Dear Friends:

This is a time of transition. As you can probably guess, it was likely an academician who came to the realization that the only thing constant in the academic world is change (thank you Heraclitus). We continue to see many changes here at Purdue University from a newly appointed Provost, Dr. Jay Ackridge (formerly the Dean of Agriculture) to an expected new Dean for the College of Health and Human Sciences (as Dr. Christine Ladisch is planning to step down) to an expected new Head for the School of Health Sciences (after Dr. Wei Zheng returned back to the faculty). The searches for our new Dean and our new School Head are underway and candidates will be brought to campus for interviews in the next couple months.

I was honored to be asked to return as Interim Head this past July until a new Head is brought on board. I previously served as the Interim Head in 2013 while Dr. Zheng was on sabbatical. My home department is Nutrition Science and I have been working as a food toxicologist at Purdue since 1998. My research looking at emerging chemical contaminants and the health risks from exposure to mercury and PCBs in seafood fits better with the School of Health Sciences. This experience as Interim Head has been very rewarding. I do not exaggerate when I tell you that every time I finish a meeting with a faculty member or graduate student, I walk out of the meeting in awe. As you can see from the many stories in this newsletter, the School of Health Sciences is on a path to change the world.

Let me say a few words about our former Head, Dr. Wei Zheng. In July, he made the difficult decision to step down as Head in order to have the time he needed to focus on his research. He recently became the recipient of a multi-million dollar NIH grant. Wei led the School for 9 years with great passion and determination. Every part of the School has been enhanced under his watch. Importantly, he hired all but 4 of our current faculty and these faculty have greatly strengthened both our research and learning efforts. During the past 9 years, there have been 8 new courses added, strong growth in undergraduate enrollment, an increase in wet-lab space by 300%, and improvements to graduate education. Notably, our programs in environmental toxicology and medical imaging sciences have seen strong growth. The School of Health Sciences has greatly benefitted under his leadership and we are all grateful for his efforts.

(Continued on page 2)
MESSAGE FROM THE HEAD (CONTINUED FROM PAGE 1)

Our newest faculty member is Dr. Uzay Amir, who works in the field of medical imaging. Uzay comes to us from Oxford University and before that, the University of Minnesota. We are very excited to add his expertise to a strong and growing medical imaging focus. Our more recent faculty hires, including Jonathan Shannahan, Carlos Perez-Torres and Jae Park are making a name for themselves and the School. It is great to have such great role models, like Linda Nie, among our many talented faculty.

This past semester, we celebrated our newest Distinguished Alumni, Dr. Bernard W. Graham. It is exciting to see our many alumni and their accomplishments and to know that Purdue University was an important part of their success. The committee which selected Dr. Graham was led by Dr. Jim Schweitzer who has made many contributions to the School over the past 30 years. Jim is always a positive person and he has helped Purdue students and employees to be safe in the workplace. In addition, Jim gives generously of his time to help students along their path.

In October, our Advisory Board (Drs. Craig Yoder, Gary Carlson, Stanley Hampton, Jill Harvilchuck, Robert Romano, Stanley Roberts, Sven Rundman III, and Paul Ziemer) met to review our programs. The Advisory Board (AB) concluded that the “overall state of the School is very good with a young and accomplished faculty.” Of the numerous highlights, the AB recognized the success of our Medical Lab Sciences Program which has experienced 100% placement of graduates and is under the outstanding direction of Lisa Hilliard. Lisa takes on many roles in the School and we are fortunate to have her on the team.

This past year saw the retirement of Dr. Frank Rosenthal and we wish him well and are appreciative of his many contributions to this program. Frank was an important part of our Occupational Health Program which has experienced a great deal of change in recent years with the retirements of Drs. Neil Zimmerman, and James McGlothlin, and departure of Dr. Candace Tsai. The Program has been fortunate to have outstanding leadership from Drs. Jason Harris, Ellen Wells, and Jae Park as we search for a new faculty member (search committee is headed by Dr. Jason Cannon) with expertise in exposure assessment. This Program has also received important classroom support from Drs. John Zimbrick and Mark Wilson, who help us as we are working towards ABET reaccreditation. In 2018, we are trying to increase undergraduate enrollment and we will be seeking corporate sponsors of undergraduate and graduate scholarships.

