
CHE WAVE

A newsletter from the Department of Chemical Engineering at Tulane University Volume 7, Issue 2
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Notes from the Chairman

Dear Alumni, Students and Friends,

Since the last newsletter, our department has continued on its positive-slope path. **Dan Lacks** has just been promoted to Full Professor, thus bringing the total number of Full Professors to seven. In January, we welcomed our most recent faculty member, **YunFeng Lu**, who already has three graduate students and has been setting up his nanotechnology lab. Less than four months after his arrival, Yunfeng has already been awarded two research grants: one from Louisiana's Board of Regents Support Fund (BoRSF) Industrial Ties program (co-funded by Air Products); and an Oak Ridge Associated Universities Ralph E. Rowe Junior Faculty Enhancement Award. Other newly awarded funded research include **Brian Mitchell's** NSF research grant, and Brian's and **Vijay John's** BoRSF enhancement grants.

Our faculty recently received an unprecedented number of awards from constituencies outside the department. **Peter Pintauro** was the first *Outstanding Researcher Awardee* of the School of Engineering (SoE), **Kim O'Connor** was a co-recipient of the SoE-wide Society of Tulane Engineers (STE) *Lee Johnson Award for Teaching Excellence*, and **Dan Lacks** was one of two engineering professors to receive a campus-wide *Inspirational Undergraduate Professor Awards*. Dan was also awarded the department's *R. V. Bailey Annual Outstanding Teaching Award*. A big CONGRATULATIONS! to Peter, Kim and Dan.

Our students did equally well! This year the SoE will have two valedictorians and one of them (like last year) will be a chemical engineer: **Shamik Jain** who is graduating with a perfect 4.0. A total of three chemical engineers are graduating at the top of the engineering class with a GPA between 3.9 and 4.0. The two other graduates besides Shamik are **Djordje Nikolic** and **Nisha Patel**. This achievement should be viewed in light of the fact that there were only 10 such students in the SoE, and that our graduating class consists of only 17 students. Similarly, out of nine SoE undergraduate students elected to the Who's Who Among Students in American Universities and Colleges, two are our own: junior **Jo Leissing** and senior **Djordje Nikolic**. This year we also had a graduate student elected to the Who's Who Among Graduate Students in American Universities and Colleges: **Juan Hinestroza**, who also happens to be this year's winner of the *Outstanding Chemical Engineering Teaching Assistant Award*. It is the third time that Juan is receiving this award!

Shamik, Djordje and Nisha also took home three departmental awards at the STE Senior Awards Banquet: the

Inside This Issue:

- Awards, Awards, Awards!!!!

AICHE Scholarship, AICHE Activity, and *Francis M. Taylor* awards, respectively. Other students who went to the podium were junior **Kelly McDonald** (*Randall K. Nichols Award*) and senior **Pamela Buff** (*James Marshall Robert Award*). The *American Institute of Chemists Student Award* went to senior **Gerard Gagnon**.

Next Fall (September 21), the School of Engineering will hold its second Engineering Forum and the topic will be "Advanced Materials: Research, Development and Applications." Two of our faculty, Brian Mitchell and **Dan DeKee**, are members of the organizing committee and will be chairing sessions. Even though you will be also receiving relevant information from the SoE, I nevertheless urge you to attend this important event.

Once again, on behalf of the faculty, and especially the students, I would like to thank those of you who are supporting at various levels our departmental endowed fund, and I encourage others to do so as well. Besides the fact that your support is very much needed, and may be the best way for you to support a worthy cause, increased levels of giving also have a direct effect in the formal rating of schools and departments. The reason is that alumni giving reflects the level of satisfaction with the education they received, as well as their fondness and positive perception of their Alma Mater. The department has been graduating increasing numbers of M.S. and Ph.D.s in recent years, with some of these young men and women having already reached managerial levels in their companies. Besides their personal contributions, which I would like to see increased, they can help us by brokering gifts from their employers. If you would like to take initiative in encouraging class mates to give, or suggesting additional ways to help our fund raising efforts for **YOUR** department, please do so!

Sincerely,



Kyriakos D. Papadopoulos, Chair

P.S. Some of you may be receiving this newsletter for the first time. I strongly urge you to visit our web site [\[www.tulane.edu/~ceng\]](http://www.tulane.edu/~ceng) where all previous editions of the newsletter are archived (click under *News*).

Faculty News

Daniel De Kee presented an invited lecture at the International Mechanical Engineering Congress in Orland, FL in November, and talks at the AIChE Annual Meeting in Los Angeles last November and the Annual Meeting of the Society of Rheology in February.

Daniel J. Lacks presented seminars in the Chemical Engineering Department at the University of Michigan in October 2000, and at the 3rd Joint US/China Chemical Engineering Conference, Beijing, China, in September 2000.

