Dear Friends of School of Health Sciences:

Recently I attended an international trace element conference in Dubrovnik, Croatia. During a break while strolling along the street, a metal rattling sound caught my attention. Tracing that sound led me to a workshop in a street corner where an old man, with sleeves rolled up and a pair of glasses saddling the very tip of his nose, was using a hammer and tiny tools, tapping and knocking, to produce many small dents on a thick brownish copper plate. Sweat was running down his face, and the shop smelled metallic. My eyes scanned the room; there were many gorgeous metal paintings and sculptures, big and small, hanging against the wooden wall. Under the sunset shine, these paintings emitted sparkling golden lights as if they were telling endless untold stories. Turning back to the old man, his each tap generated one small dent; each small dent then added to a group of imprints; and these imprints finally turned into an incredible piece of art. Suddenly I found the analogy to the human life; a remarkable achievement, just like this piece of art, is made of many small positive “dents”.

This year’s Distinguished Alumnus Award is bestowed to Dr. Jim Schweitzer. Jim graduated from the HSCI with a Ph.D. in 1985. Since he became the Director of Purdue’s Radiological and Environmental Management (REM) in 2001, Jim has managed environmental, occupational and radiological safety in a major public university that possesses a nuclear reactor and has hundreds of research laboratories using radioactive or biohazard materials. Jim has contributed greatly to Purdue’s safe working environment, which is essential to Purdue’s success in research, discovery, education and engagement. Jim has also been volunteering in many of our School’s activities. When he was told about his nomination, Jim said simply, as quoted, “I only did a little thing”, comparing himself with other big-name alumni. But like the analogy

(continued on page 2)

EARLY CAREER RESEARCH ACHIEVEMENT AWARD

Dr. Linda Nie has been named a 2015 recipient of the College of Health and Human Sciences Early Career Research Achievement Award.

This award recognizes research that goes beyond the candidate’s dissertation and demonstrates clear scientific and scholarly contributions as a result of work completed while as a Purdue faculty member.

Dr. Nie is an internationally recognized expert in designing, building, and applying innovative neutron and x-ray technologies for real-time non-invasive quantification and imaging of toxic metals and trace elements in the human body. Her major achievements since joining Purdue faculty in 2009 include: (1) development, based on innovative theory and new materials, of a novel technology using neutron activation analysis (NAA) system for in vivo noninvasive quantification of metals (manganese, aluminum) in human bone; (2) development and validation of a portable x-ray fluorescence (XRF) technology for in vivo noninvasive quantification of toxic metal lead in human bone; (3) establishment of a bone microdosimetry model to predict internal dose of alpha and beta-emitters to critical bone compartments; and (4) applying these novel technologies on human health effect researches by collaborating with epidemiologists and toxicologists. Her invention has now been used to evaluate the health effects of metal exposure, and will help clinicians and researchers to diagnose diseases that are associated with metal exposure and elemental alterations.

Dr. Nie presented an overview of her research at the Health and Human Sciences Fall Research Day on October 28th (pictured above from left to right are Dean Ladisch, Linda Nie and Dorothy Teegarden).

Congratulations Dr. Nie!
John E. Christian (1917 - 2015)

John E. Christian, 98, died peacefully at his home in West Lafayette, Indiana on July 12, 2015. He was preceded in death by his wife, Catherine E. Christian, and is survived by his daughter and son-in-law, Linda and Tom Davis, of Houston Texas.

Professor Christian is a Hovde Distinguished Service Professor of Bionucleonics. He came to Purdue as a research fellow in 1940, and created and became the head of the Department of Bionucleonics in 1948. The unit became today's School of Health Sciences in 1979. He was the first head of the School until his retirement in 1983.

In Memory of Dr. John E. Christian

Head’s Message (Continued from Page 1)

mentioned above, the Empire State Building was built by one brick after another; and the vast blue ocean is made of millions of tributary creeks. It is this every day little thing that builds a supportive community, binding us together and making us stronger. Jim is the role model for our faculty and students, and he is very well deserving of this award. You can read more about Jim’s “little” story on adjacent page.

