ALUMNI UPDATE

PLEASE WRITE TO US!! We want to know where life has taken you since you left West Virginia University. Complete and return this form with your news and comments. Also, pass this Newsletter on, or let us know any alumni who are not receiving The Major.

Send to:
Department of Chemical Engineering • West Virginia University
403 ESB, PO Box 6102 • Morgantown, WV 26506-6102

Or, email updates to linda.rogers@mail.wvu.edu.

Name: ____________________________

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SUMMER 2010

Brief News of Professional and Family Activities for Future Newsletters: ______________________________

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Suggestions/Comments: ______________________________

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For more information, visit our Department web site at www.che.cemr.wvu.edu
I just returned from a meeting of the Southeast Region Chemical Engineering Department Chairs and Heads that was held in Savannah, GA, from June 6-8, 2010. There were a total of seventeen participants, although 25 schools took part in a data-sharing exercise. According to these data, undergraduate enrollments in chemical engineering bottomed out in 2007 and are now showing a significant increase, going from an average of 168 in 2007 to 234 in 2010. This is consistent with what we have seen at WVU, where we have gone from a total of 55 students in the sophomore to senior years in 2007 to 95 in 2010. These numbers will increase in the foreseeable future as small graduating classes are replaced by larger incoming ones. This is a welcome trend for the profession. Another trend that is noticeable is the gradual reduction in the percentage of seniors securing industrial employment and the simultaneous increase in graduate school admissions. At the time of graduation, three of the nine seniors at WVU had industrial job offers in hand, while four had secured admission to graduate school.

The class that graduated was the first with some graduates earning the certificate in biomedical engineering. Interest in the certificate remains high, and the four core courses making up the certificate program are being taught on a regular basis. Electives that will be offered in the coming year are ChE 482, Tissue Engineering, taught by Professor Farmer and ChE 493, Cellular Machineries, taught by Professor Dinu. In order to meet the need for bio-related senior thesis topics from honors students, discussions have been held with, among others, researchers at the Blanchette Rockefeller Neurosciences Institute (BRNI) on campus to host our undergraduates in their laboratories. The BRNI building is a $30 million facility that opened in October 2009. The Institute has the dual purpose of researching the molecular mechanics of memory and memory disorders and developing the diagnostics and drugs to treat the disorders. It is anticipated that the first undergraduate student researchers will start at BRNI in the Fall of 2011.

A recent noteworthy event was the creation of the WVU Chapter of the Society of Biological Engineering (SBE) with a full slate of officers. This society is under the umbrella of AIChE, and its birth was the result of the efforts of Dr. Dinu who is the chapter advisor. Several students participated in an SBE meeting in Baltimore from April 16-18, 2010, and two of them presented posters describing their research. Dr. Dinu was recognized as a judge for the poster contest.

In the area of graduate education, we are planning to actively encourage the entry of non-traditional students, those with undergraduate degrees in fields such as biology, chemistry and physics into our graduate program. This change will complement our emphasis on life sciences and material sciences, and it will also help to increase the enrollment of domestic students. Those students who come in without a ChE degree, but who complete the junior-level UG courses will get the MSChE degree, while those who do not take all the junior-level courses will earn the MSE degree. This year, we are thankful to have received a generous estate gift of $50,000 from the late Robert Pyle. Bob was a charter member of the ChE Academy who passed away in 2009. The gift will be used to establish the Robert E. Pyle Chemical Engineering Graduate Fellowship Fund. The proceeds from this endowment will be used to support graduate students pursuing advanced chemical engineering research. This gift will be matched by the West Virginia Research Trust Fund.
Chair's message...

