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: ____________________________________________

Degree(s): ______________________________________ Year ________

Home Address: ______________________________________

City_____________________________ State ____ Zip _______

Home Phone ________________________________________

Business Phone ______________________________________

E-mail:______________________________________________

Employer:_________________________________________

Position Title:_____________________________________

Employer Address: _____________________________________

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Preferred Mailing Address: Home ______ Work _______

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 http://www.cemr.wvu.edu/~wwwche/
MESSAGE FROM THE CHAIR

Consider this a continuation of sorts of my message in the last newsletter, where I noted that changes were afoot. You may have heard from other sources that the College is considering an undergraduate degree in biomedical engineering and that the Department is spearheading this effort. I had hoped that things would be further along by this time, and that I would have more definite news to report. But the progress that we have made is substantial and exciting, and I would like to bring you up to date.

Late last year, a committee headed by Dr. Richard Turton came up with a set of procedures that would start with a Biomedical Engineering Certificate and, over a period of years, result in the Department having one degree in chemical engineering and another in biomedical engineering. This resulted in the formation of a college-wide Task Force. The recommendation of this Task Force was that biomedical engineering would be one degree of a dual-degree program, with the other degree being either chemical engineering, mechanical engineering, or electrical engineering. Needless to say, our two newest faculty members, Drs. David Klinke and Brian Anderson, played a big role in the entire process. In discussing this recommendation, the three department chairs and the dean decided that, as a start, our department would serve as a pilot. We are therefore engaged in planning this program for chemical engineering. We hope that it will be formalized in time for entering freshmen to be able to opt for this. In any case, we expect to offer the entry-level course (at the sophomore level) for the first time in Spring 2008, when the course can be taken by the current crop of freshmen. Consistent with the development of the biomedical engineering program, we currently have an active search for a tenure-track faculty member with research interest in tissue engineering. Stay tuned for more developments!

Dady Dadyburjor, Chair
WVU Department of Chemical Engineering

This newsletter is published twice yearly to keep our alumni and friends informed of departmental news and ongoing activities. For additional information, visit our Home Page on the World Wide Web
http://www.cemr.wvu.edu/~wwwche/

We continue to make it more informative and useful to our visitors. Let us know your thoughts and comments, and drop us a line.
DEPARTMENT NEWS

Dow/Union Carbide Cropley Distinguished Lecture

On March 16, 2007, Dr. Jan J. Lerou of Velocys, Inc. presented the Dow/Union Carbide Reaction Engineering and Catalysis Seminar honoring Jean B. Cropley. The seminar was entitled “Microchannel Process Technology: Past, Present and Future.”

Dr. Lerou is managing the Experimental Operations Department at Velocys, Inc., which is developing revolutionary processing systems that will provide chemical and energy companies with substantial capital cost savings, improved product yields, and greater energy efficiencies. He was previously vice president and chief technology officer of NovoDynamics, Inc., a start-up company based in Ann Arbor, Michigan, creating and selling leading-edge pattern-recognition and data-mining software products.

Dr. Lerou is actively involved in academic, technical, and scientific institutions. He is a visiting professor of chemical engineering at the Katholieke Universiteit Leuven, Belgium, since 1997. He serves on the industrial advisory boards of the chemical engineering departments of the University of Virginia, the University of Houston, the Pennsylvania State University, and Washington University, St. Louis. He is past chair and director of the Catalysis and Reaction Engineering Division of the AIChE and President of ISCRE, Inc.

Faculty & Staff News

Ms. Gabriela Perhinschi, a research assistant I in the Department of Chemical Engineering, working in the Analytical Group with Carbon Products, was the recipient of one of the 2006 CEMR Outstanding Staff of the Year Awards. Four awards are given annually to outstanding classified staff of the College. The awards were presented at the annual Classified Staff Awards Luncheon held on Thursday, February 15, 2007, at the Erickson Alumni Center.

At the CEMR Honors Ceremony held on Friday, April 20, 2007 at the Erickson Alumni Center, Dr. Brian Anderson was honored as the CEMR New Researcher of the Year for 2006-2007. Dr. Richard Turton was one of five selected as CEMR Outstanding Teachers for 2006-2007 and was subsequently honored as the Teacher of the Year, CEMR, 2007. And, Dr. John Zondlo was honored as CEMR Student Organization Advisor of the Year.

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Graduate Program of Excellence

The WVU Graduate Council approved the recommendation for Program of Excellence Status for the ChE graduate programs. These programs join the Undergraduate Program, which was declared a Program of Excellence the first time this recognition was offered by the Board of Governors. Now, all the Department’s programs are deemed excellent!

