

# Herrick Newsletter



## Inside This Issue:

Meet the Staff	1
Former Staff Pictures	5
Aircraft Noise Research	6
Alumni Reflections	7
Bill Lear's Purdue Visit ~1975	8
Other News	9
People News	10

## Upcoming Events:

<b>July 12-13, 2014</b>	Short Courses
<b>July 14-17, 2014</b>	Compressor, Refrigeration & Building Conferences
<b>Nov. 6-8, 2014</b>	Industrial Advisory Committee Meeting



Ray W. Herrick Laboratories

## Ray W. Herrick Staff



*Ray W. Herrick Laboratories' Staff*  
(back row left to right) Ron Evans, Orkan Kurtulus, Bob Brown, Frank Lee  
(front row left to right) Kim Stockment, Donna Cackley, David Meyer

From the beginning of the Labs' existence in 1958, Herrick Labs have always had a diligent, hard-working staff, but for the past year, our current staff members have gone above and beyond the normal call of duty! The transition to the new facility has gone smoothly and efficiently due to them and we appreciate all their effort and dedication to get the job done. Ray W. Herrick Laboratories is now bustling with students, research projects, guests, student meetings, research collaboration meetings and much more. On any given day, guests will come and go, students will have questions that arise, and professors will need help reconciling their travel documents, preparing for a sponsor meeting, or ordering a new piece of equipment. It's a dedicated staff of 7 that plays those 'behind the scenes' roles; greeting guests with a warm smile, a parking pass and a cup of coffee, ordering meals for daylong meetings, assisting students with the tools needed to complete their research projects, and in general, helping keep the laboratories running smoothly. On

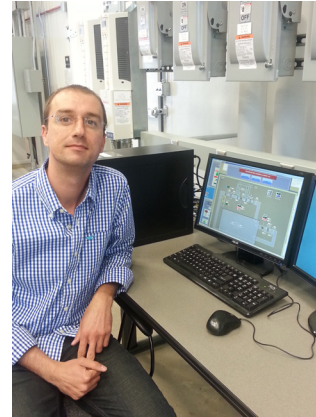
the following pages, our current staff members are introduced followed by some pictures of former staff. Enjoy and see how many you remember! As you know, the Herrick Labs Machine Shop is still located in the original building, while funds are being raised to construct a wing on the new building to house the shop along with the acoustics research area. If you would like to make a donation for the new shop, make the check payable to Purdue Foundation. Note on the check and include in the accompanying letter that the donation is for the "Herrick Labs Building Fund-New Tech Services/Shop". Make sure your contact information is in the letter. Send the check and letter to: Director Patricia Davies at the Ray W. Herrick Laboratories address listed on the back of this newsletter. She will forward it to the University Development Office, who will handle the paperwork and ensure that your gift is acknowledged for tax purposes. Thank you for your generosity!

## Meet the Staff

Meet the 'behind the scenes' team who call Herrick Laboratories, home.

### ORKAN KURTULUS

Orkan joined the Herrick Laboratories in January 2012 as a Post-Doc hired by Prof. Groll and Prof. Garimella. After working with them for a year on a project, he was also hired as a Research Engineer for the newly constructed Herrick Labs building. He is involved with Living Lab research projects, new concept building systems and HVAC systems (research and development projects), and equipment testing. Among his many duties, he also helps new students in designing and building of their test setups, trains new students/staff to learn how to use the control systems, trouble shoots the control systems, and is taking a very active role in the commissioning and balancing of the new building. Orkan came to the US from Turkey and when he returns from home visits, he brings us back wonderful candies (Turkish Delight). He also is a fan of symphonic rock music.



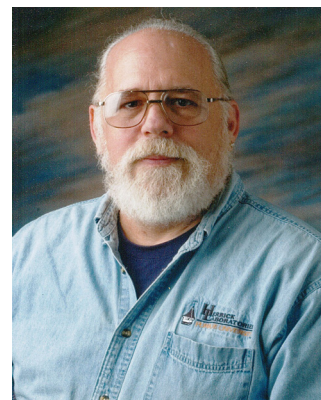
### RON EVANS

Ron Evans has been working at the Laboratories since April 2013 as temporary staff, performing some of the duties that Fritz Peacock and Gil Gordon did before they retired. Some of you will remember Ron as head of the electronics shop in ME and for a few years worked with Prof. Doug Adams at the Kepner facility. Ron has been a great help in the transition from the old to the new building. He has been helping with the commissioning of the engine test cell and the 3-D TEAM shaker in the PBE lab, among many other things. As of June 1, Ron assumed a full-time position as Research Engineer whose duties include supervision of Technical Services. We are happy to have Ron join our Herrick staff and we wish Ron much success in his new position.