In the Department, we now have three broad areas of research emphasis. These are biotechnology, energy and materials. We have traditionally been strong in both energy and materials, and today we have several faculty members involved in energy research. Activities are very extensive and diverse, and they range from the very practical to the very fundamental. These include plant-wide energy efficiency studies of chemical plants, development of energy efficient chemical processes, capture and sequestration of carbon dioxide from flue gases leaving coal-burning power plants, direct and indirect liquefaction of coal, development of drilling fluids for deep-hole drilling for oil and gas, studies of natural gas hydrates found under the ocean floor, development of geothermal energy, use of fuels other than hydrogen in solid oxide fuel cells, plant-wide modeling of an integrated gasification combined cycle (IGCC) power plant with CO2 capture and the development of gas sensors for use in power plants for determining gas composition in real time at high temperatures, high pressures and under corrosive conditions. Two noteworthy events are the grant of $1.2 million from the U.S. Department of Energy to Dr. Brian Anderson and his coworkers for a 3-year project on expanding the use of geothermal energy, and the very recent initiation of a project with China Coal for the co-gasification of coal and biomass. Mr. Elliot Kennel in Chemical Engineering and Dr. Quingyun Sun in the WVU College of Agriculture and Forestry are the co-Principal Investigators for the latter project. I will write about our materials research efforts in a future newsletter.

As always, our students continue to do well, and information on their awards and honors is included in this issue. We are proud that Jennifer Knipe was awarded a prestigious NSF Graduate Research Fellowship. In addition, she was a winner of the WVU 2010 Outstanding Senior Scholars award. She plans to attend graduate school at the University of Texas in Austin. We also congratulate Dr. John Zondlo who was designated as one of the “Outstanding Advisors” in the College for 2009-2010.

I close with the sad news that Professor Hisashi Kono died on February 27, 2010. He was a member of the Department faculty from 1983 until his retirement in 2004. He returned to his native Japan in 2006. He will be missed by his colleagues, students and friends.

Rakesh Gupta, Chair
WVU Department of Chemical Engineering

DEPARTMENT NEWS

Dow/Union Carbide Seminar Series Honoring Jean B. Cropley

On Friday, March 5, 2010, Dr. Jeffrey J. Siirola, technology fellow in Eastman Research Division of Eastman Chemical Company, presented the Dow/Union Carbide Reaction Engineering and Catalysis Seminar honoring Jean B. Cropley. The seminar was entitled “Design for Sustainability, Energy, and the Environment.”

Dr. Siirola has been with Eastman Chemical Company for 38 years. He received a B.S. in chemical engineering from the University of Utah, and a PhD in chemical engineering from the University of Wisconsin-Madison. His areas of research include chemical process synthesis, computer-aided conceptual process engineering, design theory and methodology, chemical process development and technology assessment, resource conservation and recovery, sustainable development and growth, carbon management, and chemical engineering education.

Emeritus Reception

On Friday, April 30, 2010, the College of Engineering and Mineral Resources (CEMR) held the Annual Emeritus Luncheon as part of the University Emeritus Weekend. The following Chemical Engineering Alumni attended the lunch:

John Baliker, BS ’57
Kenneth Barker, BS ’49, MS ’50
Carl Brock, BS ’48
Thomas Cochrane, BS ’50, MS ’51
G. Thomas Harrick, BS ’60
Jimmie L. Justice, BS ’58
Richard Smith, BS ’59
George Taylor, BS ’60
Paul R. Westfall, BS ’50

Professors Turton and Zondlo were on hand to greet them. The lunch was held at the Erickson Alumni Center. We look forward to seeing you all again next year.
DEPARTMENT NEWS

Faculty News

At the CEMR Weekend of Honors Ceremony on Friday, April 9, 2010, at the Erickson Alumni Center, Dr. John Zondlo was recognized as one of five selected as CEMR Outstanding Advisors for 2009-2010.

A team of researchers led by Dr. Brian Anderson, received $1.2 million in stimulus funding from the U.S. Department of Energy (DOE) for a three-year research project aimed at expanding the use of geothermal energy, which is energy stored beneath the surface of the earth. Dr. Anderson is working with colleagues from Cornell University, Iowa State University, and the National Renewable Energy Laboratory on the project.

