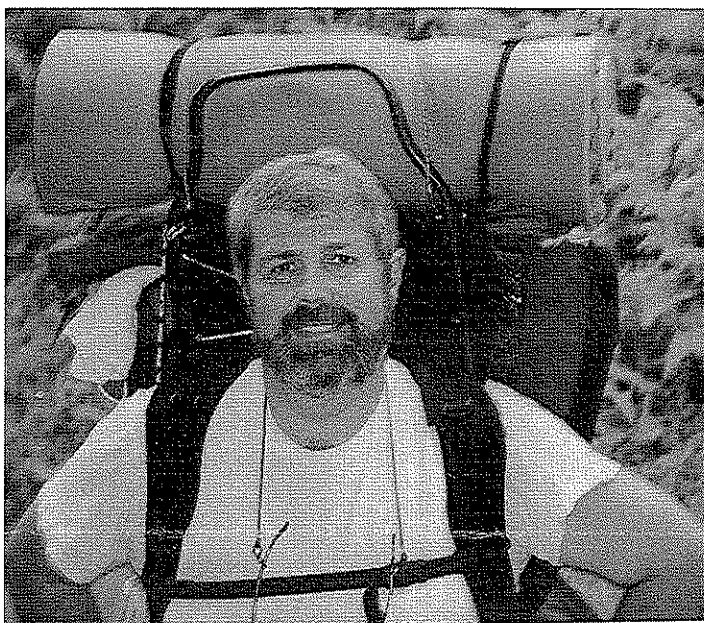
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GET TO KNOW A SATELLITE STUDENT

"My friends and peer group all think I've discovered a weird variant on a mid-life crisis. They're into motorcycles and gold chains but I'm plugging away on a Lehigh PhD," said Robert A. Carlton in a recent interview. Bob, a Research Chemist at Rhone Poulenc Rorer (Collegeville, PA), has tackled many projects in his 20-plus years in industrial R&D but he's currently doing solid-state studies on drug substances, particle size characterizations, and contaminant identification. As a chemical microscopist, Bob uses optical and electron microscopy and IR microspectroscopy in his research. He adds, "Over the years I've worked on all sorts of solids – from fiberglass insulation to orthopedic implants to pharmaceuticals. I'm careful not to let RPR know how much fun I have every day – they might make me pay them instead of the other way around."

Almost all of Bob's education has been obtained on-the-job. Married with four children, three of whom are currently in college, Bob took his BS in Chemistry from Drexel's Evening College and his MS in Analytical Chemistry through Lehigh's satellite distance ed program. He is now part of a small but growing group of industrial chemists doing doctoral research in their corporate labs.

"My research interests straddle Chemistry and Materials," said Bob, "and Lehigh was able to set up a project for me with advisors from both Departments, Professors Jim Roberts and Charles Lyman." "The actual aim of my PhD research is to develop a recently introduced electron microscope (the Environmental SEM) into a tool for quantitative elemental analysis. With my job and my degree studies I've still got some time for hobbies. My favorites are music – actually fiddling -- gardening, and backpacking. The photograph I've supplied shows me tramping the Black Forest Trail."



THE AMSTUTZ SUMMER FELLOWSHIP

Reeti Katoch-Rouse, who is pursuing her PhD in organic synthesis, is the 1999 awardee of the department's prestigious Edward D. Amstutz Graduate Summer Fellowship. The award is given annually to an outstanding graduate student who has been a teaching assistant in a preceding year. The fellowship was named for the late Edward D. Amstutz who was the Howard S. Bunn Distinguished Professor of Chemistry at Lehigh. Reeti is from New Delhi, India, where she received her BS and MS from

St. Stephen's College, Delhi University in 1992 and 1994, respectively. Her research project at Lehigh involves development of a novel biomimetic methodology for the synthesis of dihydrobenzofurans – a structural unit found in plant metabolites called neolignan. These dihydrobenzofurans exhibit antifungal and antibacterial properties. Reeti's thesis advisor is John W. Benbow and her avocational activities are hiking and visiting historic locales. The Amstutz Fellowship is supported by gifts from family, friends, and former students to honor the memory of the late Edward D. Amstutz, former Department Chairman who died in 1983. Amstutz, a Cornell University PhD graduate, was a member of the faculty for 34 years.