### BOB BROWN

Bob Brown is the head of the safety committee, Building Deputy and also does a job lot of the mechanical work on many of our projects. He has worked at the Labs since August 1988. When a new person checks-in at the Labs (whether a student, staff, or faculty member), one of the first requirements is to have a safety talk, which covers safety policies, procedures, requirements, and regulations at the Labs. This is one of Bob's many duties and the one he takes most seriously since teaching safety is his first and foremost duty! We all take safety issues seriously and Bob is our "enforcer". Bob keeps a watchful eye over our 3 buildings - the original Herrick building, the new building, and the round barn (Grounds) next door to us. Bob lives in Lafayette, Indiana and has a son named Jarred and a granddaughter named Shelby.



## Meet the Staff - continued

### FRANK LEE

Kwok (Frank) Lee works with many of our students helping to prepare their research set-ups, especially in the thermal systems area. He has nearly 40 years of experience working with heating, ventilation and air conditioning systems. Last year a group of the thermal systems students were wanting to confer an honorary degree on Frank because they appreciate all the expertise he has and they value the help he provides. Frank came to the US in 1993 from Hong Kong and started working at the Labs in 1995. Frank and his wife live in West Lafayette, Indiana and are the proud parents of 2 children, both graduates of Purdue University.



### DAVID MEYER

David joined the Herrick Labs staff on June 16, 2014. His main focus will be providing technical support for the engines research as the diesel engine test technician, but will also be helping out elsewhere as needed. David joins us from Materials Science Engineering where he was the lab technician working with undergraduates and graduate research students. Prior to that, he worked at Purdue's Wade Utility Power Plant as an instrumentation technician for a total of 14 years at Purdue. Prior to Purdue, David has had 16 plus years of experience in microelectronics and steel industries. In his spare time, he enjoys flying radio controlled model airplanes, fundraising for Rocky Mountain Elk Foundation, shooting sports, and hunting. David and his wife Cindy live in Lafayette and are the parents of 2 children, Matt and Elizabeth, both students at Purdue. We are happy to have David join our Herrick team and we wish him much success in his new position.



### KIM STOCKMENT

Kim joined the Herrick Laboratories in June 2012 as the Conference Coordinator for the Biannual Compressor Conferences. She replaced Ginny Freeman, who retired in December 2012. Kim came to us from Purdue's Conferences Division located in Stewart Center. With her extensive background in conference planning, she has improved many aspects of the planning and registration process. She is busily helping with the organization of the 3 conferences - Compressor Engineering; Refrigeration and Air Conditioning; and High Performance Buildings - which will be held at Purdue July 14-17, 2014. These conferences attract people from all around the world in industry, academia and government agencies. To find out more about the conferences, visit the website <https://engineering.purdue.edu/Herrick/Events/2014Conf>. Kim and her husband Jason live in Brookston, Indiana and are the proud parents of 3 children - Colton, age 6, Emmalyn, age 4, and Keaton, soon to be 1 year old.





## Meet the Staff (continued)

### MIRANDA GICK

Miranda is the Secretary for the Labs, a position she has held since September 2013. She came to us from the Purdue University Student Hospital (PUSH), where she worked for 8 years, but has been with the University for 20 years. Miranda supports all Herrick faculty and students and does so with great efficiency. She continues to learn all aspects of the job and possesses great computer skills. She has made some time-efficient changes in a few projects that we do and is a valued asset to the Labs. We wish Miranda much success in her new position and we're happy to have her. Miranda and Jeff live in West Lafayette, Indiana with their 7 year-old daughter Breanna and newborn son Brycen, born on June 4.



