As you may have heard, WVU President James Clements was recently selected to be president of Clemson University. According to James W. Dailey, chairman of the WVU Board of Governors, “Since the hiring of Jim Clements in 2009, West Virginia University has experienced unprecedented success in many areas—private giving, enrollment, academics, research funding, health care, community service, economic development, and so much more.” We thank him for his service to WVU, and we wish him and his family the very best in the future. A national search for a new president is now underway with the goal of having someone in place by fall 2014. In the interim, the University will be led by E. Gordon Gee, president emeritus of Ohio State University. Gee is very familiar with WVU, having become dean of WVU’s Law School in 1979 and then serving as president from 1981 to 1985. In 2009, Gee was named by Time as one of the top 10 university presidents in the United States. We extend a very warm welcome to him.

Our efforts to establish a bachelor’s degree program in biomedical engineering (BMEG) have finally come to fruition, with the WVU Board of Governors giving final approval to our plans on August 7, 2013. In the last newsletter, I had mentioned that we were searching for a teaching-track assistant professor in support of the BMEG program. I am happy to report that Robin Hissam has accepted this newly created position and has taken charge of implementing the program as coordinator. We are now working on guidelines to be used to admit current WVU freshmen and other students into the program. These students will declare BMEG as their major by the end of spring 2014, and the first class will graduate in 2017. For each of the first three years, enrollment will be capped at 40 students. This is because new teaching laboratories are being established, and we want to ensure that adequate facilities are available for the students.

In an earlier newsletter, I described WVU’s “Mountains of Excellence” initiative that aims for strategic investment in research areas where there is potential for growth and substantial return on the University’s investment. One of the areas identified is shale gas utilization, and advertisements have been placed for the recruitment of an endowed Statler chair and two tenure-track assistant or associate professors. These positions will be shared by the departments of chemical engineering and mechanical and aerospace engineering. This represents an exciting opportunity to collaborate with industry and national laboratories in order to grow in an area of regional and national importance. Governor Earl Ray Tomblin announced in November 2013 that the Brazilian petrochemical company Odebrecht is exploring the possibility of building an ethane cracker in Wood County. The product of cracking ethane is ethylene, which is the feedstock for the production of plastics and chemicals, including polyethylene and polyvinyl chloride. Odebrecht is the parent of Braskem, which was founded in 2002, and is the largest petrochemical company in the Americas in terms of thermoplastic resin (polyethylene, polypropylene, and PVC) production capacity.

Given the likelihood of retirements in the near term, we have begun planning for the future of the Department. Questions posed at the faculty retreat held on August 12, 2013, included: Where are we now? Where do we want to be? How do we get there? How do we monitor/measure our progress? In terms of hiring, do we hire the best and brightest or do we hire in a particular area? This discussion has been continued in the fall semester as part of the process of strategic planning that is being facilitated by members of WVU’s ADVANCE Center. Three separate planning sessions have been held, and we hope to complete the strategic plan in the future. I anticipate providing a report on this in the next newsletter.

This past fall, we had 37 seniors, while the junior class had 56 members. The sophomore class was again quite large at 78 students. Indications are that the incoming sophomore class will be of similar size. Student numbers in the graduate program have been fairly...
Chair’s message continued from page 1...

stable, and we currently have 31 full-time students. However, the relative mix of master’s and doctoral students has changed; in 2009 there were 10 full-time Ph.D. students, while today the number is 26. During academic year 2012-2013, we graduated three students with a master’s degree and three with a Ph.D.

In other student news, eight undergraduates attended the 2013 American Institute of Chemical Engineers annual meeting in San Francisco. Seven of these competed in the research poster session, and two of them won awards. Andrew Maloney won second place in the Environmental II division, while my daughter, Neha Gupta, won first place in the Food, Pharmaceutical, and Biotechnology division. Also, Reem Eldawud won the third prize in the graduate poster presentation where 200 students competed for only three awards. In addition, Chenbo Dong was one of the finalists in the graduate student award podium presentations. A common feature of all the award winners was that they all went through Cerasela Dinu’s “finishing school”; she was the research advisor to all of them. Congratulations to her and to all her students!