Our graduate students and their mentors have been quite busy in doing their “everyday little thing” on their benches and in front of their computers. These “little” things brought them to this year’s College of Health and Human Sciences Fall Research Day, which was a great success having more posters than the last year. Eight of our graduate students from the laboratories of Drs. Cannon, Dydak, Freeman, Nie, and Wells represented our school to present their research in the event. Some studied developmental neurotoxicity and environmental toxicants; and others applied epidemiological approaches with new imaging and noninvasive technologies to human populations. Stepping back and putting these pieces of research progress together, one could see a remarkable research team with the many talents from genetic and molecular biology to MRI/neutron technologies, and from animal and cellular models to human subject investigation. Every student has added a little “dent’ on health science research. More pictures of our graduate students can be found on page 8.

With a great enthusiasm, I would like to introduce two newly arrived faculty members to the HSCI family who will likely make significant “dents” to the HSCI history. Dr. Carlos Peres-Torres joined us in August as a tenure-track assistant professor in Radiological Health Sciences. Carlos has a unique training that combines biology with biotechnology. He has recently developed a mouse model of hemispherical radiation necrosis. At Purdue, he will lead his research team to investigate the role of inflammation in radiation necrosis and to seek for effective treatment. He will also develop new molecular and functional MRI imaging approaches for diagnosis of necrosis and tumors. During a short time at Purdue, he is already submitting his grant proposals and preparing his new course in oncology.

Dr. Jason Harris, a tenured associate professor in Radiological Health Sciences, arrived last week. Jason graduated from our health physics program in 2007. He is a well-recognized expert in health physics and nuclear security. He has provided his knowledge and experience as a consultant to the nuclear power industry, the US Nuclear Regulatory Commission (NRC) and US EPA, foreign governments, and the United Nations. His research focuses on environmental and reactor health physics, radiation detection, measurement and prevention, and nuclear security. Only in his third week at Purdue, Jason has already taken the leadership role in reapplying the ABET-accreditation of our occupational health program. Jason’s appointment will also enhance our NRC-funded training program and facilitate our collaboration with the School of Nuclear Engineering. More information on both professors can be found on page 6.

One of Steve Jobs’s famous quotes is to “make a dent in the universe.” Certainly not everyone can leave such a big dent as did Jobs; yet if everyone in this unit makes a significant “dent” in whatever capacity one can, together, we can inscribe a fabulous painting of our present and future, and contribute greatly to the mission of our college as well as Purdue University.

Hail Purdue!
Wei Zheng, Ph.D.
Head of School of Health Sciences
Dr. James Schweitzer attended Randolph-Macon College and received a B.S. in Biology in 1976. He attended graduate school at Purdue University where he earned an M.S. in Health Physics and a Ph.D. in Environmental Toxicology in 1985. He began work at the Illinois Department of Nuclear Safety where he performed environmental monitoring and activities associated with radon in homes.

In 1987 he became Radiation Safety Officer (RSO) at Purdue University responsible for U.S. Nuclear Regulatory Commission licenses of broad scope, special nuclear material and source material. During this time he was active in the Big Ten Radiation Safety Officers and the Campus Radiation Safety Officers where he provided leadership for hosting annual meetings of the group. He also worked to bring about joint meetings of the Campus Radiation Safety Officers and the Health Physics Society at the annual meeting. In addition to his duties as RSO he was appointed as the Director of Radiological and Environmental Management (REM) in 2001 assuming responsibility for environmental health and safety programs at Purdue with a staff of 34 individuals.

Dr. Schweitzer is an Assistant Professor of Health Physics in the School of Health Sciences and taught courses such as HSCI 312, 313, 322L, and 514 and provided guest lectures in Health Sciences and other disciplines. He continues to serve on graduate committees in Schools of Health Sciences and Nuclear Engineering and provides internship and employment opportunities for students in radiological health, occupational and environmental health sciences, and nuclear engineering. The REM has served as the principal site along with the Tippecanoe County Health Department for exchange students from the Dublin Institute of Technology.

Dr. Schweitzer is also active in the Health Physics Society (HPS) at the local and national levels. He is the immediate past president of the Hoosier Chapter, past president of the Radiation Safety Operations section of the HPS, and has served several terms on the Academic Education Committee of the HPS. He organized a Professional Development School on "Radiation Risk Estimation" for the HPS held at Purdue University in July 2015 in conjunction with the annual meeting in Indianapolis. He is also active in the Campus Safety Health and Environmental Management Association where he serves on the Professional Development Committee.