### DONNA CACKLEY

Donna is the Administrative Assistant for the Director of the Labs. She started her Purdue career in Mechanical Engineering in October 1992 working for the Mechanics Area Group. In November 2006, Donna was hired as the Labs' secretary after Linda Tutin retired. She worked alongside Judy Hanks, who was the Administrative Assistant at the time. She continued to learn and expand her knowledge and when Judy left the Labs, Donna was promoted to Administrative Assistant in June 2013. Donna's main duty is to assist the Director, but also supports all Herrick personnel. Donna lives in Fowler, Indiana and commutes the 30 minute drive every day. She is the proud mother of 3 children - daughter, Jill and twin sons, Jason and Josh (all Purdue grads). They are all married and have blessed Donna with 8 grandchildren - so far! Recently Donna won a ME Staff Recognition award and one of Purdue's Bravo awards, a new recognition and reward program for employees. More information on the Bravo Award can be found at <http://www.purdue.edu/hr/Compensation/Bravo/>



Herrick Labs has had many staff members over the years, but below are some that have recently retired or left for another position. Since many of you will remember them, we thought we would mention them also. Fritz Peacock retired in January 2011 after 30 years at Purdue, most of the time spent working in the shop; Gil Gordon retired in April 2013 after working in the shop for over 14 years; and Ginny Freeman retired in December 2012 after working as the Conference Coordinator for 13 years. Judy Hanks left in April 2013 to take a position as Office Manager in the School of Education after working at the Labs for 9 years.



*Fritz Peacock*



*Gil Gordon*



*Judy Hanks*



*Ginny Freeman*

## Former Staff Pictures (how many do you remember?)



*Avery Norfleet and Pat Brandyberry*



*Helen Glick, Marlene Hodge, Sandy Stephens, and Jo Johnson*



*Linda Tutin, Nancy Gold and Carol Barker*



*Early Staff Group*



*Don Aynes, Kenny McGlothlin, Wayne Archibald, Avery Norfleet and Jim Baer*



JAMI HINES  
Account Clerk

8/98

*Jami works in the ME business office and  
assists the Herrick Director*



## Bao Tong on Modeling Aircraft Noise Propagation



*Bao Tong, Ph.D. candidate working with Professor Kai Ming Li. His research has been supported by the FAA PARTNER Center of Excellence.*

As aviation becomes a more dominant mode of transportation, en route noise in quieter environments such as national parks, public recreational areas, and residential neighborhoods has gained greater attention.

Closer to airports, noise exposure has been linked to: sleep disturbance, adverse health effects, reduced productivity, and poor educational development in adolescents.

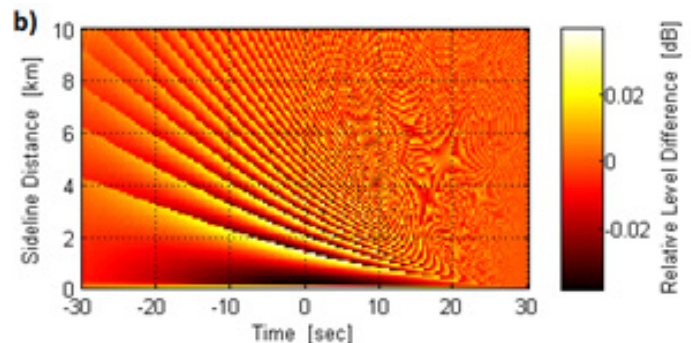
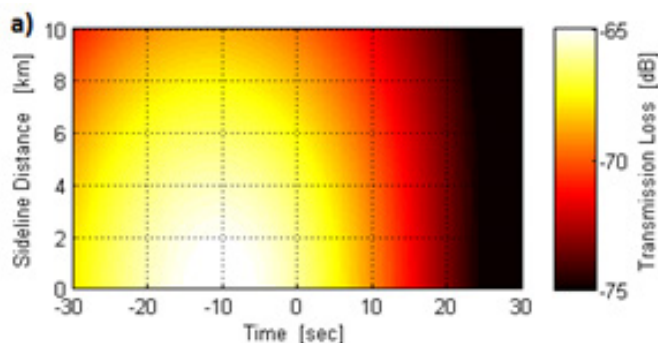
Over the years, the FAA has pursued programs in aircraft noise control in partnership with the aviation community to reduce the noise impact of aircrafts while striking a balance between industry interests and societal needs.