In spring 2013, we hosted the inaugural Plastics Day. We plan to continue holding this event in the future and to also organize a Chemical Engineering Day. These two activities will be scheduled in alternate semesters, and they will help to not only showcase the accomplishments of our students but also to recruit talented students into our Department. We plan to work in concert with freshman engineering to make the events successful. These will be carried out with the financial support of the Dow Chemical Company, which recently gave us a very generous grant directed to STEM engagement.

I close with the happy news that Brian Anderson has been selected as a recipient of the Presidential Early Career Award for Scientists and Engineers; Professor L. James Lee; and Dinu’s “finishing school”; she was the research advisor to all of them. Congratulations to her and to all her students!

Dr. Rakesh Gupta  
Chair, Department of Chemical Engineering

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**UNIVERSITY NEWS**

**WVU PRESIDENT JIM CLEMENTS LEAVES**

In November, WVU President, Jim Clements announced he would be leaving West Virginia University to become president of Clemson University. Clements, who was named WVU’s president in March 2009, took over the reins at Clemson University in January 2014.

The Board of Governors has named E. Gordon Gee as interim president for WVU and a national search will begin shortly. Gee is professor emeritus of Ohio State University and is a former president of WVU (1981-1985). He will serve in this role until a permanent president is in place.

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**DEPARTMENT NEWS**

**CHE INDUSTRIAL VISITING COMMITTEE**

The Department’s Industrial Visiting Committee met on October 9-10, 2013, for its annual meeting. The Biomedical Engineering Subcommittee met during the morning of October 9, and then reported back to the entire committee on October 10. The following members were present and provided valuable advice and counsel to the Department, especially as we progress with the biomedical engineering degree:

- Steven Alford, Alford Performance Solutions
- Steven Auvil, Air Products and Chemicals, Inc. (retired)
- Jack Dever, MATRIC
- Kevin DiGregorio, Chemical Alliance Zone
- Karl W. Haider, Bayer MaterialScience
- George Keller, MATRIC
- Kenneth Miller
- Denny Mills, Select Energy Services
- Raymond Page, Worcester Polytechnic Institute
- Linda Phinney, Alcon
- Vince Stricker, Dow Chemical Company
- Yu-Li Wang, Carnegie Mellon University
- Kevin Gilbert from DuPont and Geo Richards from the U.S. Department of Energy were unable to attend due to scheduling conflicts. The committee welcomed new members Karl Haider, Denny Mills, Linda Phinney, and Yu-Li Wang.

**DUPONT SEMINAR**

On Friday, September 6, 2013, L. James Lee from Ohio State University, presented the annual DuPont Seminar with a talk entitled “Synthesis and Applications of Graphene Nanopapers and Coating.” Lee is the Helen C. Kurtz Professor of Chemical and Biomolecular Engineering. He received his bachelor’s degree in chemical engineering from National Taiwan University and a doctorate in chemical engineering from the University of Minnesota. He joined Ohio State University in 1982. This seminar is made possible by the financial support of the DuPont Company.
WVU’S ANDERSON RECEIVES PRESIDENTIAL EARLY CAREER AWARD

Brian Anderson, GE Plastics Material Engineering Professor of Chemical Engineering at West Virginia University, has been selected as a recipient of the Presidential Early Career Awards for Scientists and Engineers (PECASE), the highest honor bestowed by the United States Government on science and engineering professionals in the early stages of their independent research careers.

Anderson was nominated for the award by the Department of Energy, one of 13 federal departments and agencies that join together annually to nominate the most meritorious scientists and engineers whose early accomplishments show the greatest promise for assuring America’s preeminence in science and engineering and contributing to the awarding agencies’ missions.

“I am truly honored to be chosen for the PECASE and to represent WVU and the Statler College of Engineering and Mineral Resources,” said Anderson. “It is very important to me to carry on the long and distinguished legacy of energy research at WVU. As both a graduate and the engineering from WVU in 2000, and earned his bachelor’s degree in chemical engineering from WVU in 2000, and his master’s and doctoral degrees from Massachusetts Institute of Technology in 2004 and 2005, respectively.

Workshop. Anderson was named the Statler College’s “Teacher of the Year” in 2010. In addition to his teaching responsibilities, Anderson serves as coordinator of strategic research in energy for WVU’s Research Office.