Dr. Schweitzer was certified by the American Academy of Health Physics in 1993. He is also a consultant on radiation safety and environmental health and safety issues. He has been married to his wife Pam for 31 years and has a stepson, Daniel, daughter-in-law, Kelly and two granddaughters, Jennifer and Amie. He enjoys golf, craft beer, and walking their 2 whippets.

On October 15, 2015, the School of Health Sciences had the great honor of adding Dr. James Schweitzer, Ph.D. to the list of John Christian Distinguished Alumni in Health Sciences. This is the highest honor awarded by the School of Health Sciences and was established in 1988.

The award is made possible by an endowment in honor of John E. Christian, Hovde Distinguished Service Professor of Bionucleonics and Health Sciences at Purdue. Christian was the first head of the Health Sciences School. He came to Purdue as a research fellow in 1940 and retired from the University in 1988.
**Fall 2015 Graduates**

Olivia R. Babb
Amanda L. Barteczko
Zachary A. Camarena
Sirun Chen
Andrew E. Colby
Brandon J. Gridley
Kelsey M. Hall
David W. LeRoy
Routa M. Mesfin
William J. Moore
Sara B. Moorman
Han Na Park
Katherine V. Parker
Emily R. Pinnick
Katherine L. Reese
Chelsea L. Rehwald
Jalessa A. Rice
Michael T. Schwuchow
Nazfa Shaikh
Luke P. Silver
Haley M. Smith
Martina N. Snemis
Bronson Stanley
Halley Williams

**Medical Laboratory Sciences Clinical Placements 2015 - 2016**

**Franciscan St. Francis Health**
- Adam Morris

**Franciscan St. Margaret Health**
- RaeAnna Jenkins
- Makayla McFail

**Good Samaritan Hospital**
- MacKenzie Gartner *
- Melony Neff

**IU Health Methodist Medical Center**
- Kevin Becker*
- Carley Ernst
- Jessica Grasso
- Lauren Lalioff
- Emma Stein

**IU School of Medicine**
- Allison Freudinger

**Northshore University Health Systems**
- Andrea Alvarez
- Madaine Talucod
- Karlie Trost

**Parkview Memorial Hospital**
- Caitlin Eakins
- Kaitlan Liggett
- Rachel Miller

**St. Francis Medical Center**
- Kendra Hart

* Former HSCI Graduates

**Graduation and Beyond**

Yingzi Liu graduated with a PhD degree in August, 2015. She is now a Postdoc in Dr. Nie’s group.

Daniel Sowers graduated with a MSc degree from Dr. Nie’s group in August 2015. He is now the Head of the Radiation Health Division of the Naval Branch Health Clinic at the Portsmouth, NH.

Congratulations to all of our outstanding students!
TIME FOR TRANSITION

Greetings, from the Office of Student Services:
By Truda Strange

Fall always marks an exciting time on Purdue’s campus – a time for new beginnings, especially for the 136 Health Sciences freshman we eagerly greeted in August. It was a time of transition for these young people as they said goodbye to family and friends; met fellow Boilermakers from 125 countries; settled into a new living arrangement with someone they probably met for the first time on social media; and attempted to establish a sense of independence.

But the biggest challenge they encountered was making the academic transition from high school to college. I am comfortable speaking on behalf of my colleagues, Rosemary “Rosie” Ricci and Lisa Hilliard, our students often tell us they never had to study in high school. Purdue is a whole new level of rigor. However, as trained professionals this provides an opportunity for us to put on our advising hats, meet with them and discuss their study strategies, and decide which academic resources would be most valuable.

It is an exciting time for the Office of Student Services as we will also be making a transition. Lisa Hilliard, Director of our Medical Laboratory Science (MLAB) program, will be assuming more teaching duties. In order to facilitate her transition, Rosie and I will be advising students majoring in MLAB. Upon applying, if they are admitted to the clinical program, Lisa will become their academic advisor. She will provide guidance to them throughout the remainder of their undergraduate education. We cannot wait for the unveiling of Lisa’s new class, fall 2016, The Anatomy of Medicine.