Advanced open rotor engine designs (e.g., propfans) tend to be more fuel efficient than conventional turbofan engines which are currently used by many commercial airliners. As much as a 30% reduction in fuel consumption can be achieved by updating the propulsion systems. This can translate into decreased environmental impact in terms of upper atmosphere emissions, lower takeoff weight, longer range, reduced costs, etc. However, noise pollution becomes a major concern due to the low-frequency tonal noise components inherent in propfan engine designs. Unlike the broadband jet mixing noise of turbofan engines, low-frequency noise can propagate over large distances

at sufficient levels to cause annoyance to occupants on the ground. Furthermore, tonal noise tends to be perceived as being more intrusive than broadband noises.

Our work for the FAA is concerned with modeling continuous source motion effects in the presence of realistic atmospheric propagation conditions for a cruise condition aircraft. We are interested in developing accurate and computationally efficient methods for predicting the sound field time-history. The sound field time-history is what a listener on the ground can hear during an aircraft flyby event. As sound waves travel through the atmosphere, its path can deviate from a straight line connecting the source and the observer due to atmospheric effects such as temperature, humidity, density, and wind speed profile - all of which are strongly dependent on elevation. Even small changes in the atmosphere can result in large changes in the predicted sound field because of the long propagation distances involved. Atmospheric conditions change throughout the day, depending on the location and season. Numerical simulations are needed to evaluate the noise impact in a variety of propagation environments since physical experiments can be prohibitively time consuming and/or too expensive to conduct.

In collaboration with Penn State University and Georgia Tech, our work has contributed to new insights for improving existing FAA/Volpe noise modeling tools. These tools are used around the world to predict noise impact in the vicinity of airports, over national parks, and in community noise assessment studies. The availability of an accurate, efficient, and easy to use tool increases the likelihood of adoption by a wider audience. Application of the tool serves to inform decision makers on where to apply resources more effectively. In turn, this may help improve the quality of life for those who are adversely affected by aircraft noise pollution.



Sound field time-history for a moving monopole source in a linear sound speed profile atmosphere. The transmission loss represents a reduction in the sound intensity as the sound travels from the source to the receiver. Overhead flight data was used to estimate the sound field at non-measurement locations in the interpolated ray model. a) Full ray model predictions; b) relative level difference using an interpolated ray model. The small level differences demonstrate the applicability of an efficient interpolated ray model approximation.

## Alumni Reflections -Dr. Detlev Seidel, MSME 1988

It's now more than 25 years, since I graduated in 1988 from Purdue with my MSME, and it's amazing how important these 1 ½ years were for both my life and my career. I was one of a few German students at the time, and the different culture needed a bit adaptation at first. I was not used to doing homework and to having that much classroom sessions with attendance being mandatory. In Germany, there was much more freedom as to how to learn and prepare for final exams. On the other hand, I had a clear target when to finish, which was not quite common. And the small classes with really direct contact to professors were a nice change, to lectures with several hundred students back home. So a lot of work, but also lots of learning.

Also, my English was not very good and the 'school', Patricia Davies-being my major professor-had me go thru, cannot be valued enough. In the end, when I left Purdue, I dreamt English and my verbal and written English had reached a satisfactory level, being quite 'American'.

Not to forget, the important times spent at the pool table in the Stabilizer and on the golf course – I would never have learned it that cheaply and quickly in Germany and I still play a couple of rounds per year, unfortunately still not on bogey level, but good enough to enjoy.

Even though I did quite some theoretic number crunching work for Patricia for my thesis, it was clear for me at the time, that I would not become a researcher, but would target general management in my professional career. Nevertheless, I first continued with a German Ph.D. programme at University of Hannover in the area of Manufacturing engineering. The first projects I got involved with I only got because of my solid English and because it required knowledge of signal processing, as it focused on condition monitoring. So it was good, I really knew what, for example, zero-padding was. Later on, I got involved in multi-continental research on Holonic Manufacturing System, again fluent English being a key.

After some time with ABB, I'm now, for many years, a Managing Director of Piller ([www.Piller.com](http://www.Piller.com)), the world leader for high-power, mission critical uninterrupted power supply systems that run in all the modern data centers of the large internet, banking and finance corporations, and also in chip manufacturing and other sensible processes. Interestingly, even today vibration analysis and vibration phenomena are often part of my daily business as we built rotary electrical equipment and flywheel energy systems and I'm responsible for R&D, production and project management. One could probably consider myself one of the worldwide experts on flywheels, and Piller for more than 15 years is world-leader in that field and builds the biggest commercially available

flywheel systems in the world, with several hundred installed also in the USA. Something we are quite proud of.

