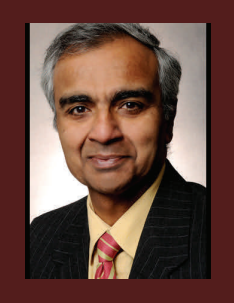


From the Department Head
Dr. Lalit R. Verma



It is with pleasure I share the accomplishments of our faculty, students and staff during the past few months in this Spring 2013 BAEG Newsletter. In January, Dr. Yanbin Li was recognized with the Spitze Land Grant University Faculty Award for Excellence. Dr. Saraswat garnered the Gamma Sigma Delta Extension Faculty Award for Merit and Dr. Matlock made invited presentations, including the keynote address at the Global Feed and Food Congress in South Africa. Both the “*John Imhoff Outstanding Faculty*” awardees at the 2013 Engineering Alumni Awards Event were from our department: Dr. Scott Osborn for outstanding teaching and Dr. Jin-Woo Kim for outstanding research. Also, Dr. Dennis Gardisser was recognized with a Distinguished Engineering Alumni Award on April 13.

The senior design expo was held on May 1 with 31 students in eight senior design teams showcasing their projects. Drs. Julie Carrier, Tom Costello and Jin-Woo Kim were recognized with the departmental faculty awards for teaching, service to students, and research, respectively, on May 3. There were 30 graduates of the B.S. in Biological Engineering at the 2013 commencement on May 11. Two outstanding alumni, Mr. Hix Smith Jr. and Mr. Marcus Tilley, were inducted in the Arkansas Academy of Biological and Agricultural Engineering on April 12.

The faculty will be engaged in our annual summer retreat, to review our programs and plan for the coming year during June 4-6. I am looking forward to beginning my term as ASABE President on July 24, 2013, at the Annual International Meeting of the American Society of Agricultural and Biological Engineers in Kansas City. I invite you to review our programs and contributions and feel free to call (479-575-2351), e-mail (lverma@uark.edu) or if you are in the area, drop in for a visit. We would love to share our activities with you and help answer any questions you may have.

Lalit R. Verma
 Professor and Department Head

Inside this issue:

From The Department Head	1
Significant Faculty Accomplishments	2
Significant Student Accomplishments	3
Events	4
2013 Academy Inductees	4
BAEG Alumni News	5
Scholarship Donation Opportunities	5

University of Arkansas
 Division of Agriculture
 Biological and Agricultural Engineering
 790 W. Dickson, ENGR 203
 Fayetteville AR 72701
 TEL: 479-575-2352 FAX: 479-575-2846
 EMAIL: baeg@uark.edu
 Website: www.baeg.uark.edu

Significant Faculty Accomplishments



DHARMENDRA SARASWAT RECEIVES THE 2013 GAMMA SIGMA DELTA EXTENSION FACULTY AWARD FOR MERIT



Dr. Saraswat, Associate Professor, is the faculty expert in geospatial technologies in the state office of the Cooperative Extension Service in Little Rock. He is currently developing phone-based apps utilizing cloud computing and smartphones for use by agricultural professionals. His work addresses the watershed modeling needs of both national and international scientists through the use of remote sensing, global positioning systems, geographic information systems, field sensors and information technology.

MARTY MATLOCK KEYNOTE SPEAKER AT INT'L CONFERENCE ON CHALLENGES OF SUSTAINABLE AGRICULTURE



Marty Matlock presented the keynote address at the 4th Global Feed and Food Congress April 10, 2013, in Sun City, South Africa. His presentation, "The Role of Animal Agriculture in Feeding 10 Billion People Sustainably," was part of a three-part session focused on meeting sustainability challenges.

"The challenges, opportunities and potential risks related to sustainable agricultural production are a direct result of competing land uses," Matlock said. "Agricultural production, including crops, pasture and grazing, currently utilize more than 40 percent of the Earth's surface. In order for global agricultural producers to meet the increasing demand for food, feed, fiber and fuel, while at the

same time reducing inputs and impacts, we must use every tool currently available in our collective tool box and continue to develop innovative tools that address emerging problems in an efficient, earth-friendly manner. Our future success is dependent on what we do today."