Prof. Eung Cho retired from Chemical Engineering at the end of the Spring 2010 semester. Dr. Cho has been with the Department since 1996. Before joining the faculty of Chemical Engineering, Dr. Cho served as Chair of the Mineral Processing Engineering Department in the College. Dr. Cho has been with WVU since 1978, when he joined the Mineral Processing Engineering Department as an assistant professor. He received his Ph.D. in extractive metallurgy in 1978 from the University of Utah, his M.S. from extractive metallurgy in 1974 from South Dakota School of Mines and Technology, and his B.S. in mining engineering in 1964 from Seoul National University. Dr. Cho will remain active in the department, having obtained Emeritus Professor status.

Departmental Donations

Each year the department receives approximately $25,000 in undesignated, individual contributions from our alumni and friends. We would like to take this opportunity to extend a warm thank you to all of those who have made donations to the department. We hope that you will continue your support, as we could not accomplish what we do without your help. The undesignated dollars you provide support student attendance at AIChE meetings, undergraduate laboratory upgrades, our department seminar series, recruitment of faculty and students, faculty travel, this department newsletter, and other important activities that support our mission. Thank you again for your generous support of our departmental activities.

COLLEGE NEWS

New Outlets to Connect to CEMR

CEMR recently launched pages on Facebook, Twitter and LinkedIn to help us stay in touch with our alumni and friends. You can use these outlets to get information on student organizations, scholarships, student life, and the accomplishments of our students and graduates.

facebook  www.facebook.com/wvucemr
twitter  www.twitter.com/wvucemr
LinkedIn  www.cemr.wvu.edu/linkedinwvucemr

Six CEMR Graduate Programs Ranked by US News

Dr. Warren Myers, the College’s associate dean for academic affairs, announced in April that, according to US News and World Report’s graduate school rankings, six of our College’s graduate programs are ranked as some of the best in the country: Industrial Engineering tied for 45th, Aerospace Engineering tied for 51st, Mechanical Engineering tied for 84th, Chemical Engineering tied for 87th, Civil Engineering tied for 95th and Electrical Engineering tied for 108th. Dr. Myers said, “I don’t ever remember having this many of our graduate programs ranked!” Congratulations to all.

UNIVERSITY NEWS

On September 16, 2009, Michele Wheatly was named provost and vice president for academic affairs at West Virginia University. Dr. Wheatly comes to WVU from Wright State University, where she was the dean of the College of Science and Mathematics.

Dr. Wheatly earned both a bachelor’s degree (biological sciences) and doctorate from Birmingham University, and held a post-doctoral fellowship at the University of Calgary, Canada, before joining the University of Florida as a professor of zoology. After 10 years at UF, she joined Wright State as chair and professor of biological sciences before being appointed dean of the College of Science and Mathematics in 2002.

As provost, Dr. Wheatly will oversee the administration of all academic policies, programs, facilities, and budgetary matters except for programs reporting through the health sciences.
STUDENT NEWS

Academy Scholarships Announced

The Academy of Chemical Engineers provided scholarships of $1,500 each to eight undergraduate students for the 2010-11 academic year. The recipients were:

Julian D. Bergstein ('12) Matthew A. Payne ('11)
Lauren V. Gioia ('12) Matthew S. Thompson ('11)
Jonathan A. Mauiller ('12) Jacob L. Weidman ('11)
Anna K. McClung ('13) Jennifer R. Wiegand ('11)

All scholarship winners were recognized at the 2009-2010 Annual Academy Banquet on April 30th. The banquet was attended by 130 people. (See Academy News, below.)

Student Awards and Presentations

Matthew Brumley ('13) and Garret Rhodes ('13) received an award of $500 from the NCIIA to develop a project entitled "Insulin Lab-on-a-Chip Delivery System with Regulatory Mechanisms," for the 2010 BMEidea Competition.

Jennifer Knipe ('10) has been awarded a prestigious NSF Graduate Research Fellowship. The fellowship carries a three-year annual stipend of $30,000 along with a $10,500 cost of education allowance, a one-time $1,000 international travel allowance, and the freedom to conduct her own research. Jennifer plans to attend the University of Texas, Austin, and pursue research related to biomedical engineering.

