ChE Wave

A newsletter from the Department of Chemical Engineering at Tulane University Volume 7, Issue 1
www.tulane.edu/~ceng Fall, 2000

Notes from the Chairman

Dear Alumni, Students and Friends,

The academic (and fiscal) year that encompassed two millennia was an excellent year in research for our department. Our tally for new and continuation research awards in the year 1999-2000 exceeded $1.3M. In January, our faculty will welcome a new Assistant Professor, **Dr. YunFeng Lu**, thus reaching the total number of 10 for the first time in our 107-year history. With a 1998 PhD from the University of New Mexico, YunFeng is currently a Senior Process Engineer at Applied Materials in the Silicon Valley, while at the same time he is a Research Assistant Professor at the University of New Mexico. Between October 1998 and November 1999 he was a Post-Doctoral Fellow at Sandia National Laboratories. Winner of several research awards, YunFeng has several patents and publications in the area of nanotechnology, and his journal contributions include five papers in *Nature* and one in *Science*. He was awarded the most coveted award that a young chemical engineer or chemist can aspire to in the broad area of Colloid & Surface Chemistry, the American Chemical Society's ***2000 Victor K. LaMer Award.***

Vic Law, the only professor who also has all his degrees from Tulane, came back this Fall after having spent two rewarding years at the University of Limerick in Ireland, where he was instrumental in launching their Chemical Engineering Department. Welcome back, Vic**!**

A new era for the School of Engineering has begun with the installation of our new engineering Dean, **Nick Altiero**, who, prior to joining us, was for 25 years at Michigan State University, where his last 10 ten years were devoted to the positions of Department Head and Graduate Associate Dean. Nick's vision is to enlarge the faculty size of the School to a level that will enable us to compete for significant federal funding and for formal rankings with the very best engineering schools in the country. His approach to achieve this goal includes the aggressive involvement of our alumni, and several of you may have already met him in recent alumni functions or may be meeting him soon.

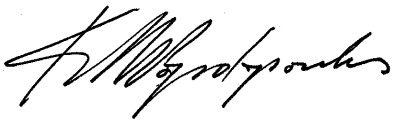
Inside This Issue:

Our department, and the School of Engineering as a whole, are up for ABET accreditation in Fall 2001, and with the new procedures implemented by ABET there are several things that we are doing in a formal way, which used to be done more informally in the past. These include the documentation of our continuous evaluation and assessment of our program as well as the feedback we receive from our alumni and employers of our students. In this respect I would ask you to send us your feedback, both in terms of the periodically included questionnaires as well as with unsolicited letters of suggestions for changes and reinforcement of existing practices.

After a very successful first year of Kyocera Lecture Series, we have again put together a very impressive list of speakers that include three members of the National Academy of Engineering. A big thanks to Kyocera for continuing their support.

I would like to thank those of you who have supported at various levels our departmental endowed fund and encourage others to do so. Your gifts to the Department of Chemical Engineering may be some of the best investments you could make. First, because ours may arguably the fastest improving department in the nation, and second, because this is **your** department.

Sincerely,



Kyriakos D. Papadopoulos, Chair

Faculty News

Daniel De Kee presented a talk at the opening ceremony of the XIIIth International Congress on Rheology in Cambridge, U.K. in August 2000. He also presented work on bubble dynamics and spoke at the conference banquet. He is now past chair of the International Committee on Rheology for the period 2000 - 2004.

Daniel J. Lacks received a grant from NSF entitled "Molecular Simulation of Disordered Materials under Stress," $288,000 for three years. He also gave a chemical engineering department seminar at Princeton University in September, 2000.

Brian S. Mitchell received an SBIR Phase Zero grant from the Louisiana Technology Transfer Office to support submission of an NSF/STTR proposal with Fiberamics, LLC in Madison, WI.

Kyriakos D. Papadopoulos received a new research-grant award from the National Science Foundation to study "Capillary Video-Microscopy on the Release of Water-Soluble Drugs from DoubleEmulsion Globules into Giant Liposomes."

Alumni News

Albert E. Camentz (BS '86) co-founded an e-commerce company for crafts & collectibles last year called *SellPlace.com*.

Eric Golightly (BS '98) lives in Houston and is a sales engineer for Panametrics, who markets ultrasonic flowmeters, and moisture and oxygen analyzers. Eric was married last march to Gabrielle Williams, who received her degree in Molecular Biology from Tulane in 1995. She is now a research technician for the human genome project at the Baylor School of Medicine. Nathan Barnett (BS '98) was best man at their wedding, and Ray Williams, who works in the department for Coastal Catalyst, was a groomsman.