“By virtue of this award, Brian Anderson has positioned himself as a rising star in the field of energy research and education,” said Gene Cilento, Glen H. Hiner Dean of the Statler College of Engineering and Mineral Resources. “He will be a key player in WVU’s plans to play a leadership role in the energy arena.”

“In the short time that Brian Anderson has been on the faculty at WVU, he has made major technical advances while working closely with other universities, industrial companies and national laboratories,” said Rakesh Gupta, professor and George and Carolyn Berry Chair of Chemical Engineering. “The Presidential Early Career Award is well-deserved recognition not only of his current contributions but also of his future potential.”

“The impressive achievements of these early-stage scientists and engineers are promising indicators of even greater successes ahead,” President Barack Obama said. “We are grateful for their commitment to generating the scientific and technical advancements that will ensure America’s global leadership for many years to come.”

A native of Ripley, W.Va., Anderson earned his bachelor’s degree in chemical engineering from WVU in 2000, and his master’s and doctoral degrees from Massachusetts Institute of Technology in 2004 and 2005, respectively.

2013 EMERITUS CLUB BREAKFAST

The 2013 Statler College Emeritus Club Breakfast was held on June 7, 2013, at 9 a.m., at the Erickson Alumni Center. John Zondlo played host for the Department of Chemical Engineering. Alumni in attendance from the Department were:

- Thomas Cochrane, BSChE, 1950
- Richard Haden, BSChE, 1963
- George Taylor, BSChE 1960, MSChE 1966
- Paul R. Westfall, BSChE, 1950

CHEMICAL ENGINEERING DEPARTMENT LECTURE


CHEMICAL ENGINEERING ALUMNA ENDOWS SCHOLARSHIPS

Rhonda Radcliff (BS ’89) has created five endowed scholarships and two fellowships through her employer’s gift matching program. Each provides assistance to students in the Statler College of Engineering and Mineral Resources. Radcliff, who works for ExxonMobil and resides in Mountain View, Calif., has named all the endowed scholarships and fellowships after members of her family.

The Major in Print or Electronic?

In an effort to share news about the happenings of the Department of Chemical Engineering with a larger audience, we are considering transitioning The Major to an electronic publication. Please share your thoughts on this possible transition via email to linda.rogers@mail.wvu.edu or indicate your preference on the Alumni Update form when you return your updates. Thanks for your help.
**UNDERGRADUATE STUDENTS PARTICIPATE IN POSTER COMPETITION AT AICHE**

Seven undergraduate chemical engineering students presented posters at the annual meeting of the American Institute of Chemical Engineers, which was held in San Francisco, Calif., this past November. **Neha Gupta** (’14) won first place in the Food, Pharmaceutical, and Biotechnology Division with her poster titled, “The Anticancer Mechanisms of Digitoxin on Lung Cancer Cells.” **Andrew Maloney** (’16) won second place in the Environmental II Division with his poster titled, “Bionano Conjugates With Bacterial Decontamination Capabilities.” Both Gupta and Maloney are working with Cerasela Dinu.

Several graduate students also attended the meeting. **Reem Eldawud** (PhD ’15) won third place in the Nanoscale Science and Engineering Forum Division with her poster titled, “Electronic Platform to Quantify Cellular Mechanisms Associated with Carbon Nanotubes.” Eldawud is performing research under the direction of Cerasela Dinu.

**Sarah Caprio** (PhD ’16) was awarded a Lyle Mamer Fellowship through the Women’s International Network of Utility Professionals.