DR. YANBIN LI RECEIVES THE SPITZE LAND GRANT UNIVERSITY FACULTY AWARD FOR EXCELLENCE



Yanbin Li receives the Spitze Land Grant University Faculty Award for Excellence from Mark Cochran, left, vice president for agriculture, and Michael Vayda, dean of Bumpers College.

The Robert G.F. and Hazel Taylor Spitze Land Grant University Faculty Award for Excellence was presented to Yanbin Li, professor of biological and agricultural engineering. Li is known internationally for his development of a world-class research program pioneering in biosensor technology for rapid detection of pathogens and as one of a handful of recognized experts in biosensing engineering. He has conducted critically important research in food safety through models for microbial prediction and quantitative risk assessment, and antimicrobial technologies for food processing and for the detection of avian influenza.

The awards ceremony, presented by the University of Arkansas System Division of Agriculture, recognized outstanding performance by faculty and staff members at an awards luncheon Jan. 11, 2013, in Rogers, AR.

TWO BAEG FACULTY MEMBERS RECEIVE JOHN IMHOFF OUTSTANDING FACULTY AWARDS

Scott Osborn, Associate Professor, received the John Imhoff Outstanding Faculty Award for Teaching. Dr. Osborn teaches biological engineering design studio, unit operations, and senior design. He also coordinates the department's activities with the Freshman Engineering Program.

Jin-Woo Kim, Professor, received the John Imhoff Outstanding Faculty Award for Research. Dr. Kim's expertise spans the interdisciplinary fields of biological engineering, biomedical engineering, biology, chemistry, and nanotechnology.

This is the second time both the Outstanding ENGR Faculty Award Winners are from BAEG. The first time was in 2006 with Drs. Carl Griffis and Yanbin Li.



Jin-Woo Kim, Lalit Verma, and Scott Osborn

COE RECOGNIZES OUTSTANDING FACULTY

The College of Engineering recognized several students, faculty and staff members at a college-wide meeting on Friday, May 3. For BAEG, Julie Carrier was named Outstanding Teacher, Jin-Woo Kim was named Outstanding Researcher, and Thomas Costello was recognized for his Outstanding Service to Students.

Significant
Faculty
Accomplishments

SARASWAT/PAI RECEIVE ASABE
2012 SUPERIOR PAPER AWARD



Naresh Pai and Dharmendra Saraswat receive the Superior Paper Award certificate from ASABE President Sonia Maassel Jacobsen

A paper authored by Dharmendra Saraswat, Associate Professor, and Naresh Pai, postdoctoral associate, in the Department of Biological and Agricultural Engineering, was selected to receive the 2012 Superior Paper Award from the American Society for Agricultural and Biological Engineers (ASABE).

DHARMENDRA SARASWAT LEADS
TEAM TO DEVELOP THE 'CORN
ADVISOR' APP

Dharmendra Saraswat, an associate professor of Biological and Agricultural Engineering and for the University of Arkansas System Division of Agriculture, and an extension engineer for geospatial technologies, led the development of an app that can turn a producer's smartphone or tablet into an anytime, any place corn expert.



Funding was provided through Arkansas Corn Grower check-off funds through the Arkansas Corn and Grain Sorghum Promotion Board and the Cooperative Extension Service, UofA Division of Agriculture.

Significant Student Accomplishments

GRADUATE STUDENTS WIN IN THE
A2C POSTER COMPETITION



Left to right: Todd Shields, James Rankin, Nathan McKinney, Mahmoud Sharara, and Provost Sharon Gaber

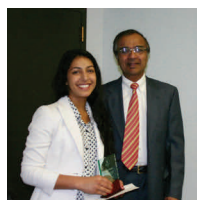
Mahmoud Sharara won first place in the A2C poster competition held in February 2013. This is Mahmoud's second year to win this award. His advisor is Dr. Samy Sadaka. Mahmoud's presentation was titled "Gasification of Swine Manure Solids as an Energy and Char Production Alternative."



