

Inside ...

Department at A Glance	2
New Faculty	3
40th Anniversary Celebration	4
Mellichamp Chairs	6
Sandall Retires	6
Undergraduate	7
Graduate	8
Donor List	9
How to Help	10
Questionnaire	11



A Message from the Chair, Gary Leal:



Dear Alumni and Friends,

Beginning with this first issue of the *ChE News*, our Department embarks on an effort to reach out to our alumni and friends in a way that we, and most other departments at UCSB, have not done before. We realize that many of you may not have heard from us, or much about us, in many years. This has been a major oversight on our part. It has deprived us of the opportunity to benefit from your wisdom and insights as our undergraduate and graduate programs have evolved. It has also made it more difficult for alumni and friends to maintain connections and learn of exciting new developments. Our Department now has nearly 1200 alumni, with more being added each year.

In this first newsletter, we provide a snapshot of who we are at present. In later issues we will include a bit of history of how we have evolved since the Department was founded in the mid-1960s. We hope that you will be interested and proud of how your department has changed over the years. For more information, see our new department website (<http://www.chemengr.ucsb.edu/>).

An important part of our outreach effort is a very special alumni event, the Department's 40th Anniversary Celebration, which is described on page 4. We hope to see each of you there.

Our Department is committed to excellence in teaching, research, and service to the profession and the community. I am pleased to report that we are doing very well with many exciting new developments. In particular, the Department has built a national reputation through timely recruiting and an emphasis on interdisciplinary activities. We are not the largest ChE program in the nation, but we may well have the highest concentration of top-flight talent.

... more on page 2

Continued from page 1

The Department's strong standing has been recognized by its 9th place ranking among ChE graduate programs in the latest survey by *U.S. News and World Report*. In 2003 *Chemical Engineering News* ranked the department first based on citations per publication; it also noted that the department's percentage of National Academy of Engineering (NAE) members was the highest of any ChE department in the country. Currently, seven of the department's 16 senior faculty members share this honor.

Undergraduate enrollments have been strong in recent years with approximately 30% female students and 30% minority students. The AIChE Student Chapter has experienced a remarkable renaissance. Also, in 2004-05 major changes were implemented in the undergraduate curriculum, which include making it more responsive to the need to include the biological sciences among the basic educational core. Currently, a much-needed modernization of the undergraduate ChE lab has begun with strong alumni support (See page 4.)

Our graduate program is one of the leading PhD programs for chemical engineers in the country. We attract top students from undergraduate departments in almost every state as well as foreign countries. Our current 79 graduate students are about 33% female; 67% graduated from U.S. schools. Our students receive a quality, fundamentally oriented education in chemical engineering and they are in demand for both academic and nonacademic positions upon graduation. Forthcoming issues of *ChE News* will describe many of the exciting research activities in the Department.

We do face some very significant challenges as we strive to continue the rapid positive changes in our undergraduate and graduate programs; we will tell you about these challenges in later issues. There are certainly areas where we could benefit from your insights, advice, and financial support.

More than anything else, however, we really do hope that these Newsletters and other activities such as the 40th Anniversary event will begin to reconnect us with you.

If you have not done so already, please fill out the questionnaire on page 11 of this newsletter.

Sincerely,
L. Gary Leal, Chair

The Department At a Glance

Web: <http://www.chemengr.ucsb.edu>

History —

University of California founded: 1868
Santa Barbara campus joined the UC System: 1944
Moved to Goleta Point campus: 1954
College of Engineering founded: 1961
ChE Department established: 1964

U.S. News & World Report rankings—

ChE Department: 9th
College of Engineering: 19th

Faculty statistics and honors—

Current faculty: 20 (16 professors, one associate, three assistants)
Emeritus and adjunct faculty: 5
National Academy of Engr. members: 7
National Academy of Science member: 1
Fellow of the Royal Society (U.K.): 1
Fellows of AIChE or Amer. Phys. Soc.: 7

Student enrollment statistics —

Undergraduate: 190 students
(30% female, 30 % minority)
Graduate: 79 students (33% female; 67% have B.S. degrees from U.S. schools)