Jennifer was also one of the WVU 2010 Outstanding Senior Scholars. The recipients were formally recognized during WVU’s Commencement weekend on Friday, May 14 at 5:30 pm at the Morgantown Event Center.

Anna K. McClung ('13) and Andrea J. Sakla ('12) are recipients of the Mickey Leland Energy Fellowship sponsored by the U.S. Department of Energy.

Patty Sefton ('10) won the award for the best individual design project. Patty was presented with a leather briefcase. This award is sponsored by Chemtura Chemicals.

Erica Sladky ('10) was the recipient of the 2010 Professional Promise Award and was recognized at the AIChE Pittsburgh Section student night on March 4th at the William Pitt Union, University of Pittsburgh.

Erica was also a finalist for the Mr. and Ms. Mountaineer award. The award honors one male and one female student each year that has exemplary academic achievement and extracurricular involvement.

Jennifer Wiegand ('11) was the recipient of the 2009 Donald F. Othmer Award from AIChE.

REMINDER

For those who have sent contributions to the Department this past year, OUR MANY THANKS!! These funds are used to support many undergraduate and graduate activities, and to help enhance the overall academic and learning environments in the Department. Your support is greatly appreciated.

Please remember to designate your tax deductible gifts for use by the Department. The best way for contributing to support of WVU Chemical Engineering is to write your check out to the WVU Foundation and designate it for use by Chemical Engineering on the memo line. Also, please check with your company – many will provide matching gifts.
Senior Design
This year’s senior design project was entitled “Batch Production of Benzaldehyde Derivatives” and was led by Chief Engineer, Erica Sladky. The result of the year-long project was presented on April 27th at the National Research Center for Coal and Energy. A summary follows:

On August 21, 2009, Technocats, Inc. was contacted by Specialty Batch Products, Inc., to conduct a feasibility study of the batch production of specialty or pharmaceutical chemicals. The object was to produce chemicals that would not significantly alter the worldwide production of the product. In Phase 2, the products were narrowed down, and at the request of the client, a slate of benzaldehyde derivatives comprised of benzaldehyde, benzoin, and cinnamaldehyde, was to be designed in Phase 3.

In Phase 3, the process was designed so 2,500 tonne/y of benzoin and 500 tonne of cinnamaldehyde will be sold as product, while 3,500 tonne/y of benzaldehyde will be sold solely as a raw material for benzoin and cinnamaldehyde. A complete process design, including kinetics, separations, and scheduling, was accomplished for all three products in the final phase.

Benzaldehyde, benzoin, and cinnamaldehyde have many applications. One of the most common applications of the products is as a flavor and fragrance additive. Because of this application, it was desired to produce pharmaceutical-grade benzoin and cinnamaldehyde with purities of at least 99 weight %.

The benzaldehyde derivatives processes were to be designed within an existing facility provided by Specialty Batch Products, Inc. Two lines were available as well as several pieces of equipment.

Batch schedules were developed for each product. Benzaldehyde will be produced as a semi-batch process throughout the year on its own line. Benzoin and cinnamaldehyde are to be operated on the same line at different times of the year. Benzoin was designed as a three-month campaign operated at a rate of 1 batch/day. Cinnamaldehyde was designed to run in between the benzoin campaigns as a one-month campaign. A rate of 8 batches/day is achievable for the cinnamaldehyde process.

Based solely on raw material costs and product revenue, the production processes provide a profit of $251,071,979/y. After incurring labor and utility costs, the processes still provide a profit of $248,671,779/y. Equipment costs are not based on a per year basis, so the impact of these costs was assumed to take place in the startup year. Therefore, the equipment costs decrease the total profit to $244,166,079/y.