New Club Formed

Transfer student Lucas Ellis was the driving force behind the Biodiesel Club recently formed on campus. Professor Brian Anderson serves as the club’s advisor. The club will pick up used frying oil from Dining Services on campus and convert it to diesel fuel to be used by campus vehicles. The club has received extensive publicity, including a story in the Dominion Post.
Senior Design

This year’s senior design involved energy from unconventional renewable sources. The final report was entitled “A Design Study of an Ethanol Production Facility Utilizing Cellulosic Biomass.” The senior class, with chief engineer Justin Stover, presented their results on Tuesday, April 24, 2007, at the National Research Center for Coal and Energy. The following is an edited abstract of the design project:

A preliminary design of a cellulosic ethanol plant was created. In the design, a reactor section featuring saccharification and fermentation was designed in depth, along with a separations section and a boiler to provide both electricity and steam for the plant.

Four cases were considered for the economic analysis. The base case was a plant with the electricity/steam-generation facility but with no government subsidies, while the best case was a plant with the electricity/steam-generation facility and government subsidies. Two other cases were investigated: a plant without the electricity/steam-generation facility and no government subsidies, and a plant without the electricity/steam-generation facility but with government subsidies.

In the best case, a discounted cash-flow rate of return (DCFROR) was found to be 16.74%, well above the target of 12%. The net present value (NPV) was found to be $46.77 million. The discounted payback period is 6.1 years. This is slightly longer than the case without the generators but with subsidies, but the opportunity for profit was higher in the best case.

The plant location was optimized. Several factors were considered, such as feedstock availability and transportation costs. The two choices considered were Imperial, Nebraska, and Mendota, Illinois. It was decided that Mendota was the best choice for the aforementioned reasons. This location also has a variable feedstock availability, having both corn stover and wheat straw.

The size of the co-fermentation tanks were optimized, using a mathematical model. This modeled the concentration profiles with respect to time in the tanks. It was found that, once the conversion reached near 95%, the reaction reached near-asymptotic behavior. While it only took around 24 hours for this conversion to be reached, it took almost 40 hours for the reaction to go to near completion.

The number of tanks needed for fermentation was also optimized, as was the agitation required for them. It was found that, as the number of tanks increased, the cost also increased, even with the added cost of agitation. It was decided that two tanks would be used to ensure the system would remain well mixed.

A storage area for the feedstock was also designed. This area can hold up to 725,000 tonnes of corn stover and wheat straw. The feedstock will be stored in rectangular bales that will be stacked. It was optimized with the constraint to minimize the distance required to travel in order to retrieve the feedstock. The design consists of four equally sized plots. The area is intersected twice perpendicularly, once by a road and once by a railroad.

The feedstock schedule was optimized, taking into account the harvest seasons for corn and wheat. During the corn harvest months, no corn stover is pulled from storage. All the facility demands are met with the amount coming directly from the fields, while any excess is put into storage. During the early months, when wheat is harvested, the wheat straw is sent directly to storage for later use.

Faculty and students enjoyed brunch at the AIChE Annual Meeting in San Francisco, California, in November 2006.
**STUDENT NEWS**

**Scholarships**

The Academy of Chemical Engineers provided scholarships of $1,500 each to four rising seniors and four rising juniors for the 2007-08 academic year. They were:

- Paul M. Braswell ('09)
- Cassie A. Cunningham ('09)
- Thomas F. Cutlip ('08)
- Nathan H. Hayes ('09)
- Marissa J. Morphis ('08)
- Jason T. Peluchette ('09)
- Erica R. Trump ('08)
- Jessica D. Weaver ('08)

All scholarship winners were recognized at the 2006-2007 Annual Academy Banquet on April 27. The banquet was attended by 105 people. (See Academy News, below.)

**Student Awards and Presentations**

While all members of our graduating class are distinguished, once in a while one of them gets true recognition of his or her worth by being inducted into the Order of Augusta, WVU's highest academic honor awarded to graduating seniors. This is the first time that we can recall that two ChEs have been awarded this distinguished honor in the same year. Please join with us to congratulate Tirzah Mills ('07) and Justin Stover ('07) for their accomplishments. Earlier, Justin and Tirzah were named as one of 30 Outstanding Seniors.

Tirzah Mills has received a prestigious Graduate Research Fellowship from the National Science Foundation, worth more than $120,000. Tirzah will be heading to the mountains of Colorado to pursue a doctorate in the Department of Chemical and Biological engineering at the University of Colorado at Boulder, starting this fall.