The School of Health Sciences has seen a total change in our student services advisors. We are very excited about this new team, led by Dr. Ashley Versprille and joined by experiences advisors, Kelly Wrede and Sonina Hernandez-Mikkelsen. Our undergraduate enrollment is hovering around 550 students with the majority being in our pre-med majors. We are appreciative of advisors past who helped us build this strong undergraduate program (including: Truda Strange, Bob Walkup, Dave Tate, and Rosie Ricci).

There are many things happening in the School of Health Sciences. In this past semester: Dr. Ulrike Dydak coordinated a Neuroimaging Conference; Dr. Jennifer Freeman hosted an Ohio Valley Section of the Society of Toxicology meeting; Dr. Keith Stantz coordinated a CAMPEP reaccreditation site visit; and many faculty and students participated in the College of Health and Human Sciences Fall Research Day with HSCI presenting 23% of the posters. Undergraduate research has been growing and we have about 30 undergraduate students who are gaining experience in research with internationally renowned faculty and accomplished graduate students. We are planning to expand the number of students gaining research experience through a new initiative called, Honors Train. This initiative will expand the funds which defray research expenses for student projects. Please see our website if you are interested in contributing to this effort.

The School is fortunate to have dedicated staff. My transition as Interim Head would have been very difficult without the support of Karen Walker. Karen is the heart of the School and does so much to help everything run smoothly. She also has very capable staff in Helen Terrell and Kristina Fay who support her efforts.

One of the main challenges which we are dealing with in the School is the availability of wet lab space. Currently, faculty are spread across five buildings and this makes faculty and student interactions more challenging. At our winter retreat, faculty completed an assessment of current and future space needs.

The School also looks to expand our communications with alumni. We plan to start reaching out to alumni with a focus of locating alums who have fallen off the grid. We will be creating a list of these alumni and asking you to help us locate those who are no longer receiving this newsletter. Our objective is to extend our 4 year relationship into one that lasts a lifetime. At some point we hope to serve as a communication point for alumni to connect with each other. ■
Dr. Bernard W. Graham attended the Albany College of Pharmacy and received a B.S. in Pharmacy in 1971. He attended graduate school at Purdue University where he earned an M.S. and a Ph.D. in Bionucleonics in 1976.

Following graduation from Purdue, Dr. Graham accepted an appointment with the University of South Carolina where he rose to the rank of tenured Associate Professor of Pharmacy and Medicine. Within the College of Pharmacy he established and directed an operational Central Nuclear Pharmacy which served the city of Columbia. He was the major research and thesis advisor for graduate students in Nuclear Pharmacy and in the Radiology Department he taught radiological physics and pharmacy to medical students and residents. Concurrently, in the School of Public Health, he developed and taught graduate level courses relating to environmental and occupational health physics and served as the Radiation Safety Officer for the VA Hospital in Columbia and served on the Isotopes Use Committee of two other local hospitals.

Dr. Graham switched careers and joined the nuclear power industry at Pennsylvania Power and Light for four years. As Environmental Group Supervisor and Senior Health Physicist he had administrative responsibility for programs including environmental and effluent monitoring, meteorological assessment, normal and emergency off-site radiological dose calculations, in-plant chemistry technical support, and nuclear emergency planning support.

In 1987, Dr. Graham re-entered academia serving as Associate Dean and Director of Student Affairs of the College of Pharmacy at Idaho State University. He later briefly assumed interim Chair duties in the Department of Pharmaceutical Sciences followed by the same in the Department of Pharmacy Practice. He was involved in both development and implementation of traditional and non-traditional Pharm.D. programs and a new Ph.D. program. He also taught in the Health Physics program in the Physics Department and was the major research advisor for several Health Physics M.S. students.

At ISU his funded research activities (over $2.6 million) centered on the cancer radiation treatment Boron Neutron Capture Therapy (BNCT) and a Radiological Environmental Monitoring Verification Program designed to independently monitor the Idaho National Engineering Laboratory in Southeastern Idaho. He was also the principal investigator on the TRANSAX 92 project, a radiological transportation emergency response exercise conducted involving the local Native American Tribes, local governments, the State of Idaho and the DOE.

In January 1995 Bernard W. Graham joined Wilkes University as professor and founding dean of the Nesbitt School of Pharmacy. The first class graduated with the Doctor of Pharmacy Degree in 2000. He also assumed the deanship of the Nursing program in 2003 and created the separate School of Nursing in 2015 with a separate Dean. From 2006 to 2007, he served as interim Provost of the University.