SPORTS
We are excited for the upcoming WVU football season to begin. The starting quarterback is yet to be determined. This year’s schedule sports seven home games, five national television appearances, and an attractive home non-conference slate. The 2010 WVU football schedule is as follows:

Sat. Sept. 4 Coastal Carolina Home
Fri. Sept. 10 Marshall Away (ESPN)
Sat. Sept. 18 Maryland Home (CEMR Hospitality Tent)
Sat. Sept. 25 LSU Away
Sat. Oct. 9 UNLV Home
Thur. Oct. 14 USF Home (ESPN)
Sat. Oct. 23 Syracuse Home (Homecoming - CEMR Hospitality Tent)
Fri. Oct. 29 Connecticut Away (ESPN2)
Sat. Nov. 13 Cincinnati Home (Mountaineer Day)
Sat. Nov. 20 Louisville Away
Fri. Nov. 26 Pittsburgh Away (ESPN/ESPN2/ABC)
Sat. Dec. 4 Rutgers Home (ESPN/ESPN2/ABC)

Alumni and Friends Invited to Pre-Game Hospitality Tents this Fall
Alumni and friends are invited to attend the College and Engineering Mineral Resources Hospitality Tents prior to the WVU football games on September 18 (Maryland) and October 23 (Syracuse - Homecoming).

Check the WVU athletics web site for game times, which are not set as of this printing.

The tent will open two hours prior to game time. No reservations or tickets are required, and there is no cost to our guests. If you’re a graduate of the College, please join us and bring family and friends.

Our tent will be in Upper Tent City, on the stadium side of the Blue Lot (hospital parking lot) on the northwest side of the stadium, near the Ronald McDonald House. Just look for the CEMR banner.
ACADEMY NEWS

Academy Meeting and Induction Ceremony

The most recent meeting of the Academy of Chemical Engineers was held on campus Friday, April 30, 2010. At the banquet and induction ceremo-ny of the Academy, held that evening at the Erickson Alumni Center, two new members were inducted. Their bios follow:

John C. Day, B.S. 1963
Kimberton, Pennsylvania

John was raised in Hundred, West Virginia. He graduated from Hundred High School as valedictorian in 1959. He completed a B.S. in chemical engineering at West Virginia University in 1963. While at WVU, he was a member of Delta Tau Delta Fraternity, played in the Mountaineer Marching Band, and was elected to Helvetia, Omega Chi Epsilon, and Tau Beta Pi.

John joined the DuPont Company immediately after college and a 29-year career followed. He held a variety of manufacturing and business positions in eight different locations, including plant manager – Memphis, business manager – cyanides and peroxides, and director of manufacturing for DuPont do Brazil located in Sao Paulo. During his last assignment with DuPont, John headed up the company’s “World Class Manufacturing” efforts.

In 1991 John joined Rollins Environmental Service, at the time the largest hazardous-waste incineration company in the Western Hemisphere. He served as regulatory affairs director and subsequently group vice president of opera-
tions. In 1997, John was named vice president of environmental health and safety, quality and six sigma for Millennium Inc. John was active in the American Chemistry Council. During his tenure, Millennium Chemicals’ safety performance went from last place to first among all mid-size and large member companies.

In 2005, John was named vice president EHS for the Henry Company, a privately held mid-size manufacturing company, focusing on building envelope systems.

John has served on industry panels in the U.S. and Europe. He also has served on the Board of Directors of Escola Graduata in Sao Paulo, Brazil, the Conference Board of Chief EHS Officers Council, the Visiting Committee of WVU Chemical Engineering, and the Board of Directors of the Environmental Technology Council. He has served as the chairman of the Franklin, Pennsylvania, Township Board of Supervisors. John is also fluent in Portuguese.

John and his wife Angela currently reside in Baltimore, Maryland.

Alex Chiahuei Kuo
M.S. ’75, Ph.D. ’78
Oriental Union Chemical Corporation
Taipei, Taiwan

Alex Chiahuei Kuo is president and CEO of Oriental Union Chemical Corporation (OUCC) in Taiwan. Before joining OUCC, Alex spent 25 years of his career with Union Carbide Corporation, and Dow Chemical in the U.S., serving as research engineer/scientist, licensing manager, R&D leader, and other positions across several businesses.