Brian S. Mitchell has received a grant from the National Science Foundation to study nanostructured composites. The project, entitled "Interfacial Investigations and Process Innovations in the Near Net-Shape Manufacturing of Aluminum/Ceramic Nanocomposites," will run for three years. Brian gave a presentation at Kyocera Industrial Ceramics in Vancouver, Washington in February and attended the NSF/EPSCoR Developing NSF Centers Conference in Lexington, KY in March. He also chaired a session on "Advances in Ceramic Processing" at the AIChE Annual Meeting in Los Angeles, and accompanied the AIChE Student Chapter to the Southern Regional Conference in Clemson, SC in April. He also received a grant, with Robert Dotson, from the Louisiana Board of Regents to purchase sample preparation equipment for the Scanning Transmission Electron Microscope.

Kyriakos D. Papadopoulos gave invited talks to the faculty and students of chemical engineering at UCLA and Purdue.

At the 2001 Tulane University Alumni Awards held on Sunday May 6, 2001 at the Audubon Tea Room, **Harry Asmussen** (B.S., '82) President of the Albuquerque Chapter of the Tulane Alumni Association accepted the 2001 New Tulane Club Award. Congratulations!



Rachel Marcus (right) and **Richard Gonzalez** (left) discuss their research results at the 2000 AIChE Annual Meeting in Los Angeles.

Alumni News

After receiving an M.S. from University of Oklahoma in May 1999, **Elizabeth Nguyen** (BS, '97) went to work as a process engineer for DuPont in Victoria, TX. She recently transferred to another DuPont site in Orange, TX to be with her fiancé. Their wedding date is set for August 4th.

Stacy Pscenicka Hopkins (BS, '95) is working in the Industrial and Federal Operations division of an environmental engineering firm, Montgomery Watson, in Walnut Creek, CA. She will be finishing her M.S. in environmental engineering at San Francisco State University later this year. She was married to Thomas George Hopkins last September. Thomas graduated from American University and works for a law firm in San Francisco.

Glen Boyd (BS, '81) received the ASCE Faculty Award as the outstanding faculty member in Civil Engineering at the Tulane Senior Awards Banquet on April 25.

ABET Review in Sight

In January, we were visited by Professor Joe Shaeiwitz for a mock ABET review. The actual accreditation visit will be next Fall. You may already know that ABET has changed the rules for accreditation, which now require a lot of self-study and assessment outcomes analysis and improvement that involve all the faculty as well as the constituents (students, alumni, employers etc). Joe had been our visitor for ABET accreditation back in 1995 and, as such, he knew our undergraduate program very well when he visited us this time. The review was very positive and helpful. Our self-study started over two years ago, in the form of (i) faculty retreats, (ii) questionnaires to students, alumni, employers and practice-school sponsors, (iii) meetings between the chair and each student class (sophomores, juniors and seniors), and (iv) the establishment of the Chemical Engineering Advisory Committee (consisting of recent graduates). Already we have implemented curricular changes, Unit Operations lab additions, best practices and ways of teaching courses and practice school that we believe have brought improvements to the chemical engineering undergraduate experience at Tulane.



Carlton Dufrechou (B.S., CE '78; M.S. CE/ENVE '93), Chairman of the Lake Pontchartrain Basin Foundation, talks with the freshmen during the Chemical Engineering Seminar course and Mentoring Program.

Professor Wins SOE Research Award

Chemical Engineering Professor **Peter Pintauro** has been awarded the first Outstanding Researcher Award by the School of Engineering. Peter has been a faculty member since 1986. He has authored fifty-eight archival publications, and numerous proceedings and book chapters. He is also the holder of four U.S. patents. His research has been funded by several local and national organizations, including NSF, DOE, the Louisiana Board of Regents, and the U.S. Department of Agriculture. He has mentored ten doctoral students at Tulane and is currently the North American Editor of the Journal of Applied Electrochemistry. Peter's research was highlighted in a recent issue of the ChEWave. Please visit www.tulane.edu/~bmitche/chewave/wave5-1.pdf to review this back issue.

Professor Receives SoE Teaching Award

Kim O'Connor was the co-recipient of the Lee Johnson Excellence-in-Teaching Award in the School of Engineering. Already the winner of a 1999 campus-wide

"Tulane Award for Excellence in Undergraduate Teaching," Kim has been teaching with great success the Thermodynamics course taught to non-chemical engineers and in Fall 2000 she started teaching our own first course in chemical engineering thermodynamics. Besides her excellent classroom teaching, Kim has mentored several undergraduate students in her research program and some of these students have presented conference papers and have even been co-authors in her archival journal publications.

Professor Receives Inspirational Campus-wide Teaching Award

Dan Lacks was one of the recipients of the Inspirational Undergraduate Professor Award. Dan is already the winner of three departmental teaching awards and in the words of his nominating letter "he takes dry scientific material and presents it so wonderfully that students come to love chemical engineering.... And many of them want to do projects with him. He has been singularly responsible for a number of our undergraduates going on to graduate school, and in attracting and retaining students in Chem. E." Several of our undergraduate students are co-authors in Dan's archival journal publications.