Campus environment—

UCSB coastline: Approx. 2.5 miles
Average January temperature: 52 °F
Average July temperature: 66 °F
Average yearly rainfall: 16.1 inches
Average days of rain each year: 35



Who are these guys? A visiting rock group? To find out, visit the Alumni and Friends section of the department web



Susannah Scott is our first female faculty member. She joined the Department in the Fall Quarter, 2002, from the University of Ottawa where she was a faculty member in the Chemistry Department. Susannah has quite an international background. She was born in Tokyo, the eldest child of

British parents, and has lived in England, South Africa, and Canada. She received her B.Sc. in Chemistry from the University of Alberta and her Ph.D. (Inorganic Chemistry) from Iowa State University. Her research advisor for the Ph.D. was James Espenson. Following her graduate studies, Susannah received a NATO postdoctoral fellowship for research in France at the Institut de Recherches sur Catalyse under the supervision of Jean-Marie Basset. Susannah's research deals with supported catalysts, activation and deactivation mechanisms, active site structures, and new catalytic reactions.

Susannah is an accomplished musician. She held the first chair in oboe for the Iowa State University Symphony and the Central Iowa Symphony during her graduate studies at Iowa State.

Susannah is married to Bill Grant, who also works at UCSB as a program manager in the Technology Management Program. They have two boys, Edward (6) and Henry (5). The family enjoys weekends on the beach searching for hermit crabs and starfish.



Scott Shell is our newest faculty member, joining the Department in July 2007. He comes to the department from not too far away—over the past two years, he has been involved in postdoctoral research at the University of California San Francisco, working with

advisor Ken Dill on computational protein folding and protein design. Previously, Scott spent a fair amount of time in the mid-Atlantic region: he received his B.S. degree in chemical engineering from Carnegie Mellon, where he also managed a minor in music composition, and he obtained his PhD in 2005 from Princeton, in Chemical Engineering. In his graduate studies, he

worked with Pablo Debenedetti and Thanos Panagiotopoulos on novel simulation algorithms and the theory of supercooled liquids and glasses. Scott received a Hertz fellowship and the prestigious Jacobus award at Princeton.

His research at UCSB focuses on problems in contemporary biophysics and condensed matter theory, including protein modeling and design, dynamics in complex systems with rough energy landscapes, and robust molecular simulation algorithms. He looks forward to start teaching this fall.

Scott originally hails from Charlotte, North Carolina, and though his accent has faded, his love of fried foods has not. When not working on research, he still enjoys dabbling with music from time to time.



Todd Squires joined the department for the Fall Quarter, 2005, after a three year postdoctoral program at Caltech. Todd's degrees are in Physics (B.S., UCLA; Ph.D., Harvard) but as evidence of a well-rounded education, he also has a B.A. in Russian

Language and Literature from UCLA. His research advisors at Harvard were Michael Brenner and Howard Stone.

Todd has taught graduate fluid mechanics and heat transfer classes, Ch E 220A and Ch E 220B, and undergraduate and graduate applied mathematics classes, Ch E 132A and Ch E 230B.

Todd's research is in the field of fluid mechanics, with fundamental and applied interests in microfluidics and microrheology, that arise in the materials, biotechnology and energy areas. He was recently awarded an NSF CAREER award and was profiled in *Chronicle of Higher Education* as a "rising star".

Todd is married to Nancy and they are the proud parents of Marc (3) and Betsy (2). Todd's hobby is foreign languages and he is fluent in Russian, conversational in French and at one time was conversational in Egyptian and Arabic.

40th

By this time we hope that most alumni will know the department is celebrating its "big four-oh" during the weekend of June 8-10. Because our first faculty member (Professor Emeritus Robert G.

Rinker) was hired in 1965, this isn't the obvious time to celebrate, but our first undergraduate class did graduate in 1968, so we are taking this opportunity to celebrate our *first 40* classes plus all our graduate students who finished during that period.

To register for the Celebration, check out the department web site: www.chemengr.ucsb.edu. The Friday night reception will be held at the brand new Mosher Alumni Center, with the Saturday night dinner at the Corwin Pavilion in the UCEN.