Alex has led the efforts to transform OUCC from a basic chemical company to a diversified specialty/green chemical producer since 2003. He currently serves as executive director for the Taiwan Institute of Chemical Engineers and the Taiwan Chemical Industrial Association and Board Director for the Taiwan Responsible Care Association. Alex is also a member of ACS and AIChE.

Alex was born in Taiwan in 1949. He received his BSChE from National Taiwan University in 1972. After two years of military service, he studied at WVU in Morgantown, where he earned his M.S. in 1975 and PhD in chemical engineering in 1978.

Alex and his wife Eva reside in Taipei. They have three children, Jeffrey, Benjamin, and Angela.

Émer O’Brien Gunter (BS ’80) (Academy Class of 2009), was the recipient of the Global Citizenship award for Leadership in Helping Humanity by Orphans International. Emer is one of 100 who received the award at a ceremony in New York City on Saturday, February 27, 2010. Emer and her family are very involved in volunteering in St. Louis and around the world.

Dr. Robert E. Pyle (BS ’50, MS ’51, PhD ’53) (Charter Member of the Academy, Class of 1986) who died in 2009, left the department a generous estate gift of $50,000. The gift will be used to establish the Robert E. Pyle Chemical Engineering Graduate Fellowship Fund, an endowed fund. The proceeds of the endowment will be used to support graduate students pursing advanced chemical engineering research.

CLASS NOTES

Our Class Notes section is rather sparse for this newsletter. Please write to us and let us know how and what you are doing. We appreciate your input.

1989
Ron Simonetti (BS) is the CEO for Modular Carpet Recycling in New Castle, Delaware.

1992
Daniel Collazos (BS, MS ’94) has decided to make a 180° change in his career path. Dan is going to attend graduate school in landscape architecture with an emphasis on environmental planning and sustainable design. Prior to attending graduate school, Dan was working with 3M Electronics.

1996
Rebecca L. Pinnell (BS) is now the director, global quality compliance, for Mylan. Rebecca resides in Morgantown, West Virginia.

2003
Kelly Deangelo (BS) is employed by the American Sugar Refining Company and resides in Jessup, Maryland.

2007
Tirzah Mills (BS) and Robin Glebes (BS) were married on March 22, 2010, in Haleiwa, Hawaii. Congratulations to the happy couple.

2008
Tze-Wei Liu (PhD) is an engineer for Precision Machinery Research and Development Center. His main work is to synthesize solar cell materials in an efficient and costly way. Tze-Wei and family reside in Taiwan.
IN MEMORIAM

Professor Hisashi O. Kono passed away on February 27, 2010 in Japan. Prof. Kono joined the faculty in the Department of Chemical Engineering at West Virginia University in May 1983 as a full professor and technical research director of the NSF-WVU-Industry Fluidization Center. Prof. Kono’s expertise was in the areas of fluidization, powder technology and powder material science. During his tenure at WVU, he graduated 10 PhD students and 10 MS students. He also published over 50 papers in refereed journals and made numerous research presentations. Professor Kono retired in May 2004 at which time he was awarded emeritus status. Professor Kono returned to Japan in 2006.

William M. Smith (BS ’59) (Academy Class of 1998) passed away suddenly October 26, 2009, in Florida while visiting family. Bill was a chemical engineer by degree and had a successful and diverse career in the environmental field. He began his career as a student engineer at the U.S. Bureau of Mines. After graduating from WVU in 1959, he entered the steel industry where he rose through the ranks to director of environmental control. In 1984 he made a career change and entered the environmental consulting field, where he worked as vice president of business development for Halliburton NUS Environmental Corp., senior vice president and director of environmental services at Brown & Caldwell Consultants Inc., and served as a consultant to Schering-Plough Corp. on energy issues. He remained interested and active in the environmental field into retirement. He was an ardent WVU and Steelers football fan. He enjoyed gardening, serving as a member of the Frontier Culture Museum Board of Trustees, golfing, and traveling. Bill is survived by his loving wife, Ann, and four children. Ann resides in Staunton, Virginia.