And finally, Rosie, Lisa, and I wish our 37 December graduates all the best as they transition from their undergraduate years to their next chapter in life. As they reflect upon their undergraduate years we hope they will remain ever grateful, ever true to their old Purdue.

HSCI HONORS STUDENTS

Below are a list of the Health Sciences Honors Students and their Faculty Mentor.

Freshmen
Phoebe Beiderhake (Jennifer Freeman)
Katherine Krupski (Ulrike Dydak)
Taylor Russler (Shuang Liu)
Emma Wallens (Linda Nie)
Rachel Yuska (Carlos Perez-Torres)

Sophomores
John Koenig (Shuang Liu)
Morgan Kramer (Jason Cannon)
Natalie Lamport (Carlos Perez-Torres)
Leeah Reidenbach (Jennifer Freeman)
Claire Wilson (Ellen Wells)
Erin Kay (Wei Zheng)

Juniors
Joseph Amaro (Jason Cannon)
Madison Baker (Ellen Wells)
Courtney Oare (Ulrike Dydak)
David Putt (Jim Schweitzer)
Kendal Weger (Jennifer Freeman)

Senior
Claire Tighe (Jim Schweitzer)

Winter 2015 Commencement
The ceremonies take place in the Elliott Hall of Music. Doors open for your guests 90 minutes prior to each ceremony. The procession begins 30 minutes before each ceremony. Each commencement ceremony will be approximately two hours in length.

Division II -- Sunday, December 20, 2015, 2:30 p.m.
Health and Human Sciences · Management · Pharmacy · Science · Technology

Health Sciences Graduation & Awards Banquet
Friday, April 22, 2016 in the Purdue Memorial Union
North Ballroom starting at 6:00 p.m.

Spring 2016 Commencement
Division III -- Saturday, May 14, 2016, 9:30 a.m. ET
Health and Human Sciences · Veterinary Medicine
Dr. Carlos Peres-Torres joined the School of Health Sciences in August as a new member of our faculty in Radiological Health Sciences. Originally from Puerto Rico, Dr. Perez-Torres received his BS in Biology in 2007 from Worcester Polytechnic Institute in Massachusetts, and his PhD in Translational Biology in 2012 from Baylor College of Medicine in Texas. Most recently, Dr. Perez-Torres postdoctoral training in pre-clinical MRI was conducted at Washington University in Saint Louis, Missouri.

Dr. Perez-Torres’ research focuses on the side-effects of radiation therapy for brain cancer in the hopes of improving treatment and quality of life for survivors. His knowledge, experience and potential collaboration with the imaging group at IUSM will contribute enormously and in a right time to our leading medical imaging science program.

At Purdue, Dr. Pérez-Torres continues to focus on how radiation treatment affects the normal brain to develop better diagnostic MRI tools (is it a tumor or just a treatment side effect?) and to potentially improve radiation therapy of brain tumors.

He looks forward to settling down and starting a family in West Lafayette.

Dr. Jason T. Harris is our newest Associate Professor in the School of Health Sciences. From 2008-2015 he was an Assistant, then Associate, Professor at Idaho State University (ISU) in the Department of Nuclear Engineering and Health Physics. Dr. Harris received his Ph.D. from Purdue University in health physics in 2007, a M.S. from the University of Illinois at Urbana-Champaign in nuclear engineering in 2002, and a B.S. in biology and marine science from the University of Tampa in 1995.

Dr. Harris has nearly 15 years of experience as the primary instructor for courses in Health Physics and Nuclear Engineering, including diverse subjects such as radiation detection and instrumentation, health physics, radiation physics, laboratory experimentation, nonproliferation, and nuclear security. Dr. Harris also holds a joint appointment with the Idaho National Laboratory (INL) and served as the ISU Associate Director for the Center for Advanced Energy Studies (CAES). As part of his research activities, Dr. Harris participates in a number of areas related to environmental and reactor health physics, accelerator applications, radiation detection and measurement, nonproliferation, and nuclear security.