Mosher Alumni Center

A year ago, at the time a decision was made to do something special, we had no viable way of reaching alumni and only long out-of-date address lists. Professor (Emeritus) Duncan Mellichamp agreed to help organize an event, first selecting a group of undergraduates and graduates, both chemical and nuclear majors, that spanned the full 40-year period as advisory committee. That group, now the 40th Anniversary Celebration Committee (see sidebar), is co-chaired by Darryl McCall ('78) and John Poulos ('83). Early in the discussion process, alumni took ownership of the full effort, and now are in charge of planning the entire celebration.

The Committee made a number of key decisions, primarily that this opportunity should be one to reconnect with alumni on an ongoing basis, not just a one-time effort. They also decided to adopt the project of building up a \$500,000 endowment to support the chemical engineering laboratory. To encourage donations, they chose to honor Bob Rinker, students' perennial favorite teacher (and object of many student stunts), by naming the newly-renovated laboratory for him in perpetuity.

The 40th Anniversary Celebration promises to be a gala event. We hope you can attend and look forward to seeing you there.

40th Anniversary Committee (Listed by graduation year)

Darryl McCall, Co-Chair [BS ChE 1978],
Vice President, Procter & Gamble

John Poulos, Co-Chair [BS ChE 1983]
Semi-retired, biopharmaceutical industry

Rudy Lisa [BS ChE 1968]
Senior Research Associate, BASF

Dan Doiron [BS NucE 72; PhD ChE 1982]
Member of Board, CrystalVoice; Managing partner, La Querencia Partners

Ed MacNeel [BS ChE 1975; BS Chem 1975]
Senior Advanced Process Control Engineer, Aspen Tech

Richard Myers [MS NucE 1977]
Manager, HR Tech. Support, Temple Univ. Health System

Barbara J. Bridwell [BS ChE 1979]
President, Bridwell Controls.

Dominique Bonvin [PhD ChE 1980]
Professor of Automatic Control, Ecole Polytechnique Federale, Lausanne, Switzerland.

Michael Saucier [BS ChE 1983; MS ChE 1984]
CEO, Transpara Corporation

Marc Privitera [BS ChE 1986]
Research Fellow, Clorox Services Company

Kelly Brodbeck [MS ChE 1986]
CEO of a medical device company, Vapore

Leroy Chiao [PhD ChE 1987]
Retired NASA Astronaut; exploring private business venture possibilities

Robert Young [PhD ChE 1986]
Advanced Control/Plant Automation Advisor, ExxonMobil

Melanie McNeil [BS ChE 1986; PhD ChE 1990]
Professor of ChE at San Jose State University

Michael Oye [BS ChE 1999; BS Chem 2000]
Recent PhD graduate in Materials Science, U. of Texas-Austin

Amber Roberts [BS ChE 2003]
General Chemical Corporation

Justin Butler [BS ChE expected 2007]
Senior. AIChE Student Chapter President

*Department of Chemical Engineering
40th Anniversary Celebration*

Schedule of Events

Friday, June 8, 2007

2:30 – 3:45 pm	General Campus Tour
4:00 – 6:00 pm	Welcome/Alumni Reception (Mosher Alumni House)

Saturday, June 9, 2007

10:00 – 12:00	Unit Operations Adventure Race
12:00 - 2:00	Alumni Reunion Lunches
2:00 - 3:00	General Campus Tour
2:30 - 3:30	Department Laboratory Tours
5:00 - 6:00	Reception/Alumni Reunion
6:00 - 9:00	40 th Anniversary Dinner and Program (Corwin Pavilion, UCEN)

Sunday, June 10, 2007

10 am – 4 pm	Wine Tasting Tour, Santa Ynez Valley (Transportation provided)
--------------	---



Duncan and Suzanne Mellichamp Endow Nine Chairs

(Press Release: www.ia.ucsb.edu/pa/news.aspx)

Duncan and Suzanne Mellichamp have given UCSB a total of nine endowed professorships, a record for a UC faculty member. The *Mellichamp Chair in Process Control* was filled in 2001 with the appointment of Prof. Frank Doyle in Chemical Engineering.