So retrospectively, many of the basics I learned at Herrick were the foundation for my career. So I'm still grateful that Patricia and Bob Bernard gave me the opportunity at the time to come there. And also as a person, you develop when you spend 1 ½ years abroad at a young age. Whether that helped to later find my personal angel, it's hard to say. When I'm not working I just enjoy my family life with 4 children between 4 and 12 years old, with activities such as swimming, playing Lego or skiing.



Above is a picture of our worldwide renowned Flywheel, the Powerbridge. It's a large kinetic energy storage, covering the starting times of large diesel engines.



*Detlev Seidel with his wife Nicole and their 4 children: Leonie, Felix, Moritz and Carla*



## Bill Lear's 1975 Visit to Purdue - Told by Prof. Emeritus Victor Goldschmidt and Frank Chambers

**Frank Chambers (Ph.D. 1977)** currently an Associate Professor Emeritus at Oklahoma State University recently sent these pictures to us. They were taken ~1975 when Bill Lear and his wife Moya made a visit to Purdue while Frank was a Herrick student working with Professor Victor Goldschmidt. We asked Frank and Victor for the story to accompany these pictures, so below is how it transpired.

Bill Lear was on the cover page of a magazine for a recognition of Man of the Year of Industrial Research (or something like that). At the time, Victor was the faculty advisor for Pi Tau Sigma. Pi Tau Sigma was also the lead inviting special people to present university-wide lectures. With the dream of bringing key engineers to our campus, and upon reading of Bill Lear, and also planning travel to an ASME meeting on the West Coast, Victor casually called Bill Lear's office and asked if he could pay Bill a visit

while en route west. All fell into place, and Victor ended up in his office asking him to come to visit with students at Purdue. His answer was he charged by the mile. Victor's reply was that he did not understand - that he was inviting him to help educate our students, not as a paid lecturer. To that he said yes, and Victor promptly stood to leave and to schedule a date with his secretary. Bill let Victor do that only after having him witness a staff meeting - and that in itself is another story.

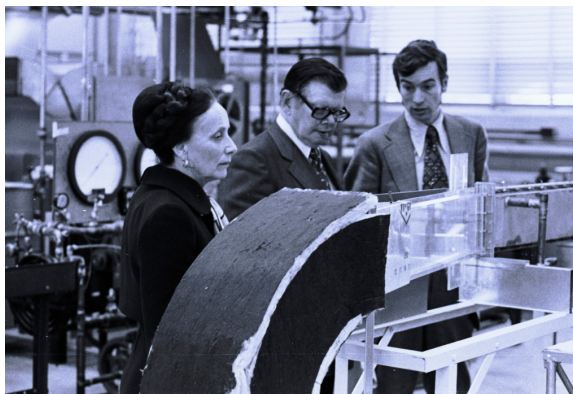
Bill Lear's visit to Purdue was scheduled and this allowed him to meet President Arthur Hansen and Herrick Director Ray Cohen, as well as give a talk to the University. The Pi Tau Sigma officers served as hosts. While Bill talked to an almost filled auditorium, his pilot was kept entertained by talking to the Herrick students and taking them to the airport to see the plane.



*Bill and Moya Lear (right) meeting with people during his visit*



*Bill Lear's personal Learjet at the Purdue airport*



*Moya and Bill Lear talking with  
Prof. Victor Goldschmidt*



*Another picture of Bill Lear's personal Learjet*



## Other News

### Cummins Visit



*Greg Shaver, Tom Linebarger (CEO of Cummins, Inc.), Dr. John Wall (CTO of Cummins, Inc.), and Suresh Garimella, outside the Cummins Power Laboratory in the new Herrick building*

Tom Linebarger and Dr. John Wall visited Purdue on Friday, May 2nd. That afternoon Mr. Linebarger gave a seminar on how environmental sustainability is critical to the Company's long-term success and how Cummins' commitment to environmental sustainability benefits its many stakeholders, including its customers and communities.