Kyle Chapman, a sophomore chemical engineering major from Lost Creek, West Virginia, has been chosen as the alternate Mountaineer mascot for the 2007-2008 academic year.

Robin Glebes ('07) and Tirzah Mills ('07) received the President's Volunteer Service Award at the Gold level, recognizing their volunteering for more than 250 hours this academic year. Cassie Cunningham ('09) and Christopher Thomas ('07) received the award at the Bronze level for over 100 hours of volunteer work.

Jonathan D. McCarroll ('07) was awarded a briefcase for his second-semester design solution.

This involved a 50,000 tonne/year facility to manufacture formalin from methanol. The award is sponsored by Chemtura.

Over and above her recognitions with the Order of Augusta and the NSF GRF, Tirzah Mills ('07) took second place in the Food, Pharmaceutical and Biotechnology Division, Undergraduate Research Poster competition at the AIChE Annual Meeting in November 2006. The title of Tirzah’s poster was “Genomics-Enabled Optimization of E. coli Succinate Production.”

Tirzah Mills ('07) was the recipient of the Professional Promise Award from the Pittsburgh Section of AIChE, Spring 2007.

Tirzah Mills ('07) also was the recipient of the 2007 Showalter Award from WVU. Tirzah was recognized for her efforts on behalf of her fellow women students.

Zack Schwertfeger ('08) received third place for his research at the 2007 Mid-Atlantic AIChE Regional Conference held at Bucknell University in April. Zack’s presentation was entitled “Modeling the Onset of Type I Diabetes.” He is working under the direction of Dr. David Klinek.

Erica Trump ('08) received the Donald Othmer Sophomore Academic Excellence Award from AIChE in Fall 2006.

Kuzilati Kushaari, a doctoral student in chemical engineering working with Dr. Richard Turton, placed second in the Particle Technology Forum Poster Session at the AIChE Meeting in San Francisco, California, during November 2006. The title of her poster was “Coating Variation at the Edge of a Tablet: an Experimental Study of Droplet Impact Behavior.”

David Statler, Jr., a doctoral student in the Department, received honorable mention for his oral presentation at the 2006 Eastern Regional Chemical and Materials Engineering Graduate Symposium in Lexington, Kentucky. His presentation was entitled “Recyclability of Flame Retarded Polycarbonate: Comparison of the Effects of Non-Halogenated to Halogenated Flame Retardants.”

David Statler, Jr. also placed third in the Materials Engineering and Science Poster session at the AIChE Annual Meeting in November 2006. His poster was entitled “Recyclability of Flame Retardant Polycarbonate: Comparison of Non-Halogenated to Halogenated Flame Retardants.”

**COLLEGE NEWS**

**College’s First Member of NAE**

Professor Syd Peng of the Department of Mining Engineering has been elected a member of the National Academy of Engineering. He is the first full-time faculty member at WVU to be so honored.

**Work Started on Addition to Engineering Sciences Building**

Construction has begun on a new 28,000-square-foot addition to the Engineering Sciences Building’s East Wing. A two-story atrium will provide an attractive, new main entrance to the building. Also included in the addition will be a high-tech theater-style lecture hall that will seat 150, a student learning center, state-of-the-art teaching and research laboratories, and office space for professors and graduate assistants.

Unfortunately, the construction is playing havoc with parking. Anticipated completion is Summer 2008.

**UNIVERSITY NEWS**

The successor to David C. Hardesty Jr. was named at last month’s meeting of the WVU Board of Governors. The twenty-second president of WVU will be Michael S. Garrison, currently managing member of Spilman, Thomas, and Battle PLLC. Mr. Garrison previously served as chair of the West Virginia Higher Education Policy Commission.

Starting this year, there will be no central University-wide Commencement. Instead, each College will hold its own ceremony over a weekend. The University will award honorary degrees, etc., at a special Honors Convocation on Friday evening.
Haden Inducted Into Academy

The Academy of Chemical Engineers inducted one new member at its banquet and induction ceremony on April 27, 2007, at the Erickson Alumni Center. His bio follows:

J. Richard Haden, Jr., B.S. ’63
DuPont (retired)
Thornton, Pennsylvania

Dick Haden was raised in Morgantown, West Virginia, and graduated from West Virginia University in 1963 with BChE and BSChE degrees. He earned the MSChE degree from the University of Delaware in 1965. His thesis, “Stripping Column Control,” demonstrated a practical method of feed-forward control for top-feed distillation processes and was published in the Instrument Society of America (ISA) Journal.