ANSWERS TO THE MYSTERY FACULTY QUIZ

We heard from 5 alumni who correctly named our mystery faculty member in the previous newsletter as Professor **Warren W. Ewing**. Two had 100% correct responses to the individual questions about Professor Ewing. Born in 1889 in Winterset, Iowa, he received his PhD in Physical Chemistry at the University of Chicago (1920) and joined the Lehigh faculty that year. After his undergraduate degree in chemistry (Parsons College) he taught at the Christian Mission High School in Fatehgarh, India, from 1912-1916. Well-liked by Lehigh students, he often joked with them. His bald head prompted the appellation "cue ball", resulting in undergrads often awarding him a rag mop as a joke-gift at their annual Christmas parties. He was an excellent teacher and a well-published researcher in electrochemistry and in calorimetry of alkaline earth nitrates. Several alumni remembered Dr. Ewing's prized and carefully calibrated analytical balance which stood prominently in the lab with this inscription, "Do not use this balance without permission from Dr. Ewing. Do not ask for permission." Our hat's off to alumni **Charles Carter (BS '41)**, **John D. Brandner (BS '31; MS '34)**, **James A. Branegan, Jr (BS '35)**, **Ernest Gamble (BS '42; MS '48; PhD '54)**, **Robert M. Kirkpatrick (BS '48)**, **Alex Neill (PhD '49)**, and **William C. Walker (BS '43; PhD '46)** for their correct answers. They've received their departmental T-shirt prize. You've got good memories. Do keep in touch, fellows!

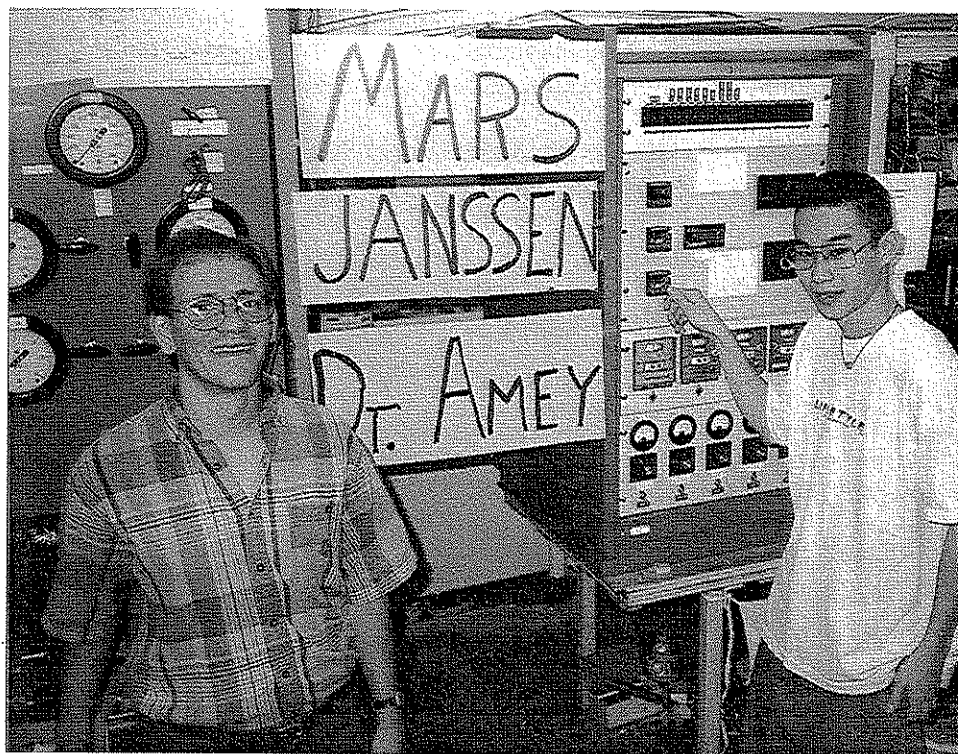
SUMMER UNDERGRADUATE PROGRAM

For the 20th consecutive summer the Department hosted an undergraduate research program with 13 students from three colleges working under the supervision of nine faculty and CESAR Fellows. The students, who ranged from sophomores to graduating seniors, worked on projects involving anticancer agents, catalyst development, receptor biochemistry, glucose-modified polybutadiene surfaces, surface tension of liquid cough drops, mass spectrometry of urinary markers for organ transplant rejection, chemistry of new materials, and vasoconstricting pharmaceuticals. Generous student support was provided by Rohm and Haas, Bayer, AstraZeneca, Dupont Pharmaceuticals, M & M Mars Chocolates, Janssen Research Foundation, Hewlett Foundation, Dreyfus Foundation, and the Howard Hughes Medical Institute. Private support was also obtained from Dr. Ronald Amey (BS '74) of the Dupont Company.