Chemical Engineering Support Fund Established

Anonymous Donor Announces Plan for Continued Growth

As a result of the generous donations received during the Support Fund 2000 campaign, the department was able to establish an endowed fund this past year. The Chemical Engineering Fund was approved by the Tulane University Board of Trustess on September 21, 2000, based on the following resolution:

***RESOLVED**, That the Chemical Engineering Fund -Endowed be and hereby is established, the income of which shall be used for support of appropriate chemical engineering student and faculty activities as determined in the discretion of the head of the Department of Chemical Engineering or his/her designee.*

***RESOLVED FURTHER**, That the Administrators of the Tulane Educational Fund express their appreciation and gratitude to the individuals whose gifts made this endowed fund possible.*

The department adds its thanks to all of you who made this endowedment possible.

We would like you to continue your support, of course, and make your gift an annual event. Please use the enclosed donation card and envelope, or talk to the Department Chair for more information on arranged gifts.

As part of the ongoing campaign, an anonymous donor has graciously arranged with the department to match dollar-for-dollar contributions from recent alumni (graduates within the past five years) at up to $50 per donor. If you have corporate matching, every dollar you contribute could bring in two!! Every gift will help us to grow.

These funds will be critical for the anticipated growth phase associated with Dean Altiero's plans to improve the College of Engineering (see "Notes from the Chairman" on the front page). Look for more details in coming issues on new construction projects, faculty and undergraduate curriculum improvements.

More Alumni in Academia:

Clint W. Williford
Associate Professor of Chemical Engineering
University of Mississippi
B.S., Christian Brothers College, 1974
M.E., Tulane University, 1976
Ph.D., Tulane University, 1978

Guang Jin
Assistant Professor, Health Sciences
Illinois State University
B.S. Nanjing Inst. of Chem. Tech.
M.S. (ChemE),Tulane
Sc.D.(Environmental Health Sciences), Tulane

Sudipta Roy
Lecturer
Dept. of Chem. & Process Eng.
University of Newcastle upon Tyne
BTech, IIT-Delhi
M.S.,Tulane University
Ph.D. Tulane University, 1991

Students Receive Awards

At the Society of Tulane Engineer's Awards Banquet on April 26, 2000 three seniors, two juniors and a faculty member received awards. The AIChE Scholarship Award, the American Institute of Chemists Award, and the Omega Chi Epsilon Award went to senior ***Monesh Kapadia***. Monesh recently entered medical school at George Washington University. The AIChE Activity award was given to ***Stacey Bennett***, who now works at Exxon/Mobil in Baton Rouge. ***Jaqunda Patton*** received the Francis M. Taylor Award. She is now a graduate student at Notre Dame.

Two juniors also received awards. ***Shamik Jain*** was awarded the AIChE Highest Scholastic Average, and ***Pamela Buff*** received the Randall K. Nichols Award. Both are now seniors in chemical engineering at Tulane. Finally, the Omega Chi Epsilon R.V. Bailey Teaching Award, as voted on by the students, was given to ***Kyriakos Papadopoulos***. This is the fourth time Dr. Papadopoulos has won the award since its inception. Congratulations to all!!

A Clarification...

In the last issue of ChEWave, we ran an article on the Mentoring Program at Tulane. The article did not mention the important contributions of ***Kelle Hankton*** (BS '99) in initiating this project. As AIChE Student Chapter President, Kelle first proposed the mentoring program in 1998, which ***Stacey Bennett*** (BS '00), the succeeding AIChE Student Chapter President, presented to the New Orleans Local Section in 1999. We apologize for these oversights. Both Stacey and Kelle were part of the mentoring program last year, and Kelle has agreed to serve as a mentor again this year for the expanded program. Keep an eye out for an upcoming article on the Tulane Mentoring Program on the AIChE Student Chapter online magazine, Chapter One:

www.aiche.org/chapterone/

and a Correction...

Also in the last issue, ***Jefferey Meier***'s (BS '99) name was misspelled. We apologize for the error.

Pamela Buff, senior in chemical engineering, was named 2000 Conference USA Player of the Year in golf for the third year in a row. Congratulations (again, and again)! For more information on Pam, see her cover story in the Summer 1999 issue of the CheWave at:

www.TULANE.EDU/~bmitche/chewave/wave5-3.pdf

FACULTY SPOTLIGHT

Yunfeng Lu

The department is delighted to welcome its newest faculty member, Dr. Yunfeng Lu. Dr. Lu received his Ph.D. in Chemical Engineering from the University of New Mexico in 1998 under the direction of Dr. Jefferey Brinker. He also collaborated with Dr. Brinker as a postdoctoral scientist at Sandia National Laboratories in Albequerque, NM from 1998-1999. Since then, Dr. Lu has held dual appointments as a Research Assistant Professor at the University of New Mexico, and a Senior Engineer at Applied Materials in Santa Clara, CA. Prior to attending graduate school, Dr. Lu attended Jilin University in Jilin, P.R. China, where he received a B.S. in Chemistry in 1991, then the Chinese Academy of Sciences, where he received an M.S. in Polymer Science in 1994.