He has been a registered pharmacist in three states, a Board Certified Health Physicist, and has authored or co-authored 35 scholarly works and delivered numerous presentations. He also has served in a number of professional organizations where he has held various leadership roles. He has participated in ten non-sectarian medical missions in Guatemala and has served on several ACPE site accreditation visits.

In June 2017, Dr. Graham stepped down as Dean after 22 years. He is currently on sabbatical and will return to Wilkes University in January 2018. He has been married to Doreen for 43 years and has raised two sons, Bernie and Paul. He and his granddaughter Renee are anticipating the birth of his second grandchild later this year.
On behalf of the College of Health and Human Sciences and the School of Health Sciences, I would like to introduce our new HSCI Academic Advising Team. Please see our brief biographies to learn more about us.

Kelly, Sonina, and I are here to help our Health Sciences Students explore their personal, academic and career goals. Each semester, students are required to make a registration appointment with their advisor. Students appointments can be made through an online scheduling system called BoilerConnect: https://www.purdue.edu/boilerconnect. We are here to give support, advice, and advocate for our students so they can be successful throughout their four years at Purdue University and beyond.

We look forward to getting to know each of our students and helping them work towards and meet both their educational and career goals. Please do not hesitate to email us, call us or come see us in HAMP 1163 if you have any questions or concerns. We are happy to help anytime and certainly welcome faculty, staff, and students to visit us anytime.

**BOILER-UP!**

<table>
<thead>
<tr>
<th>Name</th>
<th>Education</th>
<th>Work Experience</th>
<th>Fun Facts</th>
<th>Hometown</th>
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<tbody>
<tr>
<td><strong>Ashley Wrede</strong></td>
<td><strong>Education</strong> B.A. in Chemistry; Indiana University Bloomington &lt;br&gt; M.S. in Analytical Chemistry, Ball State University &lt;br&gt; Ph.D. in Science Education-Concentration; Chemistry Education, Purdue University</td>
<td><strong>Work Experience</strong> Graduate Research and Teaching Assistant, Ball State University &lt;br&gt; Graduate Research and Teaching Assistant, Purdue University &lt;br&gt; Academic Advisor, College of Science, Purdue University</td>
<td><strong>My husband Luke and I have a daughter named Addie. I love running whether it is a 5K, 10K, or half marathon race</strong></td>
<td><strong>Elwood, IN</strong></td>
</tr>
<tr>
<td><strong>Sonina Hernandez Mikkelsen</strong></td>
<td><strong>Education</strong> B.A. in Global Communication, minors in Management, Human Resource Management, and Spanish, Utah State University &lt;br&gt; M.A. in Student Affairs Administration in Higher Education, Ball State University</td>
<td><strong>Work Experience</strong> Graduate Assistant for the Multicultural Center, Ball State University &lt;br&gt; Graduate Practicum Assistant for: Student Life, Rinker Center for International Programs, Retention and Graduation, and Academic Advising, Ball State University &lt;br&gt; International Recruitment Specialist, Utah State University</td>
<td><strong>My husband Ted and I take every opportunity we can to travel. I am absolutely in love with Broadway musicals. I am obsessed with the color purple and butterflies. I am a member of Theta Nu Xi Multicultural Sorority, Inc.</strong></td>
<td><strong>Sandy, UT</strong></td>
</tr>
<tr>
<td><strong>Kelly Wrede</strong></td>
<td><strong>Education</strong> B.S. in Organizational Leadership and Supervision, Purdue University &lt;br&gt; M.S. in Technology focus on Leadership, Purdue University</td>
<td><strong>Work Experience</strong> Graduate Program Coordinator in Forestry and Natural Resources, Purdue University &lt;br&gt; Academic Advisor, First Year Engineering, Purdue University</td>
<td><strong>My husband Ted and I have five children (Jaime, Josh, Matt, Alaina, and Katelyn) between us. We have six grandchildren (Madison, Shelby, Austin, Jo-Jo, Sloane and Quinn) and are expecting a new grandson (Lincoln) in December. Our dog Kody, a great white Pyrenees and black lab mix, loves going fishing with us in the boat on Lake Shafer and Lake Freeman.</strong></td>
<td><strong>Lafayette, IN</strong></td>
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HEALTH SCIENCES GRADUATES