First photo: Front (l to r): Lauren Wolf, Kelly Bombach; rear (l to r) Jeremy Smith, Jeff Wisnoski, Peter DeMatteo.



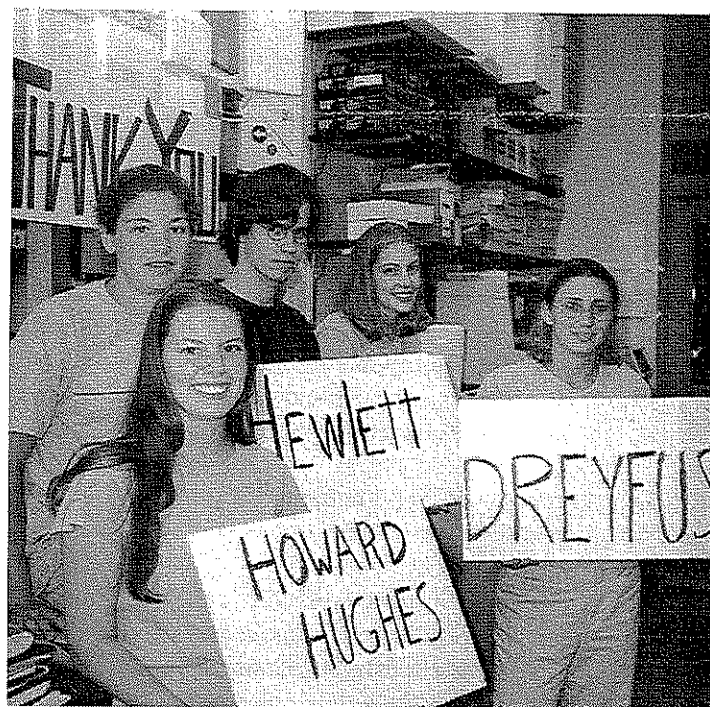
Second photo:
(l to r) Scott
Bollinger and
Hiroki
Yanagisawa.



Third photo: (l to r) Traci Rickert, Tessa
Allen, David Gevry, Kathy Grigg, and
Tanya Vega. Missing: Meredith
Hughes

LEND A HAND

Assistant Professor Marie Messmer is launching an e-mail mentoring program to match young women with interests in science careers with seasoned professionals. If you'd be willing to serve as an electronic career mentor to middle school girls, please contact Marie at mcm6@lehigh.edu.



CESAR ADDS A FELLOW

Lehigh's Center for Emeritus Scientists In Academic Research (CESAR) has added its fifth fellow. Dr. Richard "Rick" Merritt, recently retired polymer chemist from Rohm and Haas, has joined the group with a research program on mechanisms of acrylate crosslinking. The home page for CESAR – a Merck Foundation project – with information about its retired scientists and their programs, can be found on the web at <http://www.lehigh.edu/~inche/CESAR/CESAR.html>. CESAR provides post-retirement research opportunities to industrial chemists from the bio-pharmaceuticals and polymers/materials areas with grant support of the Merck and Dreyfus Foundations.

Dr. Thomas H. Parliament (BS '61) accepted an early retirement from Kraft Foods (Tarrytown, NY). Tom has become a flavors chemistry consultant to the foods industry. He organized a symposium on the topic at the Anaheim ACS meeting and is Program Chair for the Year 2000 International Flavors Conference in Greece.

Sumedha D. Jayasena (PhD '88) was named Director of Salex Diagnostics for Nexstar Pharmaceuticals in Boulder, Colorado. Sumedha's group develops nucleic acid probes for detection of human diseases.