Dr. Lu's dissertation, entitled "Nanoporous Silica Based on Sol-Gel Processing and Templating Approaches" has led to several important papers in this area (see a list of selected publications below), including articles in such prestigious journals as *Nature* and *Science*. As a result, Dr. Lu's list of honors and awards is long: Outstanding Graduate Student, School of Engineering at the University of New Mexico (1999); Outstanding Graduate Student, Chemical and Nuclear Engineering Department at the University of New Mexico (1999); Outstanding Scientific Accomplishment Award from the Department of Energy Basic Energy Science (1998); the Materials Research Society Graduate Student Award (1998); Outstanding Graduate Student Researcher Award, Motorola/Center for Micro-Engineering Materials (1998); and an Invention Recognition Award from the Semiconductor Research Corporation (1996). The most prestigious of his awards is the Victor K. LaMer Award from the Colloid & Surface Chemistry division of the American Chemical Society (ACS). This award is given annually to the best thesis in the area of colloid and surface chemistry, as determined by the LaMer committee. Dr. Lu was presented with his award at the ACS Colloid and Surface Science Symposium at Lehigh University in Bethlehem, PA this past June. There, he also gave the Victor K. LaMer Lecture on June 20, 2000. In addition to his extensive publication list, Dr. Lu has 10 patents and patent applications to his credit.

The faculty, students and staff are looking forward to Dr. Lu's arrival at Tulane in January, 2001. We hope that you will stop in and welcome him to New Orleans.

Yunfeng Lu's Selected Publications

Lu., Y., H. Fan, A. Stump, T.L. Ward, T. Reiker , and C.J. Brinker, "Aerosol-Assisted Self-Assembly of Mesostructured Spherical Nanoparticles," *Nature*, **398**, 223 (1999).

Sellinger, A., P. Weiss, A. Nguyen, Y. Lu, R.A. Assink, W. Gong, and C.J. Brinker, "Organic-Inorganic Nanocomposite Thin Films with Order Structures via Evaporation Induced Supermolecular Self-Assembly," *Nature*, **394**, 256 (1998).

Lu, Y., R. Ganguli, C.A. Drewien, M.T. Anderson, C.J. Brinker, W. Gong, Y. Guo, H. Soyez, B. Dunn, M.H. Huang, and J.I. Zink, "Continuous Formation of Supported Cubic and Hexagonal Mesoporous Films by Sol-Gel Dip-Coating," *Nature*, **389**, 364 (1997).

Fan, H., Y. Lu, and C.J. Brinker, "Rapid prototyping of patterned functional nanostructures," *Nature*, **405** , 56 (2000).

Questionnaire

As the department continues to prepare for its accreditation visit in 2001, we would like some further feedback from our friends and alumni on specific issues regarding our curriculum. Please take a moment to answer these few short questions, cut out the questionnaire, and mail it to the address on the reverse side. Thank you!

1. Regardless of whether or not you took these courses at Tulane, please rate the following courses according to their usefullness to your career.

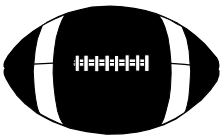
Probability and Statistics	____Not useful	____Somewhat useful	____Very useful
Numerical Methods	____Not useful	____Somewhat useful	____Very useful
Unit Operations Lab II (Summer lab)	____Not useful	____Somewhat useful	____Very useful

2. Which mathematical package do you think is the most useful for chemical engineers to know?

Matlab _____
Polymath _____
MathCad _____
Mathematica _____
Other _____

3. Do you use Labview? _____Yes _____No _____What's Labview?

Homecoming Events



October 14, 2000
9:00 a.m. - 11:00 a.m.
Society of Tulane Engineers
Homecoming Jazz Brunch, Annual Meeting and Alumni Awards
City Energy Club; 1100 Poydras
Tickets $15
Contact Barbara Houge at (504) 865-5764 for more information

11:00 a.m. (NOTE TIME CHANGE!)
Tulane vs. U. of Southern Mississippi
Superdome
Call (504) 861-WAVE for tickets.