The *Mellichamp Academic Initiative Professorships (2003-2018)*, a cluster of four chairs in the interdisciplinary field of *Systems Biology*, were given to the

College of Engineering in 2003. These now include positions in Biology (Letters and Science) and will be occupied by distinguished faculty for 15 years, then reallocated at the campus level. Recently announced by the Deans of Social Sciences and Humanities/Fine Arts in the College of L&S, is a second cluster of four *Mellichamp Academic Initiative Professorships (2008-2023)* in the interdisciplinary area of *Globalization*. All eight Faculty Initiative Professorships are intended to provide the focus for new campus programs and to be filled by innovative mid-career faculty.

Duncan and Suzanne Mellichamp Receive UCSB's Santa Barbara Medal

Duncan and Suzanne Mellichamp were awarded the Santa Barbara Medal, the campus's highest award, by Chancellor Henry Yang at a University House special event last November. (UC campuses do not award honorary degrees.) The Medal has been awarded 22 times since 1982 for special distinction in humanities, arts, sciences, public service. Previous recipients include several UCSB Nobel Prize winners, campus major donors and special friends, and the Dalai Lama. The inscription on the Mellichamps' award reads: "Champions of education, Philanthropists with vision and heart ~ Your love and generosity toward UCSB are legendary. Nov. 27, 2006."

Professor Orville Sandall Retires after Forty Years.

Orville Sandall retired at the end of Spring Quarter, 2006, after forty years on the faculty. Professor Sandall was one of the original six founding faculty members of the Chemical Engineering Department. He came to UCSB directly from UC Berkeley after completing graduate school as Jud King's second doctoral student. An Alberta, Canada, native, he completed his undergraduate work at the University of Alberta. Professor Sandall conducted research in mass transfer and separations, coauthored the text, *Computational Methods in Chemical Engineering*, with Owen Hanna and over his career taught classes in all of the required course areas except process control. Even though retired he has continued to teach this academic year as Professor Emeritus recalled. He says that he loves teaching and continues to enjoy the interaction with students. His plans for retirement include some writing and continuing his volunteer activities as Hospice visitor, Prison Chaplain, and teacher of religion for adults. Orville and his wife, Patricia, plan more travel, especially to Santa Fe, NM, to visit their grandchildren. Some alumni will remember Pat as the department office manager in the early 70's.



**Orville Sandall's Retirement Party:
Gary Leal, Pat and Orville Sandall**

AIChE Student Chapter Update

Dear Alumni, Friends, and Family:

The UCSB Student Chapter of the American Institute of Chemical Engineers has recently been very active after several years of dormancy. We participate in activities that help current and prospective students, alumni, and the community. Our goal is to provide opportunities for chemical engineering students to complement their education with practical engineering knowledge and community support.

Our connection to industry has significantly grown over the past two years. We have hosted speakers from Chevron, SunBio Systems, Clorox, Catalytic Solutions, and Procter and Gamble. Several of these events have resulted in internships or fulltime jobs for our students. We have toured local industrial sites such as Amgen, Catalytic Solutions, Procter and Gamble, and Platform Holly, the oil platform off the coast of northern Goleta. We also had a fermentation seminar hosted by Sunstone Winery.

On April 21st we hosted the Western Regional AIChE Student Conference. This event is used for the preliminary rounds of the National AIChE Student Paper and ChemE Car competitions. It is also a time for chemical engineering students to get together and discuss their course of study. With help from Chevron, Clorox, and the UCSB College of Engineering, our event was a resounding success.



Lunchtime at the 2007 Western Regional AIChE Student Conference

Over the past several months we have made an effort to assist the department in developing connections with alumni. We held several organized search events, during which we used internet based search utilities to discover contact information for alumni contact. These searches resulted in a dramatic increase in alumni contacts, and will hopefully greatly increase the attendance of the 40th Anniversary Celebration.

As the school year winds down, our AIChE Student Chapter is looking towards the future of our organization. We are setting guidelines and operating practices to ensure sustainable operation and growth of our chapter. We are also raising funds to create a small endowment which will provide scholarships for high performing undergraduate chemical engineers. We look forward to seeing many of you at the Alumni Event on June 8th and 9th. For more information on our chapter, please visit our web page on the Department web site.