SUMMER 2017
Tariq M. AlGhamdi
Kaitlin R. Begley
Whitney Diep
Kaleigh A. Lacas
Brandon S. Lehr
Lauren M. Mesaros
Cori F. Paine
Sally L. Romanek
Carolyn R. Vazza
Ming Yang

FALL 2017
Kayla A. Beland
Lakin K. Bowell
Kayla S. Burns
Gary M. Considine
Melanie M. Herrold
Assem Imangaliyeva
Sue Young Pak
Kristen M. Piwowarski
Emily C. Ridge
Cameron Q. Sandy
Tyler J. Sandy
Bradley R. Scherer
Chase T. Schuh
Brittany R. Sloat
Travis S. Thomas
Lauren T. Vanderpool
Jerry L. Wu

Congratulations, you did it!

WELCOME DR. UZAY EMIR

The School of Health Sciences welcomed Dr. Uzay E. Emir to Purdue in August as an Assistant Professor. He received his PhD from Bogazici University, Turkey, where he studied BOLD functional MRI (fMRI) signal transients with different neuro imaging modalities. He broadened his scientific expertise further by undertaking postdoctoral training in the field of ultra high field (UHF) magnetic resonance spectroscopy (MRS) methods.

Following this extensive training period, he worked at the FMRIB Centre, University of Oxford, from 2013-2017 as a Head of Magnetic Resonance Spectroscopy. Dr. Emir’s expertise are in the development and clinical translation of magnetic resonance spectroscopy (MRS) techniques at clinical (3T) and ultra-high field (UHF>3T) magnetic fields. He has used these systems at both 3T and 7T to quantify various brain metabolites, including neurotransmitters (γ-amino butyric acid, GABA, and glutamate, in Parkinson’s Disease (PD); antioxidants (glutathione, and ascorbate) in aging; and oncometabolites (2 hydroxyglutarate, 2-HG, and lactate) in patients with glioma.

His research interests are studying the neurochemical basis of brain plasticity: developing methods for profiling psychiatric disorders and psychoactive drug discovery; Neurochemical profiling of brain cancer and unraveling the neurochemical mechanism of BOLD-fMRI signal.
Dr. Jason Cannon is now serving as the Head of the Purdue University Interdisciplinary Life Science Program (PULSe) Executive Committee. In this position, Dr. Cannon will play a major leadership role in shaping the overall PULSe program, by overseeing external reviews, improving application and interview processes, facilitating the interaction of PULSe with affiliated departments/schools, and advancing graduate education on the Purdue campus. He was awarded a 2017 Compton Travel Award.

Dr. Jason Harris’s Fellowship Grant has been funded by the Nuclear Regulatory Commission (NRC) for another 4 years ($391,620). The project will attract exceptional graduate students into a research program in Nuclear Engineering, Materials Science and Engineering, and Health Sciences. This will prepare them for nuclear science, and engineering and health physics careers and leadership positions.

In addition to past collaboration with nuclear engineering, this funding adds Material Science and Engineering to the training camp. This new initiative will increase the collaboration among three schools which have a common interest in safe uses of nuclear materials.

Lisa Hilliard has led us to another exciting year for our medical laboratory sciences program. The Introduction to Medical Laboratory Sciences course enrollment grew this Spring. In an effort to maintain strong clinical placement, we are seeking additional affiliates in support of this growth. Additional affiliates will broaden our clinical portfolio and expand student placement selection and opportunities.

Dr. Linda Nie and her group have been busy building novel instruments for metal exposure intake/assessment, disease diagnosis, and cancer treatment. Her team continues to collaborate with researchers on campus and around the world to study trace elements and health such as metal exposure and Alzheimer’s disease, manganese exposure and neuro-degeneration, lead exposure and neurodevelopmental effects, sodium intake and hypertension etc., using the novel technologies developed in her lab.

Dr. Jae Park is an assistant professor of Occupational Health Science (Industrial Hygiene) program and an aerosol scientist with a background in engineering. His research goals are directed toward controlling aerosols in order to evaluate and improve air quality. He is the primary instructor for Occupational Health courses.

Dr. Carlos Perez-Torres received an Early Career Investigator travel award from the Radiation Research Society Annual Meeting in Cancun.