His professional career included 43 years with DuPont in various technical and management positions. Among other accomplishments, he provided leadership to a research and engineering team which developed and implemented an economically viable, very-low-emission manufacturing process for chemical intermediates. Since then, he has worked as an external consultant in workplace safety. His clients include, among others, NASA, United Airlines, McDonalds, a convenience store chain, and a major health-care provider. His work has earned recognition by AIChE, ISA, The Chlorine Chemistry Council of Chemical Manufacturer’s Association, and by several of his consulting clients.

Dick is married to Mary Kay (Giboney), also a 1963 WVU graduate, and they have two children and four grandchildren. Dick is an avid golfer and enjoys choral singing and travel.

B.S. Class of 1997 Reunion

A few members of the WVU B.S.ChE Class of 1997 are determining if there is any interest in holding an informal ten-year class reunion. The initial thoughts are to meet on September 22 and go to the East Carolina vs. WVU football game and then go out to dinner afterwards. Other ideas are welcomed. If you are interested, please contact either Deana VanDer Kamp (deevanders@yahoo.com) or Chris Durst (cdurst@hotmail.com) ASAP so planning can begin. Thanks!
**CLASS NOTES**

1938
James C. Goodwin (BS, MS ’39) retired from Celanese after working for more than 40 years. He hopes to keep getting along by himself and currently lives in an apartment in Pearisburg, Virginia. Jim is a member of the Methodist Church and is very active in Sunday School.

1942
William A. Bumgardner (BS) retired in 1976 from Bumgardner and Company and indicates that he is still going strong at 85. He has been married to Ruth for 61 years and they have three daughters. William also states: “Like most people our age, [we] have done our share of traveling and Country Clubs, Dog and Horse shows.” William and Ruth reside in Highlands, North Carolina, and he indicates that the Highlands area is the summer residence for the SE – USA.

1974
John Thomas Voltz (BS) recently returned to the U.S. after working in Paris for several years. Tom is employed by ARKEMA, Inc., in the Philadelphia area.

1980
Emer (O’Broin) Gunter (BS) was recently named vice president for environmental, safety, health and human rights for Monsanto. She is on the Advisory Council for the Council for Chemical Process Safety and is the executive contact for Monsanto for the American Chemistry Council. The Wildlife Habitat Council (WHC) also announced Emer as the new chairman of the Board of Directors. She assumed the position on March 6, 2007, during the biannual Board meeting, which took place in Concord, California. She is the first woman to lead the organization in its 19-year history. She has been on the WHC Board of Directors since 2003 and previously served as secretary-treasurer. She and her husband, Michael, live in St. Louis with their two teenage daughters.

1983
Keith Kolmerten (BS) is employed by Jones Metal Products as an engineering manager and resides in Coshocton, Ohio.

1985
Kevin Trompak (BS) is employed by Cachevision, Inc. He and his family reside in Henderson, Nevada.

1993
Aaron Cameron (BS) is currently working as production manager at International Specialty Products in Texas City, Texas. Aaron moved to the Houston area about two years ago after working in West Virginia for 12 years.

Maqbul Jamil (MS) is employed by Novartis Pharmaceuticals. Maqbul and his wife have two children and reside in Bridgewater, New Jersey.

1995
Kris Schepenik (BS) is a senior engineering manager at Seagate Technology in Bloomington, Minnesota. Kris and wife, Kim, have four children and reside in Lakeville, Minnesota.

1996
Oguz Bayraktar (MS, PhD ’01) received a promotion to associate professor at Izmir Institute of Technology.

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**SPORTS**

The 2007 WVU football schedule is as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Opponent</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sat., Sept. 1</td>
<td>Western Michigan</td>
<td>Home Parent’s Day (CEMR Hospitality Tent)</td>
</tr>
<tr>
<td>Sat., Sept. 8</td>
<td>Marshall</td>
<td>Away</td>
</tr>
<tr>
<td>Thurs., Sept. 13</td>
<td>Maryland</td>
<td>Away</td>
</tr>
<tr>
<td>Sat., Sept. 22</td>
<td>East Carolina</td>
<td>Home</td>
</tr>
<tr>
<td>Fri., Sept. 28</td>
<td>South Florida</td>
<td>Away</td>
</tr>
<tr>
<td>Sat., Oct. 6</td>
<td>Syracuse</td>
<td>Away</td>
</tr>
<tr>
<td>Sat., Oct. 20</td>
<td>Mississippi State</td>
<td>Home Homecoming (CEMR Hospitality Tent)</td>
</tr>
<tr>
<td>Sat., Oct. 27</td>
<td>Rutgers</td>
<td>Away</td>
</tr>
<tr>
<td>Thurs., Nov. 8</td>
<td>Louisville</td>
<td>Home Mountaineer Day</td>
</tr>
<tr>
<td>Sat., Nov. 17</td>
<td>Cincinnati</td>
<td>Away</td>
</tr>
<tr>
<td>Sat., Nov. 24</td>
<td>Connecticut</td>
<td>Home</td>
</tr>
<tr>
<td>Sat., Dec. 1</td>
<td>Pittsburgh</td>
<td>Home</td>
</tr>
</tbody>
</table>