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**CLASS OF 2013**

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<tr>
<th>May 2013</th>
<th>December 2012</th>
<th>May 2013</th>
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<tr>
<td>Arthur E. Addington</td>
<td>Madhur Bedre (M.S.)</td>
<td>Alan Campbell (M.S.)</td>
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<td>Kelly N. Babiak</td>
<td>Research Advisor: Brian Anderson</td>
<td>Research Advisor: Cerasela Dinu</td>
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<td>Tyler W. Browning</td>
<td>“Reservoir Simulations of Low-Temperature Geothermal Reservoirs”</td>
<td>“A Systematic Study of Enzyme-Nanomaterial Interactions for Application in Active Surface Decontamination”</td>
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<td>Matthew B. Brumley</td>
<td>Job S. Kasule (Ph.D.)</td>
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<td>Angela E. Carey</td>
<td>Research Advisors: Debangsu Bhattacharyya and Richard Turton</td>
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<td>Holden Carroll</td>
<td>“Mathematical Modeling and Simulation of a One-Dimensional Transient Entrained-flow GEE/ Texaco Coal Gassifier”</td>
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<td>Joseph P. Ghada</td>
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<td>Sara C. Corr</td>
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<td>Adrienne N. Liberati</td>
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<td>Brittany L. Lockard</td>
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<td>Joshua A. Long</td>
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<td>Gabrielle Rogers-Nieman (M.S.)</td>
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<td>Surya Manivannan</td>
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<td>Research Advisor: Cerasela Dinu</td>
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<tr>
<td>Justin A. Marcinizyn</td>
<td></td>
<td>“Systematic Analysis of Carbon Nanotubes Toxicity in Cellular Systems”</td>
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If your company is hiring, please let us know. We are always interested in providing more opportunities for our graduates.

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In 2013-2014 the Department has 31 full-time graduate students enrolled, 26 of whom are in the Ph.D. program. We graduated three M.S. students and three Ph.D. students during the previous academic year. Their names, research topics, and research advisors are as follows:
Graphene-Based Composite Sensors for Energy Applications

The objective of this research is to produce a high sensitivity, rapid response electronic nose for chemical species found in harsh energy applications using graphene-nanoparticle composites. Examples of these applications include gasification, oxy-fuel combustion, solid oxide fuel cells, advanced turbines, advanced boiler systems, carbon capture and utilization subsystems, hydrogen separation, as well as shift and synthesis gas conversion reactors. These sensors will allow selective sensing of gas species in a mixed gas environment at temperatures in the 600°C-1000°C range. The sensors developed here can readily be integrated with wireless communications. They will also find applications in low and warm temperature regimes. The research effort progresses from fundamental materials research to the more applied aspects of sensor development, testing, and deployment. The fundamental aspects of this effort will significantly broaden our understanding of the surface chemistry and materials properties of graphene-nanoparticle composites, while advancing graphene based device fabrication technology. This research would not be possible without the fabrication and characterization tools available through the WVU Shared Research Facilities. This research is funded by a cooperative agreement with the Department of Energy [National Nuclear Security Administration] under Award Number(s) DE-FE0011300.
IN MEMORIAM

Richard Bailie of Fairfield Harbour Community, N.C., passed away on January 4, 2014. A professor in chemical engineering for several years, Bailie was an Emeritus Professor and a CHE Academy honorary member. He is survived by his wife, Judith; a daughter; three sons; eight grandchildren; and 11 great grandchildren.

R. Richard Bannister, a good friend and colleague of the Department, passed away on June 1, 2013, in Pittsbورو, N.C. Bannister served on the departmental Visiting Committee for many years and continued to be involved in the Department even after he retired from Union Carbide Corporation. He earned his M.S. degree from the University of Delaware.

David H. Hall (B.S. 1955) passed away Wednesday, July 17, 2013. Hall was a proud graduate of WVU and was a member of the Academy of Chemical Engineers. He worked in the chemical industry with B.F. Goodrich Chemical Company for some 33 years until his retirement as group president. He resided in Sellersburg, Ind., and is survived by his wife, Carolyn, and their three children.

CLASS NOTES

1959
Donald A. Graham (B.S.) resides in Fort Ashby, W.Va., and is enjoying his retirement.

1979
Peter M. Martin (B.S.) is principal business developer for Siemens Industry in Canonsburg, Pa.

1983
Bill Haley (B.S.) is manager, Glass Products, for PPG Industries in Wichita Falls, Texas. Dean Cilento spoke with him at the tailgate of the TCU game.

1986
Victor Dean (B.S.) is vice president, Strategy and Business Development, for CPKelco in Atlanta, Ga. He dropped by the College tent at the WVU/Texas football game on November 9.

David Velegol, Jr. (B.S.), a senior vice president with Chester Engineers, has been with the company for more than 26 years. He was elected to his second term as mayor of Follansbee, W.Va.