Dr. Michael Pavia (BS '77), formerly Vice President of Sphinx Pharmaceuticals, joins Millennium Pharmaceuticals (Cambridge, MA) as Chemical Technology Development Officer. Mike was keynote speaker at the 1999 Drug Discovery Conference in Boston. Millennium is a corporate leader in genomics-based drug discovery.

It was a short hop down the road from the R.W. Johnson Pharmaceutical Research Institute in Spring House (PA) to his new position as Director of Combinatorial and Chemical Technology at SmithKline Beecham in King of Prussia (PA) for **Dr. Ralph Rivero (BS '82)**.

George Marchesini (MS '89) has joined the Regulatory and Analytical Sciences group from Process Research group at Merck-Rahway. As we go to press, George and his wife Carla are expecting their second child.

Larry G. Soffley (MS '96), research chemist at the Tennessee Valley Authority Labs in Muscle Shoals, (AL) has been assigned to a Department of Defense research contract involving new methods for chemical decontamination of U.S. Army weaponry.

From Project Supervisor/Chemist at National Starch Corp to Technical Service Chemist with Rhodia, Inc is a transition recently achieved by **Gregory E. Kowalczyk (MS '92)**. Greg, who has become a specialist in chemicals for the printing industry, recently completed Lehigh's 1999 summer course on Printing Ink Science.

Being named to the rank of Fellow in the Society for Imaging Science and Technology was a highpoint for **John Texter (PhD '76)** at the Society's recent annual meeting in Savannah. John was cited for his "significant contributions to the process of imaging science and engineering." He also taught two short courses at the New Orleans ACS Meeting and was named editor for Marcel Dekker's year 2000 volume in *Surface Science*.

The Department acknowledges with sincere thanks the gifts of corporate equipment (analytical balances, polarimeter, FT-IR, and drying oven) provided by alumni **Michael Kirchner (BS '90)** of Noramco and **Bruce Schaeffer (BS '68)** of SmithKline Beecham. Most of the donated hardware will be used in the undergraduate teaching laboratories. In a project to provide every student with hands-on access to instruments in the organic teaching laboratory, the department could still use an additional infrared spectrophotometer.

Jack G. Steigelfest (BS '81) has blended chemistry and law. Jack is a partner in the law firm of Howard, Kohn, Sprague, and Fitzgerald in Hartford (CT).

Helping out in July as a visiting professor in the department's distance learning program was **Patricia Freda Pietrobon (PhD '83)**. Patricia, who spoke on "Development of Biological Pharmaceuticals," is Director of Clinical Serology at Pasteur Merieux Connaught, Swiftwater (PA).

CYBER FRONTIERS FOR FRESHMEN

The Department has completed the computerization of the first-year chemistry laboratories. This Fall all students in Chem-75/76, Chem-22, and Chem-31 will use Windows-driven laptop computers equipped with several different acquisition probes for temperature, pH, pressure, and conductivity sensing. Using Vernier Systems Software, freshmen in the chem majors sections and the general enrollment sections will use the laptops to acquire their data, do data analysis, process, and prepare graphical outputs for their laboratory reports. The Department's laboratory schedules have booked the laptops for use by the freshmen laboratories for >50% of the available lab periods.

LEAD COMPOUND OPTIMIZATION

A LESN Short Course for Pharmaceutical Industry

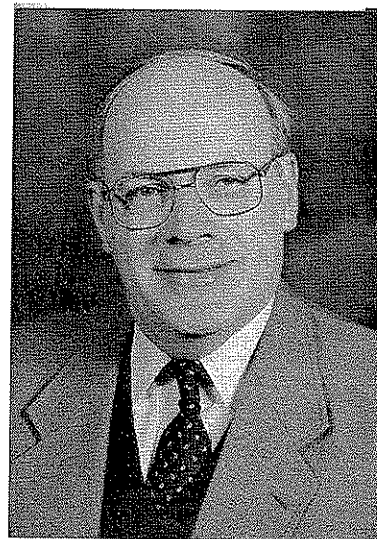
Summer 1999 saw the broadcasting of a special continuing education short course in which 14 pharmaceutical industry researchers from Abbott, Bristol Myers Squibb, Dupont, Merck, NanoSystems, Parke Davis, Pasteur Merieux Connaught, Pfizer, Process Sciences, Rhone-Poulenc Rorer, and Sanofi as well as five medical school professors from Fox Chase Cancer Center, MCP-Hahnemann, and the University of Medicine and Dentistry of New Jersey, collaborated to teach a 22-lecture short course on "Lead Compound Optimization." The course was beamed live to multiple sites of Merck, Bristol Myers Squibb, AstraZeneca, Rhone-Poulenc Rorer, and SmithKline Beecham and covered case studies in drug development, dosage form perfection, metabolism, metabolite identification, 3D PET imaging, pharmacological modeling, pharmacokinetic-pharmacodynamics, toxicology, process design, clinical trial management, and governmental regulatory affairs. An advisory committee of Drs. Alice Loper (Merck), K. Vyas (Merck), and Paul S. Anderson (DuPont) assisted with curriculum planning.