Place
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Here

Department of Chemical Engineering
300 Lindy Claiborne Boggs Building
Tulane University
New Orleans, LA 70118

Alumni Association Homecoming Events

Friday, October 13, 2000

- 10 a.m.: Tour of James W. Wilson Jr. Athletic Center.
- Noon–1 p.m.: "Vocals in the Park," featuring student performers in the Pocket Park.
- 5:30–6 p.m.: "Paint the Town Green" parade around campus.
- 6–9 p.m.: "Thank Goodness It's Homecoming" in the University Center quad, featuring a live band, pep rally, bonfire and fireworks.

Sponsored by the Office of Alumni Affairs. For more information, please call(504) 865-5901.

2000-2001 Kyocera Lecture Series

September 8, 2000	*Miniemulsion Polymerization – Theory and Practice* **Professor Mohamed S. El-Aasser**, Lehigh University
September 29, 2000	*Initial Stages of Nucleation in Polymer Blends* **Professor Nitash Balsara**, University of California Berkeley
October 20, 2000	*Direct Probing of Surfactant Aggregate Structure: From Surface Micelles to Bilayers* **Professor Guang-Zhao Mao**, Wayne State University
October 27, 2000	*Chemical Vapor Deposition of Compound Semiconductors* **Professor Tim Anderson**, University of Florida
November 3, 2000 4:00 p.m.	*The Physics of Boiling at Burnout* **Professor Theofanis Theofanous**, University of California Santa Barbara (co - sponsored by Tulane's Mechanical Engineering Department)
December 1, 2000	*Vehicle Emissions Control Technologies for the New Millennium* **Dr. Galen Fisher**, Delphi Research, Warren, MI
December 8, 2000	*Electrodeposition of Alloys and Nanocomposites* **Professor Elizabeth Podlaha**, Louisiana State University
January 26, 2001	*Catalyst Deactivation* **Professor Gilbert Froment**, Texas A & M University
February 9, 2001	*New Methods for the Study and Control of Nucleation of Crystallization Materials from Solutions* **Professor Allan Myerson**, Illinois Institute of Technology
February 16, 2001	*Large Amplitude Oscillatory Shear* **Professor A. Jeffrey Giacomin**, University of Wisconsin (co - sponsored by Tulane's Mechanical Engineering Department.)
March 9, 2001	*Risk and Uncertainty in Chemical Manufacturing and Supply Chains* **Professor Gintaras Reklaitis**, Purdue University
March 16, 2001	*Industrial Gas Separations by Polymeric Membranes* **Dr. Pushpinder S. Puri**, Air Products and Chemicals, Inc.
March 23, 2001	*The Web and Flow of Information in Pharmaceutical R&D* **Dr. Sangtae Kim**, Pfizer
March 30, 2001	*Nanostructure Processing of Catalytic Materials* **Professor Jackie Ying**, Massachusetts Institute of Technology
April 6, 2001	*Electrophoretic DNA Separations and Stretching Dynamics* **Professor Harvey Blanch**, University of California Berkeley

The seminars will be held at 2:00 p.m. in room 243 of the *Boggs Center for Engineering and Biotechnology*. Refreshments will be served before the seminar.For further information call (504) 865-5772 or 5620.

Many thanks to Kyocera, Inc. for sponsoring the department's seminar series. For more information on Kyocera, visit their website at www.kyocera.com.

AIChE Student Chapter News

With the new school year off to a great start, the AIChE Student Chapter has some exciting events planned for this year. They are currently organizing a trip to the AIChE National Student Conference in Los Angeles this November, and looking forward to the Southeast Regional Conference at Clemson, S.C. next Spring. Other events include a "Job vs. Grad School" roundtable discussion, a seminar on recruiting tips, and a plant trip. A new web site for the chapter recently came on line. Please visit it at: www.tulane.edu/~aiche

ChEWave is published twice a year for the alumni and friends of the Department of Chemical Engineering at Tulane University. Address changes and correspondences should be sent to: Dr. Brian S. Mitchell
Editor, *ChEWave*
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Tulane University
New Orleans, LA 70118

New Graduate Students Welcomed

Nine new graduate students began their pursuit of advanced degrees in the department this fall. Louise Braud (LSU, Texas A&M), Claudio De Castro (UL-Lafayette), Nosakhare Ekunwe (Benin, Nigeria), Eric Hampsey (Drexel), Yimin Li (Tulane), Byron McCaughey (LSU), Grace Tan (Wisconsin), Pablo Vieira (Columbia, S.A.), and Donghai Wang (Tsinghua, China).

Three of the students, Braud, Hamspey, and McCaughey, each enter with prestigious Board of Regents Fellowships, as administered by the College of Engineering. These fellowships are awarded on a competitive basis to domestic students who meet rigorous selection criteria. Only six were given out in the entire College of Engineering this year. The department is honored to have these students in the program.

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