Since 2009, Dr. Harris has worked in several endeavors related to nuclear security. In 2012, he became the Chair of the International Atomic Energy Agency (IAEA) International Nuclear Security Education Network (INSEN). He has helped grow the network from about 20 members to over 100 (representing 40 member nations). His work has led him to participate in numerous nuclear security activities. He serves as an expert for the U.S. Department of State Partnership for Nuclear Security (PNS), lecturing at a number of professional development workshops throughout the world.

He also serves on the Advisory Board for the European Masters Program in Nuclear Security, sponsored by the IAEA and European Commission. Specifically, he has been at the forefront of nuclear security education development, specifically working to better integrate radiation safety with security. All of these advancements culminated with a recent invitation to speak at the United Nations.

(continued on next page)
Congratulations and best wishes to **Yvonne Nash** who, after more than eight years of dedicated service to the School of Health Sciences, has retired. She has moved to Renton, Washington to be closer to her oldest son and his family including two small grandchildren.

She is looking forward to babysitting and playing with her grandchildren there, as well as taking trips back to Illinois to see her two older grandchildren. Yvonne said, “I will miss everyone and have enjoyed working with you all but I feel it’s time to move on and enjoy the rest of my life. Thank you all for being such wonderful co-workers and friends.”

We wish Yvonne the best in her retirement!

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**Kristy Fay** joined Health Sciences as a Secretary at the beginning of October, and has been employed with Purdue for 8 years. She lives in Lafayette and has two daughters, Jessica and Shannon, and one fur-baby, her black rescue cat, Isla (Issie). She has a huge love for all animals and worked as a volunteer for eight years at Wolf Park in Battle Ground, IN. She has a special interest in wolves, wolf conservation and general wildlife.

In her spare time, Kristy enjoys spending time with her family, reading, traveling, a nice hike in the woods and big roller coasters (arms up all the way!). One of the things on her bucket list is to do a HALO skydive jump (HALO=High Altitude Low Opening).

Welcome, Kristy!
Students, postdoctoral fellows and faculty in Purdue’s School of Health Sciences had a successful presence in the recent Ohio Valley Society of Toxicology (OVSOT) regional conference that took place at North Kentucky University in Cincinnati on November 13, 2015.

Katie Horzmann from the Freeman lab won 2nd place in the PhD graduate student platform presentation award with her research project titled “Zebrafish (Danio rerio) with developmental exposure to MCHM: acute toxicity and observed neurobehavioral alterations”. Dan Cholger from the Zheng lab won the 2nd place PhD graduate student poster presentation award for his study on “Increased interactive toxicities on the blood-CSF-barrier following co-exposure to manganese (Mn) and lead (Pb)”. Moreover, Dr. Sherleen Fu from the Zheng lab won the 1st place Postdoc poster presentation award for her research on “Age-dependent expression of copper regulatory proteins in the subventricular zone and choroid plexus: Implications to adult neurogenesis”. These awards reflect Purdue’s strong research and educational pillar in toxicological science.

Dr. Jennifer Freeman was elected by her peer as the President-elect of the Ohio Valley SOT. She will be in the President of this organization in 2017.
Some of our HSCI Faculty and students attended the American Industrial Hygiene Conference and Exposition (AIHce), held his past June 2015.

The posters presented at the AIHce by current Purdue students that received awards were:
1. Comparison of Cytotoxicity of Carbon Nanomaterials in Human Lung Normal and Cancer Cell Lines: Aparna Shinde (Graduate Student), Advisor Dr. Candace Tsai - Second place for Best of Session. She also received an AIHA Travel Award and an AIHF Scholarship from the Chicago Local Section.
2. The Dental fires poster title was "The Effects of Different Levels of Ambient Oxygen on the Production of Surgical Fires" – First Place Award was from the Non-ionizing Radiation Committee. The team of students involved in this research included: Caitlin Eakins, Sally Romanek, Chris Galassi, Tanner Mitchell, and David Putt (all Undergraduates). Caitlin and Sally presented the poster at AIHce.
3. Dr. Jim McGlothlin received an AIHA Volunteer Group Service Award, for his dedication and service to the Ergonomics Committee and the NIOSH RWL Application and received the AIHA Service Award, in recognition of his service to the Student Abstract Review Process and enabling the next generation of Industrial Hygienists to showcase student research.