Sincerely,

Justin Butler
AIChE Student Chapter President
Class of 2007



**Photo by Justin Butler
(from his apartment balcony)**

Congratulations to Our Sixteen 2005-06 PhD Graduates

Brian Adair (*Advisor:* Cheetham, Materials)
Dissertation: The Synthesis, Characterization, and Proposed Formation Mechanism of Tin(II) and Antimony (III) Phosphates and Related Materials
Current affiliation: Catalytic Solutions

Rodolfo Belen (*Advisor:* Aydil)
Dissertation: Etching High Aspect Ratio Activity of Alpha-Helical Peptide Amphiphiles
Current affiliation: Abbott Laboratories

Li Feng (*Advisor:* Tirrell)
Dissertation: Polyelectrolyte Brushes at Interfaces: Properties, Structure and Interactions
Current affiliation: Laboratoire de Physique Statistique de l'Ecole Normale Supérieure

Pankaj Karande (*Advisor:* Mitragotri)
Dissertation: Rational and Combinational Design Strategies for Transdermal Formulation Discovery
Current affiliation: Assist. Prof., RPI (starting in January, 2008)

Bumjoon Kim (*Advisor:* Kramer)
Dissertation: Functionalized Polymers for Modifying the Interfacial Properties of Polymers and Inorganic Nanoparticles
Current affiliation: Post doc, UC Berkeley

Qi Lin (*Advisor:* Israelachvili)
Dissertation: Interactions of Bio-molecules and Bio-surfaces
Current affiliation: Maternity leave

Annalee Nguyen (*Advisor:* Daugherty)
Dissertation: Fluorescent Protein Resonance Energy Transfer for High-Throughput Screening
Current affiliation: Applied Biosystems

Christian Steinbeck (*Advisor:* Chmelka)
Dissertation: Controlling Guest-Host Interactions in Self-Assembled Materials
Current affiliation: Post doc, Brandeis University

Michael Sushchikh (*Advisor:* McFarland)
Dissertation: Surface Chemistry of Ideal and Nanocluster Iridium Surfaces
Current affiliation: Post doc, UCSB

Amy Tezel (*Advisor:* Leal)
Dissertation: Nonlinear Rheology of Entangled Symmetric and Asymmetric Star Polymers
Current affiliation: Allergan

Mayur Valipa (*Advisors:* Aydil/Maroudas)
Dissertation: Atomistic Analysis of the Surface Reactivity and Crystallinity of Plasma-Deposited Amorphous Silicon Thin Films
Current affiliation: McKinsey & Co.

Jeffrey Ward (*Advisors:* Doherty/Mellichamp)
Dissertation: Optimal Operation and Control of Process Systems
Current affiliation: Post doc, National Taiwan University

Yosang Yoon (*Advisor:* Leal)
Dissertation: Flow-induced Coalescence of Two Deformable Drops
Current affiliation: GE Global Research

*We Greatly Appreciate These Recent Donations
from Alumni and Friends.*

Thank You !

Ran Abed (MS '70, PhD, '73)
Joseph (Ph.D '71) and Randi (BA '71) Ault
Doug Asbury (BS '82)
Gary Backus (BS '73)
Carina Billigmeier-Cooter (BA '75)
Dominque Bonvin (PhD '90)
Bill Boyer (BS '81)
Barbara Bridwell (BS '79)
Kelly (MS '86) and Lesli (BA '85) Brodbeck
Justin Butler (BS '07)
Thomas (BS '78) and Marianne Chard
Brad Chmelka
Sean Christiansen (Ph.D '01)
Barbara Crowell (BS '77, MS '80)
Mr. and Mrs. Jacob Dane
Patrick Daugherty and Meredith Murr
Michael Doherty
Frank and Diana Doyle
Brian (BS '94) and Amy Dyson
Mr. and Mrs. Mario Ferla
Glenn and Lesley Fredrickson
John (BS '74) and Karen (BA '74) Gulliver
Kandas Habtemariam (BS '98)
Paul (BS '70) and Nancy Helman
James Heslin (BS '73) and Rose Hau
Edward (Skip) (BS '77) and Linda (BA '77) Holmes
Amy Kaiser (BS '81)