Shortly after the WVU Men’s Basketball Team won the NIT championship, head coach John Beilein left WVU to become the new head coach at the University of Michigan. Coach Bob Huggins was been hired as the new head coach for men’s basketball.

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**IN MEMORIAM**

Walter W. Baker (BS ’44, MS ’47) passed away on January 31, 2007, after a long illness. Walter was 86 years old and resided in Hendersonville, North Carolina, with his wife, Margaret. Walter was a charter member of the Academy of Chemical Engineers, and played a significant role in its formation.

Kenneth Jones (BS ’79) died after being hit by a car in Jacksonville, Florida. Kenny had traveled to Florida to attend the Gator Bowl with some of his close friends. Kenney was hit by a car on January 1 and died a few days later in a Jacksonville hospital.

Steve Mazur (BS ’81) passed away as a result of an automobile accident.

Samuel L. Postlethwaite, 23, of Ripley passed away Thursday, October 5, 2006, at Charleston General Hospital from injuries received in an automobile accident. Sam was a sophomore in the Department of Chemical Engineering at the time of his death.

James M. Smith (BS ’36) passed away on December 22, 2006, due to complications from a fall in November 2006. Jim was 93 years old and lived in Loveland, Colorado. Jim was a member of the Academy of Chemical Engineers.

Benjamin J. Weaver (’99) died on September 25, 2006, due to complications from an accident during a whitewater rafting trip. Ben was employed by E.I. DuPont, working in Teflon at the Washington Works Plant.
Jennifer (Cleary) Burt (BS), husband Chris and son Gavin welcomed a baby daughter to the family. Bailey Noel was born October 24 at the University of Michigan Hospital in Ann Arbor, Michigan. Bailey weighed 7 lbs, 15 oz and measured 21 inches long. Congratulations to Jennifer and family.

Patrick Coffey (BS) is a technical service manager for Invista in Spartanburg, South Carolina.

1997
Kevin McCarthy (BS) is still with the United States Air Force and was reassigned to Los Angeles, California, in August 2006. He will spend the next three to four years on technology development in the space field.

2000
Bill Paukstis (BS) is employed by Parsons, Inc., in Philadelphia, Pennsylvania. Parsons is an architectural and engineering firm for the pharmaceutical and biopharmaceutical industries.

2001
Raymond Harvey (BS) is the customer fulfillment AOL for Diamond Innovations (formerly called GE Superabrasives) in Worthington, Ohio.

2002
Manish Bhole (MS) will finish his PhD at UICT in Mumbai, India, in the near future. Manish's PhD work is in the area of computational fluid dynamics and uses laser-Doppler anemometry measurements of flow patterns in bubble-column reactors. Manish has published three papers from his doctoral work. Manish and wife, Vidula, are expecting their first baby in March 2007.

Raymond Chafin (BS) accepted a position with Shell, as a project leader for a catalytic distillation subsidiary, CDTECH. He will be working on desulfurization of gasoline. Ray indicates that he will be getting married in August at Snowshoe. Ray resides in Pearland, Texas.

Jason Gaspar is a staff biochemical engineer for Merck Company. Jason notes that his work is pretty much pure biochemical engineering. He works in the biologics/vaccine division, which is the group that invented Gardisil as well as Zostavax.

2003
Christopher H. Clark (BS, MS '05) passed his qualifying exams at the University of California at Riverside and expects to complete his Ph.D. in 2008. Chris resides in Anaheim, California.

2005
Naveenkamal Ravindran (MS) recently started employment with Zestron American in Manassas, Virginia.

2006
Suneetha Burla (MS) is getting married on May 13, 2007, in her hometown, Mancherial, India. Suneetha will marry Satya M. Bantupalli who received an M.S. degree in computer science from WVU. Congratulations!

2007
Mark Heavner (MS) is employed by United Space Alliance in Cape Canaveral, Florida.

Huifang Shao (PhD) is a senior R&D engineer for Afton Chemical Corporation. Huifang is working in the Fuels R&D Division. She resides in Richmond, Virginia.