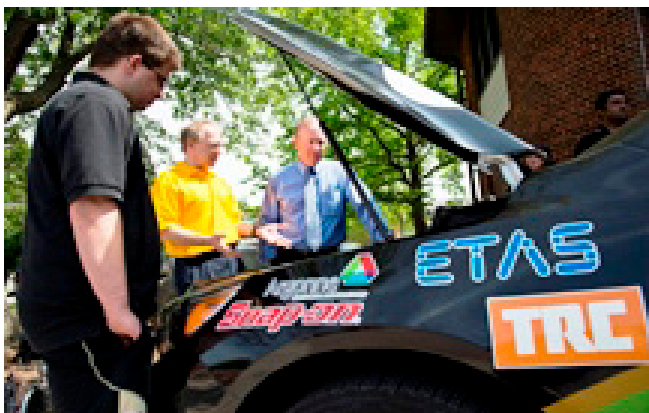
Tom Linebarger became Chairman and CEO of Cummins Inc., the largest independent maker of diesel engines and related products in the world, on January 1, 2012. Prior to becoming Chairman and CEO, he served as President and COO from 2008 to 2011, Executive Vice President and President, Power Generation Business from 2003 to 2008, Vice President and Chief Financial Officer from 2000 to 2003, and Vice President, Supply Chain Management from 1998 to 2000.

Tom grew up in California and in 1986 received joint undergraduate degrees in economics from Claremont McKenna College and mechanical engineering from Stanford University. He later returned to Stanford University to earn an MS in manufacturing systems from the School of Engineering and an MBA from the Graduate School of Business in 1993.

Prior to joining Cummins, Tom was an investment analyst and investment manager at Prudential Investment Corporation where he lived in both Singapore and Hong Kong. While at Stanford, he worked at Cummins as an intern and spent his summer working on the manufacturing line at the Cummins Midrange Engine plant in Walesboro, Indiana. He liked the values, the people and the business challenges he found at Cummins and decided to join full time in February 1993.

Tom has been on the board of directors of Harley Davidson since 2008. He is also a board member of Energy Systems Network and a principal of the American Energy Innovation Council.

### 'EcoCAR 2' Wins Accolades at Competition



*Purdue University President Mitch Daniels, at right, discusses the EcoCAR 2 project with Professor Peter Meckl and student Kevin Oswald*

A group of Purdue University engineering and technology students won 4th place overall in the EcoCAR 2 competition to convert an ordinary sedan into an ultra-efficient hybrid-electric vehicle. Herrick professors, Peter Meckl and Greg Shaver, advise the EcoCAR team.

EcoCAR 2 was established by the U.S. Department of Energy and General Motors to reduce the environmental impact of passenger vehicles. In completing the three-year program, the Purdue team's mission was to design and implement hybrid-electric power train technology in a 2013 Chevrolet Malibu.

Eleven Purdue students accompanied by Professors Peter Meckl and Greg Shaver competed against 14 other universities at events in Michigan and Washington, D.C., from June 1-12. Student communications, business and technical teams presented their work, including the finished Malibu.

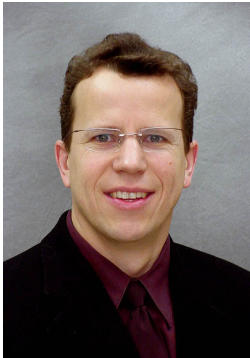
Purdue's team, called the EcoMakers, placed fourth overall.

"We were one of only six teams to successfully complete the challenging Emissions and Energy Consumption event," said Peter Meckl. "The students did an awesome job, working hard to overcome several setbacks. Their perseverance paid off. It was a great way to end the competition."

The Purdue team also won for best braking distance, and was runner-up for lowest greenhouse gas emissions.

## People News

### Faculty Honors



**Professor Eckhard Groll**, the Reilly Professor of Mechanical Engineering, has been awarded the Exceptional Service Award by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Members Council. This award recognizes ASHRAE members who have served the Society with exemplary effort, far in excess of that required

for the Distinguished Service Award. The presentation will take place at the Society's Annual Conference in Seattle, Washington, during the Plenary Session on June 28, 2014. The award consists of a plaque and lapel pin.