Left to right: James Rankin, Nathan McKinney, Danielle Julie Carrier, Kala Rajan, and Provost Sharon Gaber

Also, Kalavathy Rajan, a PhD student in Food Science, won second place. Her advisor is Dr. Julie Carrier. Kala's presentation was on the "Second Generation Biofuels: Production of Inhibitors During Dilute Acid Pretreatment of Wheat Straw."

NADIA BHATTI NAMED
OUTSTANDING BAEG SENIOR



Nadia Bhatti was named the Outstanding Senior in BAEG for 2013. She is pictured here with department head Lalit Verma.

SENIOR DESIGN CLASS OF 2013
PRESENTS THEIR PROJECTS
AT THE BIOLOGICAL ENGINEERING
DESIGN EXPO

"Design of a Riparian Wetland for Sediment Reduction and Habitat"
Ben Putman, Nick Stoddart, Aaron Thomason, and Katie Whitbeck

"Design of a Device to Convert Solar Energy to Hot Air Flow"
Blake Ahrendsen, Nadia Bhatti, and Noaa Frederick

"Design of a Sustainable Aquaponics System"
Adam Burk, Thanh Thanh Dai, Betty Phansiri, Derrick Washington, Klaire Wilson, and Adam Yates

"Sustainable Water Usage for Rice Irrigation"
Cameron Beyers, Jaime Gile, Paige Heller, and Nick Lombardo

"Design of a Simple Prosthetic Foot for Developing Countries"
Brent Danley, Thomas Jenkins, John Mazurkiewicz, Kristin Perrin, and Ryan Yarnall

"Design of In-Floor Heating Systems for Enclosed Animal Habitats"
Katherine Atkins, Matthew Harrison, Katherine McWilliams, and Aston Necessary

"Design of Stream Diversion to Support Crop Production in a Small Community in Swaziland"
Rian Eddings, Matthew Martin, and Zachary Smith

"Preparing a Bark Crude Extract at the Pulp Mill: Investigation Into Its Anti-Microbial Properties"
Rakiya Tasiu and LaCrea Wilson

Significant Student Accomplishments



SCHOLARSHIP RECIPIENTS

Arkansas Academy Biological
and Agricultural Engineers
Scholarship

Katherine McWilliams

Xzin McNeal Scholarship

Blake Ahrendsen
Adam Burk
Jackson Daniel
Kristin Perrin
Amy Powless
Samantha Puckett
Aaron Thomason
Lauren Wilson

Biological & Agricultural
Engineering Scholarship

Brent Danley

Billy Bryan Scholarship

Jackson Daniel
Aaron Thomason

Riggs Tractor Scholarship

Thomas Jenkins



(front row) Kristin Perrin, Lauren Wilson
and Samantha Puckett
(back row) Blake Ahrendsen, Brent
Danley, Thomas Jenkins, and Adam Burk

CLASS OF 2013

Undergraduates BSBE

Blake Ahrendsen
Katherine Atkins
John Cameron Beyers
Nadia Bhatti
Adam Burk
Thanh Dai
Brent Danley
Rian Eddins
Noaa Frederick
Jamie Gile
Matthew Harrison
Paige Heller
Thomas Jenkins
Nicholas Lombardo
Matthew Martin
John Mazurkiewicz

Katherine McWilliams
Sarah Necessary
Sakura Betty Phansiri
Kristin Perrin
William Ben Putman
Nicholas Stoddart
Rakiya Tasiu
Aaron Thomason
Derrick Washington
Katherine Whitbeck
LaCrea Wilson
Lauren Wilson
Ryan Yarnall
Adam Yates
Zachary Young

Graduates

Fall 2012

Angele Mezindjou Djiouleu — MSBE
Nathan Holeman — MSBE
Min Lei — MSBE
Gurdeep Singh — MSBE
Alexander Ziegler — MSBME