1989
Philip Kneisl (M.S.) was a principal engineer with Schlumberger for 13 years. During his tenure, he ran the explosives research laboratory, obtained 14 patents, and was instrumental in the construction of a $45 million explosives manufacturing plant. In January 2012, he decided to start his own business. He is now a Department of Transportation-licensed explosives examiner offering UN hazards testing and recommendations on class 1 materials through his company, Explosives Examiners LLC. He also consults on explosives manufacturing safety, testing, and incident investigations. Kneisl states, “Business is good, stress almost non-existent, and I have the time to travel (France, Canada, Czech Republic, Brazil, and in the U.S., too).”

1990
Sharon Shelton Graver (B.S.) and husband, Timothy, are the proud parents of twins, Timothy John and Rebecca Hope, born on April 25, 2013. The family resides in Cheshire, Conn.

Bill Stewart (B.S., M.S. 1992) was recently promoted to vice president of Modesto Operations, which includes wine receiving, blending, and bottling operations for E&J Gallo Winery in Modesto, Calif.

2002
Ray Chafin (B.S.) is a technical support engineer, Utilities and Logistics, for Shell Oil Products Company. He was in Morgantown in June 2013 and has set up a scholarship in the Department for future chemical engineering students.

2003
Christopher H. Clark (B.S., M.S. 2005) completed his Ph.D. in September 2012 in chemical and environmental engineering at the University of California, Riverside. He is currently employed as a civilian engineer in the field of chemical and biological defense metrology at the Naval Surface Warfare Center, Corona Division in California. He married Alexis Delp (WVU Political Science graduate) in October 2009.

Keith Ferris (B.S.) is a project engineer for Saint-Gobain Performance Plastics in Granville, N.Y. He was in Morgantown recently and attended the Texas Tech football game.

2004
Jeffrey D. Bickar (B.S.) is a project manager for TransCanada in Houston, Tex.

Craig Travis (B.S.) is the director of Global Environmental Compliance for Mylan Inc. He works at many of their global sites including India, Japan, Australia, and Ireland. When he is not traveling, he enjoys spending time with his wife and two sons, and enjoys camping, hunting, and fishing within the Mountain State.

2008
Neena Kapoor (B.S.) is employed by Mylan in Morgantown, W.Va.

Elliot Roth (B.S., Ph.D. 2013) is a postdoctoral fellow at U.S. Department of Energy at the National Energy Technology Laboratory in Morgantown, W.Va.

Joshua Welshans (B.S., M.S. 2010) is an research and development engineer/scientist at UOP/Honeywell in Des Plaines, Ill.

2011
Kiran Chaudhari (M.S., Ph.D. 2013) is employed by GM/Optimal Inc. in the CAE Methods, Powertrain group and resides in Troy, Mich.
Polymers, petrochemicals, pharmaceuticals—where would we be without them? And the chemical engineers who brought them to the marketplace reflect the value of this degree program in today’s world.

Private support to enhance all aspects of the WVU Department of Chemical Engineering is crucial. Definitely, it will make a difference in the lives that follow.

Thanks to favorable federal laws, everyone can contribute to tax-deferred retirement accounts during their working years. Not only do the funds help make retirement more comfortable, the account’s remaining balance after death can be transferred to others.

Making the WVU Foundation the after-death beneficiary of a retirement account to support the Department is tax-wise because the funds are subject to both federal estate and income taxes after death, unlike other assets. Simply changing the beneficiary on the plan administrator’s form to the Foundation (include the FEIN 55-6017181) and then specifying the appropriate use of the funds through a separate letter or document are all that is needed.

What are the Department’s support priorities? Undergraduate scholarships, research support for non-traditional graduate students, or undergraduate conference or travel funds are all important.

Gifts which are a part of a person’s estate plan count in A State of Minds: The Campaign for West Virginia’s University as long as the individual will be at least age 70 by December 31, 2015. Please let us know if you have already set up such a gift by contacting Robert Bragg, director of development, at 304-293-4157 or robert.bragg@mail.wvu.edu.
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. 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.

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Degree(s): ______________________________ Year: ____________
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City:_____________________________ State: ____ Zip: __________
Home Phone: _____________________________________________
Business Phone: ___________________________________________
E-mail:__________________________________________________
Employer: ________________________________________________
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Brief News of Professional and Family Activities for Future Newsletters: __

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Suggestions/Comments: ____________________________________
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This newsletter is published twice yearly to keep our alumni and friends informed of Departmental news and ongoing activities. For additional information, visit our website: www.che.statler.wvu.edu

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