Ching-Hsing Kao (MS '75)
Ralph Kappelhoff (MS '86)
Gary and Mary Leal
Darryl McCall (BS '78) and Miren Letemendia
Sara Moore (BS '99)
Mary and Gary Leal
Renn Levy (BS '78)
Ed (BS '75) and Fran (BA '75) MacNeel
Melanie (BS '86, PhD '90) and Chris McNeil
Duncan and Suzanne (MA '70) Mellichamp
Samir Mitragotri
Arnold (BS '82) and Gabriella Miyamoto
Annette and Charles (BS '80) Orella
Keith Parsons (BS '74)
Marc Privitera (BS '86)
John Poulos (BS '83) and Martha McCabe (BS '83)
Orville and Pat Sandall
Michael Saucier (BS '83, BA Chem '83, MS '84)
Dale and Judy Seborg
David C. Scatena (BS '99)
Todd Squires
Brian Carl Swanson
Matthew Tirrell and Pamela LaVigne
Dale (MS '75, Ph.D '80) & Susan (BS '78) Wilson
Robert (MS '85, Ph.D '89) and Katharine (MA '86)
Young
Jay (BS '81) and Julie (BS '81) Zeilenga

Please direct this gift to the following:

_____ Unrestricted to the Dept. of Chem. Eng.
 _____ Robert Rinker Laboratory Endowment

Matching Gifts:

Do you work for a company that matches charitable contributions? Please ask your employer for a matching gift form and include it with your remittance.

My employer _____ will match my gift.
 My firm's matching gift form is enclosed. _____
 will be mailed. _____

Questions? Contact Dan Oh at (805) 893-7223 or dan.oh@ia.ucsb.edu.

I would like to donate \$ _____ for the Dept. of Chem. Eng.

You can make your tax-deductible gift in three ways:

1. I have enclosed a check payable to the UC Regents _____
2. Please charge \$ _____ now to my credit card.
3. I would like to schedule my credit card payments:
 I will begin payments on ____/____/____
 Annually ____ Biannually ____ Quarterly ____ Monthly ____
4. Please contact me about a gift of securities. _____

Print Name (as it appears on card): _____

VISA ____ Master Card ____ Discover ____ American Express ____
 Account #: _____ Exp. Date: _____
 Signature: _____ Date: _____

Would you like to help the Department of Chemical Engineering?

We have high priority needs that can only be realized through the generous support of our alumni and friends.

Your gift will help us with these needs:

- Undergraduate support:
Scholarships, laboratory needs
- Graduate support:
Fellowships, special seminars
- Research initiatives

For more information on how you can help, please contact:

Dan Oh, Assistant Dean of Development,
 Engineering and the Sciences
 (805) 893-7223
 dan.oh@ia.ucsb.edu

To make a contribution now, fill out the and mail using the attached envelope.

Newsletter Credits

Editors

Orville Sandall (Chair)
 Duncan Mellichamp
 Dale Seborg

Design

Dale Seborg
 Shannon Mueller

Feedback?

We hope you enjoy this inaugural issue of *ChE News*. We would very much like to receive your feedback. You may contact us at:

cheadmin@chemengr.ucsb.edu.



Department Alumni Questionnaire

Please mail the completed form to:

ChEAdmin
Department of Chemical Engineering
University of California
Santa Barbara, CA 93106

Name _____ Former Name (if any) _____

E-mail address: _____

Year of Graduation _____ Degree _____ Field (ChE or NucE) _____

Employer and Location _____

Comments or Additional Information:

Information that could be included in a future ChE News:

Would you like to help the Department of Chemical Engineering?

We have high priority needs that can only be realized through the generous support of our alumni and friends.

Your gift will help us with these needs:

- Undergraduate support: Scholarships, laboratory needs
• Graduate support: Fellowships, special seminars
• Research initiatives

For more information on how you can help, please contact:

Dan Oh, Assistant Dean of Development, Engineering and the Sciences,
(805) 893-7223
dan.oh@ia.ucsb.edu

To make a contribution, fill out the form on page 10 and mail, using the attached envelope.



Department of Chemical Engineering
University of California
Santa Barbara, CA 93106-5080

Non Profit Org.
U.S. Postage
PAID
Santa Barbara, CA
Permit No. 104



web site: www.chemengr.ucsb.edu