Richard A. Frank, M.D., PhD, Senior Director-Clinical Pharmacology of Sanofi Research, holds forth at the electronic podium on "PET Labeling & Nuclear Imaging: Tracking the Drug In Vivo"

ADJUNCT PROFESSOR ENHANCES INDUSTRIAL CHEM FLAVOR

Joining the Department as an Adjunct Professor is Dr. Francis J. Waller, Group Head of the Corporate Science and Technology Center, Air Products and Chemicals, Trexlertown. Fran, an organic chemist with wide synthetic chemistry and chem-business experience, has served on the faculties of Simmons College and St. Lawrence University. He spent 14 years in Central Research at Dupont and for the last 12 years has made his corporate home at APCI. At Lehigh Fran is team-teaching in Chem 455 (Organic Reactions) in the Fall semester and has re-created the Department's traditional course in Industrial Chemistry (Chem 350) for Spring 2000. Fran calls his course "Principles for Understanding the Organic Chemical Industry" and has developed a syllabus that includes process science, fine chemicals production, R&D project definition, commercialization methodologies, collaborative research agreements, and analysis of corporate trends. Fran holds 34 U. S. Patents and has authored or co-authored 42 papers. He was recently selected for the 1999 Science Hall of Fame of the Discovery Center of Science and Technology for demonstrating excellence in science and technology. Fran's courses will be offered through LESN.



CONGRATULATIONS TO OUR MAY 1999 GRADUATES: **BA/BS in Chemistry:** Erica Beloff, Scott Bollinger, Andrew Butler, Daiwen Chen, Erin Dickens, Mary Heitzman, Michael Parker and Lauren Wolf. **BS in Biochemistry:** Jennifer Abraham, Cindy Alunni, John Grason, Vladi Heredia, Peter Kirby, Laura Moore, Ryan Scanlon, Alison Tweedie and Kelly Wilson. **MS degrees:** K. Choowongkomon, Richard Couch (Dupont), Joanne Fitch, Yi Liu, David Meloni (Dupont), John Paterline (Bayer), Bruce Pittman, S. Shawaphun, P. Suwanmala and James Wassil. **PhD degrees:** Damien Columbie and Xiarong You.

Department of Chemistry
Lehigh University
6 East Packer Avenue
Bethlehem, PA 18015-3172

phone: (610) 758-3471

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PIONEERING IN CHEMICAL EDUCATION BY SATELLITE

REMEMBRANCE OF FACULTY OF YESTERYEAR

"If I were not a chemist, I'd be ashamed of myself," was an oft-repeated quote from this Lehigh professor shown here conducting what he regarded as the most important achievement of his long career. The alumnus with the most correct answers to this quiz wins the 1999 summer research T-shirt.



Name this professor _____
From what State did he originate? _____
What subject(s) did he teach at Lehigh? _____
Where did he complete his PhD? _____
In what Social Fraternity was he a member/advisor? _____

What was unique about his footwear? _____
What was his favorite hobby? _____
Whose autographed picture hung in his office? _____
What is he doing in this photograph? _____
In what month and year did this event occur? _____

WATCH US ON THE WEB

The latest news from the Department is at <http://www.lehigh.edu/~inche/inche.html>. We have recently added Warner-Lambert, Glaxo-Wellcome, the FDA, Janssen, and Ortho-McNeil to the 50+ down-link partners on the Lehigh Educational Satellite Network (LESN). To read about our televised LESN distance education program click on <http://www.LESN.Lehigh.edu/>. E-mail your news and messages to our chairman at kjs0@lehigh.edu