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.

ALUMNI SPOTLIGHT

Alumnus Wins Hispanic Engineer National Achievement Award

Cesar Lombana (B.S. '65, MBA '72), manager of the MDE Program & Regional Partnership Department at Sandia National Lab, received the Professional Achievement award last October at the Hispanic Engineer National Achievement Awards Conference (HENAAC) in El Paso, TX. The Awards Show honors the best and brightest Hispanic engineers and scientists from across the nation. The Professional Achievement award is made to a well-established manager who has six to fifteen years experience in a technical field and has made significant contributions in that arena. Winners in the different award categories are determined by an independent selection committee, based on nominations. Typically, there are 200-300 candidates submitted by corporations, universities, and public institutions on an annual basis for the roughly 15 awards.

"I was surprised to win because I knew I was competing against very talented engineers across the US and abroad," said Lombana. "Companies like Boeing, Lucent, Ford, and many large corporations were submitting the names of their best and brightest. The package we submitted was very well organized and it highlighted many items related to my achievements at Sandia and at prior jobs I held in the private sector within the engineering profession, before joining Sandia."

Born and raised in Panama City, Panama until the age of 16, Cesar is a first-generation immigrant. His parents moved him and his sister to New Orleans in 1959, where he graduated from Jesuit High School. Cesar obtained his B.S. in Chemical Engineering from Tulane in 1965, and an MBA from Tulane in 1972.

Cesar's private sector experience includes Atlantic Richfield, Shell Oil, and Proctor and Gamble, where he developed and patented the Folgers Coffee Crystal process (USP 3,652,293). At the age of 25, he participated in the first startup of this unique product, which lowered processing costs compared to freeze-dried coffee. Other innovations include creating an artificial intelligence model simulating drilling conditions in the Gulf of Alaska to predict problematic conditions at sea that could impede drilling, and creating a financial system to analyze the buy-sell position of pipelines for ARCO Pipeline.

At Sandia National Laboratories, Cesar is responsible for Regional Manufacturing Strategies. He is responsible for developing a regional manufacturing initiative and establishing partnerships, including those with regional universities, industry, government and other public entities involved in science and technology, economic development, and national laboratories. Additionally, he supports efforts related to local and community partnerships, while seeking to develop regional partnerships with manufacturing-based companies to improve the use of advanced technologies in the nuclear weapons production complex. Previously, he managed Sandia's Science and Technology Business Development.

In addition to the Hispanic Engineer National Achievement Award, Cesar has won Awards for Excellence from Sandia National Laboratories in 1993 and 1997, and from DOE in 1994 and 1995 for Technology Transfer Excellence. He was elected to the Board of Trustees for the Hispanic Cultural Foundation in 1997, and is a member of the board for Goodwill Industries, KNME Public Television, La Compania de Teatro de Albuquerque, and the Albuquerque Hispano Chamber of Commerce, where he received the Volunteer of the Year Award in 1988. One of his main interests with the Albuquerque Hispano Chamber of Commerce is combating the dropout rate among Hispanics and other minorities. At present, he chairs a Hispanic Culture Foundation subcommittee that is developing an educational program for kids that would combine the Hispanic culture with new ways to learn math and science.

"I want to thank Vice President and Chief Technical Officer Al Romig for believing in me and all those who wrote letters of recommendation in support of my nomination," said Cesar. The department extends its congratulations.

AIChE Student Chapter News

At its meeting of December 7, 2000, the AIChE Student Chapter elected the following officers for the 2001 year: President, **Scott Eklund**; Executive Vice-President, **Jo Leissing**; Webmaster & V.P. for Programming, **Richie Gray**; Secretary, **Kelly Macdonald**; Treasurer, **Elisabeth Hurley**; Sr. Class Representative, **Shamin Shukla**; Jr. Class Representative, **Jennifer Young**; Soph. Class Representative, **Meredith Cox**; Graduate Representative, **Sarah Arsenault**; and ESC Representative, **Mobolo Oke**.

Four students attended the AIChE Southern Regional Conference in Clemson, SC in April: Scott Eklund, Jo Leissing, **Bryan Tracy**, and **Djordje Nikolic**. Djordje presented a poster paper on his research entitled "Modeling of the Fitness Level of a Gener Pool Using an NK Model." He will be attending graduate school at Princeton University.

Graduate Student Wins Award

Byron McCaughey, a first-year graduate student in the department from LSU, recently received a V.A. Forte award from the Louisiana Engineering Society. This award is given annually to graduate students who are natives of Louisiana, and who have an interest in teaching. This year, two of the three recipients were from Tulane. Byron will receive a one-time cash fellowship and a plaque. Congratulations!

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

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