Other ASHRAE awards Eckhard has received are: 2010 E.K. Campbell Award; 2006 ASHRAE Fellow; 2003 Distinguished Service Award; and 1997 New Investigator Award. He currently is a member of the Technology Council, where he serves as the Special Project Subcommittee Chair.



**Professor Greg Shaver** was named as one of the recipients of the College of Engineering's Faculty Awards of Excellence for 2014. He received the Early Career Research Award and was nominated by Professor Bob Lucht.

**Professor Greg Shaver** was also honored for being named as one of the four University

Faculty Scholars by the Office of the Provost. University Faculty Scholars are select associate and full professors who have been in that rank for no more than five years and are on an accelerated path toward academic distinction.

In the College of Engineering, they are nominated by committees from their academic areas, and reviewed and recommended by a subcommittee of the College's named and distinguished professors. The dean then makes the selection and requests approval by the provost. Faculty scholars are appointed for a nonrenewable five-year term and receive an annual \$10,000 discretionary allocation. The University Faculty Scholar program was created at Purdue in 1998.



**Professor Robert Lucht** has been inducted into the Kent Schools (Kent, OH) Hall of Fame. It was established in 1999 to honor graduates of Theodore Roosevelt High School who have made exceptional achievements in their field or unique contributions to their community. Recall that Bob works at the Herrick Labs with

Greg Shaver on combustion and energy utilization. Bob was named the Ralph and Bettye Bailey Professor of Combustion in Mechanical Engineering in 2002 and heads Purdue's Applied Laser Spectroscopy Laboratory. He was the recipient the 2013 Excellence in Research Award from the College of Engineering at Purdue University. For more information on the Excellence in Research Awards, visit the website <http://www.purdue.edu/research/vpr/publications/excellence.php>

### Where are they now?

**Rajendra Singh** (Ph.D. 1975), who worked under the study of Professor Werner Soedel, will formerly retire from Ohio State University on June 30, 2014 with 35 years of service. He plans to pursue research activities via appointment as an Emeritus Professor and Director of the NSF Center on Smart Vehicle Concepts and continue to advise close to 8 PhD students.

**Doug Mandic** (MSME 1989) is now working for ESI Group as their Technical Sales Manager, responsible for the VA One acoustic simulation product line. ESI is a pioneer and world-leading provider in Virtual Product Engineering, leveraging the physics of materials. Established in more than 40 countries worldwide, ESI helps industrial clients shorten their product development cycle by eliminating the need for physical prototypes.

### Graduations

**Christian Bach** (Ph.D. 2014). Refrigerant Side Compensation for Air-Side Maldistribution of Evaporators and Its Effects on System Performance. Christian took a faculty position at Oklahoma State University.

**David Fain** (MSME 2014). Operating Range Characterization and Expansion of Premixed Charge Compression-Ignited Combustion in a Multi-Cylinder Diesel Engine with Variable Valve Actuation, Variable Fuel Reactivity and Revised Turbomachinery. David took a position with Shell Oil Company in Houston, TX.



## People News (continued)

**Gurneesh Jatana** (Ph.D. 2014). High-Speed Diode-Laser-Absorption Measurements of Gas Dynamics for Diesel Engines. Gurneesh is working for Oak Ridge National Lab, Oak Ridge, TN.

**Mingang Jin** (Ph.D. 2014). Building Airflow Simulations with Fast Fluid Dynamics. Mingang is working for Energy Solutions International in Houston, TX.

**Dat Le** (Ph.D. 2014). Physically-based Modeling, Estimation, and Control of Piezoelectric Fuel Injection during Rate Shaping Operation. Dat is working for Cummins Inc. in Columbus, IN.

**Wei Liu** (MSME 2014). Experimental and Numerical Study of the Air Distribution in an Airliner Cabin. Wei is staying to pursue his Ph.D.

**Mark Magee** (MSME 2014). Exhaust Thermal Management Using Cylinder Deactivation and Late Intake Valve Closing. Mark took a position at Cummins Inc. in Columbus, IN.

**Jacob Miller** (MSME 2014). The Thermomechanical Response of Composite Energetic Materials to Acoustic and Ultrasonic Excitation. Jacob is staying to pursue his Ph.D.

**Aakash Rai** (Ph.D. 2014). Ozone-Initiated Chemistry in Indoor Environment. Aakash's employment is unknown at this time.