In addition, two past Purdue students doing graduate work at other universities received poster awards.
1. Frank Pagone received a Computer Application award for his poster titled: “Use of Geospatial Analysis in Environmental and Occupational Health: IEPA Brownfield Site Cluster Identification.” He is currently studying at University of Illinois Chicago.
2. Mark Wilson received an award for Occupational and Environmental Epidemiology for his poster titled “Cardiovascular Effects of Work-Related Stress in Working Women.” Mark is currently studying at the University of Illinois Chicago.

**HEALTH SCIENCES GRADUATE STUDENT GROUP UPDATE**

After joining Purdue’s Health Sciences Department in 2013, Johnny Wise was eager to become involved with the HSGSO and to learn about other research projects going on in the department. He served as the Vice President last year under the leadership of Stefanie O’Neal (now Dr. O’Neal!) As a student group, they have enjoyed the brown bag seminars she started. As the new HSGSO president, his plan is to continue the seminars with a new format added in – data drop. The goal with data drop is to have 3-4 students present new data and discuss the data with peers in and outside their field. In addition, he hopes to achieve a broader understanding of methodology and data interpretation across all fields that our department encompasses. Brown bag and data drop sessions are held biweekly over lunch. There are still spaces available for students to sign up. Please contact Danelle Rolle (drollo@purdue.edu) or Johnny Wise (wise19@purdue.edu) to reserve a spot to present and/or confirm your attendance.

They are also seeking funds to support social activities and are applying for grants from Purdue Graduate Student Organization Grant Allocation which will enable the group to host events and provide support for travel to conferences. In the coming months, the Officers will meet with Dr. Zheng to organize a networking event aimed at bringing HSCI alumni back to Purdue for a night to meet with current students and faculty, to discuss ongoing research in the school and collaboration opportunities, school news, etc. If you would like to support the group’s activities, please contact Dan Cholger (dcholger@purdue.edu) or Johnny Wise to make a donation.

This year’s officers are: President, **Johnny Wise** (toxicology), Vice President, **Emily Ma** (medical physics), Treasurer, **Dan Cholger** (toxicology), Secretary, **Danelle Rolle** (occupational health and safety) and Senator, **Angie Hernandez-Cruz**. Dr. Carlos Perez-Torres is the faculty advisor.
Purdue has caught up to the other 13 universities in the Big Ten.

At the Board of Trustees meeting last month, a professor’s proposal for an MRI scanner was approved. Thus, Purdue became the final university in the conference to get such a scanner on their campus. Ulrike Dydak, an associate professor in the College of Health and Human Sciences, submitted the proposal. The College of Health and Human Sciences will be the prime beneficiaries of the scanner.

“Dydak and a team of faculty wrote a proposal to the National Institute of Health,” said Christine Ladisch, the dean of the College of Health and Human Sciences. “The proposal was for the purchase of an MRI. She obtained the grant and there was never a question of what college would be acquiring the machine.” As this will be the first MRI on campus, it will only be for human-related research. Dydak's research, in particular, focuses on metal toxicity in the human brain. However, 21 scientists from the College of Health and Human Sciences, the College of Engineering, the College of Science and Veterinary Medicine and the Purdue Center for Cancer Research will utilize the scanner for their research.” With this imaging capability, scientists will have a non-invasive look into the living human body to answer questions about neural function, morphology and biochemistry,” according to a Purdue News Service press release. “Studies utilizing the MRI scanner include the effects of metal toxicity on the brain, causes and treatments related to speech disorders and hearing loss, and dietary effects in tissue and bone, just to name a few.”

The housing of the machine is yet to be determined, but regardless, there’s a plethora of opportunities now for Purdue and its faculty. “This has been sort of a dream of the Purdue research community for a very, very long time,” Ladisch said. “There were many researchers across this campus, which was a strong part of (Dydak’s) proposal, who wanted to get funding for this.”

Posted: Monday, August 3, 2015 10:00 am
By LOGAN CORDES Summer Editor

2015 - 2016 ADVISORY BOARD

Back row (left to right): Gary Carlson, Paul Ziener, Craig Yoder, Robert Romano, Stan Roberts and Sven Rundman. Front row (left to right): Wei Zheng, Stanley Shaw, Stan Hampton and Tim Kirkham.