Spring 2013

Kris Bunnell — PhD
Pratyush Rai — PhD

Events



ANNUAL RESEARCH AND
WATERSHED CONFERENCE
SPONSORED BY THE AWRC

The Arkansas Water Resources Center held its annual water research conference on May 14-15, 2013. More than 100 people from watershed groups, state and federal agencies, municipal water suppliers, cooperative extension service, and the university attended the conference. The theme of this year's conference was twofold – the first day focused on showcasing the research that the Center had sponsored over the last several years, and the second day shifted into a workshop on *Ecological Design in the Ozarks*. The conference was kicked off with the keynote presentation by Dr. Thad Scott, who spoke about his award winning research on balancing nutrient storage in small reservoirs – these small lakes are great nitrogen sinks in our watersheds, based on his research. Several faculty and students from the Biological and Agricultural Engineering Department participated, including Dr. Scott Osborn who spoke on the engineering design process and how engineering applies to watershed management. Grace Richardson, a MS graduate student from our department, won the poster competition – her poster was entitled 'Effects of Oxygenation on Resuspended Sediment from a Eutrophic Lake'. The workshop allowed 12 of the department's graduate students and undergraduate to complete the requirements for an *Associates in Ecological Design*, which leads to a certification supported by the American Ecological Engineering Society.

BAEG Alumni News

DENNIS GARDISSER RECEIVES COLLEGE OF ENGINEERING DISTINGUISHED ALUMNI AWARD



In an awards ceremony on April 13, Dr. Dennis Gardisser was awarded the Distinguished Alumni Award, presented on behalf of the University of Arkansas College of Engineering.

He was an extension professor and served as associate department head of the Department of Biological and Agricultural Engineering Cooperative Extension Service during 2002-2009.

SUJIT EKKA NAMED INTERNATIONAL JENNINGS RANDOLPH FELLOWSHIP



Sujit Ekka, PE, PH, was recently named an International Jennings Randolph Fellow by the American Public Works Assoc. (APWA) and the Eisenhower Institute at Gettysburg College.

Ekka attended University of Arkansas from January 2002 through December 2003 under the guidance of Drs. Brian Haggard and Marty Matlock, earning a Master's degree in Biological and Agricultural Engineering with a focus in Ecological Engineering.

NARESH PAI RECEIVES HONORABLE MENTION FOR DISSERTATION FROM THE UNIVERSITIES COUNCIL ON WATER RESOURCES



Naresh Pai's dissertation entitled "Geospatial Tools and Techniques for Watershed Management Using SWAT 2009" was selected for Honorable Mention in the 2013

Ph.D. Dissertation Award competition in the field of Natural Science and Engineering. Dr. Pai received his PhD from the Department of Biological and Agricultural Engineering in January 2012. He is currently a post-doc in the department.

Academy Inductees

Alumni Hix Smith Jr., of Nashville, AR, and Marcus Tilley of Greenbrier, AR, were inducted into the Arkansas Academy of Biological and Agricultural Engineering during a ceremony on April 12, 2013, in Fayetteville, AR.

Mr. Hix Smith Jr. graduated with a B.S. in Agricultural Engineering from the University of Arkansas in 1967.



He is the president of Smith's Ready Mix Inc., with operations in Nashville and Hot Springs, AR.

Mr. Marcus Tilley graduated with a B.S. in Biological and Agricultural Engineering from the University of Arkansas in 2000.



He is a regional environmental manager with Terra Renewal Services in Dardanelle, AR.

Scholarship Donation Opportunities

If you would like to contribute to scholarships that benefit students within the Department of Biological and Agricultural Engineering, please feel free to use this convenient form. We appreciate any support you wish to provide.

Please accept my contribution to the following scholarship(s).
 My check for \$_____ is enclosed.

- Billy Bryan Scholarship Fund _____
- Joel T. Walker Memorial Scholarship Fund _____
- Biological and Agricultural Engineering General Scholarship Fund _____
- Biological and Agricultural Engineering Student Support Fund _____

NAME: _____
 ADDRESS: _____
 CITY: _____
 STATE: _____ ZIP: _____ PHONE: _____
 E-MAIL ADDRESS: _____

Remit Payment To: *Dept of Biological & Agricultural Engineering
 203 Engineering Hall
 University of Arkansas
 Fayetteville, AR 72701*