**Matthew Quock** (MSME 2014). Heat Exchanger Performance Optimization. Matt is working for Whirlpool Corp. in Saint Joseph, MI.

**Nicholas (Nico) Stuart** (MSME 2014). Heat Exchanger Performance Optimization. Nico is working for Whirlpool Corp. in Saint Joseph, MI.

**Srinivas Varanasi** (Ph.D. 2014). Sound Attenuation Characteristics of Cellular Metamaterials. Srinivas is working for Schlumberger Technology Corp. in Rosharon, TX.

**Daniel Woods** (MSME 2014). The Thermomechanical, Near-Resonant Response of Energetic Materials. Daniel is staying to pursue his Ph.D.

**Jinpu Yang** (MSME 2014). Noise Study in Diesel Engines. Jinpu is furthering his studies at the University of Chicago.

### Student Honors

**Bao Tong**, a Ph.D. student working with Professor Kai Ming Li, received the Leo Beranek Student Medal for Excellence in the Study of Noise Control Award for 2014. This special Medal was established by the Board of Directors of INCE/USA in October 2010 to recognize

excellence in the study of noise-control by undergraduate and graduate students at academic institutions in North America that have courses in, or related to, noise-control engineering including practical applications.

**Brad Pietrzak**, a MSME student working with Professor Greg Shaver, won a "Best Presentation" award at this year's American Control Conference in Portland, OR for his peer-reviewed paper: *Model-Based Estimation of Piezoelectric Fuel Injector Parameters*.

**Nikhil Bajaj**, a Ph.D. student working with Professor George Chiu, was one of several to receive this year's Magoon Award. The honor recognizes outstanding teaching assistants and instructors through the Estus H. and Vashti L. Magoon award. The selection is made by both faculty and students to recognize those students who were exemplary in their work as teaching assistants or instructors.

**Chun Chen**, a Ph.D. student working with Professor Yan Chen, received the Bilsland Dissertation Fellowship for 2014-2015.

**Brandon Woodland**, a Ph.D. student working with Professors Eckhard Groll and Jim Braun, received the James V. Stack Fellowship. The Endowment that created the James V. Stack Fellowship was established in October 1994 by the Renco Group, Inc. on behalf of Mr. Stack, who was past President/CEO of WCI Steel and Arcelor Mittal Steel. Recipients are chosen by the Dean of the College of Engineering.

### Engagements and Weddings

**Nikhil Bajaj** (current Ph.D. student) and Andrea Pluckebaum are engaged and will wed on August 2, 2014.

**Christian Bach** (recent Ph.D. recipient) and Carol Powers were married on June 7, 2014 in Oceanside, OR.

### Births



**Brandon Woodland** (current Ph.D. student) and his wife Christine welcomed their 3rd child, a son, on June 2. Kei Walter Makoto weighed 7 pounds 3 ounces and was 18.5 inches long. They are also the proud parents of Raiden, age 4 1/2 and Meilee, age 3.



**Miranda Gick** (Staff member) and Jeff McGuff welcomed their second child, Brycen John on June 4. He weighed 6 pounds 11 ounces and was 18 1/4 inches long. Brycen is also welcomed home by big sister Breanna, age 7.



Ray W. Herrick Laboratories  
177 S. Russell Street  
West Lafayette, IN 47907-2099  
USA

First Class  
Presort Mail  
U.S. Postage  
PAID  
Lafayette, IN  
Permit No. 221

**Address Service Requested**

## News about You and Address Changes

We are always interested in hearing your news, like weddings, births, and job promotions, and we want to be kept up-to-date on current addresses. Please send notes to Donna Cackley or to the e-mail address below. Don't hesitate to let us know of other alums that have moved or changed jobs. Photos are always welcomed and encouraged.

Ray W. Herrick Laboratories  
School of Mechanical Engineering  
Purdue University  
177 S. Russell Street  
West Lafayette, IN 47907-2099  
1-765-494-2132 (phone)  
1-765-494-0787 (fax)  
e-mail: [rhlab@ecn.purdue.edu](mailto:rhlab@ecn.purdue.edu)  
<https://engineering.purdue.edu/Herrick/>

Donate to support Herrick activities:  
<https://engineering.purdue.edu/Herrick/Giving/index.html>

---