Dr. Jim Schweitzer just completed 30 years as a Purdue employee. Jim has been the Director of Radiological and Environmental Management (REM) since 2001. His job for these many years has been to keep us at Purdue safe and in compliance with regulations. He is a 1985 graduate of the School of Health Sciences. He worked at the Illinois Department of Nuclear Safety before returning to the University in 1987 as the radiation safety officer.

Dr. Jonathan Shannahan received the 2017 Showalter Trust Research Award for his research project titled “Disease-related Variations In Exposure To Nanoparticle” ($75,000). In this project, he will collaborate with the faculty in computer science and use a macrophage model to screen nanoparticle toxicity.

Dr. Keith Stantz was named the Director of the Medical Physics graduate program, and led the CAMPEP reaccreditation including the site visit of the program. He was awarded a patent on a new 3D imaging modality to measure the dose from charged particle beams to be used in cancer therapy (US 9,789,339).

A prototype scanner has been designed and constructed, which is ready for testing at a proton therapy facility (Purdue TRASK Grant).

Dr. Ellen Wells is the PI of the NIOSH training grant titled “Occupational Safety and Health Training at Purdue University”, and has just received notice from the CDC/NIOSH that the competing renewal of this grant has been approved for funding ($750,000). This training grant has played an important role in supporting graduate students enrolled in our occupational health science (Industrial Hygiene) program. Many of our students trained through this program (including her students) have had very successful careers.

Dr. John Zimbrick received the Health Physics Society Distinguished Scientific Achievement Award for 2017 from the Awards Committee of the Health Physics Society. This is the society’s most prestigious research award and was presented to Dr. Zimbrick on July 11th, at the HPS Annual Meeting in Raleigh, North Carolina. This award recognizes the scholars who have made distinguished contributions to the field of health physics. John is a recognized leader in the field and has published extensively on the effect of low dose of radiation on gene dysregulation.

Dr. Wei Zheng has been studying Alzheimer’s disease for 15 years. Alzheimer’s is the most common form of dementia, accounting for 60 to 80 percent of all cases.Zheng leads teams of scientists on projects pursuing biomarkers, identification of increased risk factors and potential treatments.

The National Institutes of Health awarded a team led by Dr. Zheng $2.3 million to pursue research that could help develop new strategies for diagnosis, treatment and prevention of Alzheimer’s. The project builds on the correlation between the damaged blood-brain barrier system and increased incidence of Alzheimer’s disease to investigate the processes that cause the disease. Exposure to lead, a toxic heavy metal, is one known cause of such damage.

Great Job Everyone!
We are proud of all your successes!
American Industrial Hygiene Association

Health Sciences faculty, students, and alumni attended the American Industrial Hygiene Association in early June held in Seattle, Washington. Some highlights from the meeting include the well-attended annual alumni reception as well as poster presentations from graduate students Kelsey Hall and Christelene Horton. It was great to learn about new advances and catch up with old friends at the meeting. We hope to see everyone again next year in Philadelphia!

Stefany V. Molina, an HSCI undergraduate, (doing research in Ellen Wells Lab), is the recipient of an the American Industrial Hygiene Association’s 2017 Scholarships. She, along with other scholarship winners, was featured in a display at the American Industrial Hygiene Association Conference and Exposition in June 2017, Seattle, Washington. Chris Horton (right, top) and Kelsey Hall (right, bottom) gave posters of their research. Both students are from Well’s Lab.

Health Physics Society

Several HSCI faculty, students and alumni attended the 2017 Health Physics Society annual meeting in Raleigh, North Carolina. Faculty attendees included Drs. Jason Harris and John Zimbrick.

Five graduate students, Michael Abel (Ph.D. student), Alex Bakken (Ph.D. student), Mychaela Coyne (Ph.D. student), Joshua Young (M.S student), and Xinxin Zhang (Ph.D. student) presented their research.

OVSOT Summer Student Meeting

On July 14, Dr. Jennifer Freeman and several students attended the OVSOT Summer Student meeting in Louisville, KY.

Front row: Sherleen Fu (Post-Doc in the Shannahan lab) and Amy Rupp (MPH student doing research in the Freeman lab). Back row: Left to right is Katie Horzmann (PhD student in the Freeman lab), Kathy Thompson (PhD student in the Freeman lab), Lucas Turner (HSCI undergraduate doing research in the Freeman lab)

Awards

Xinxin Zhang (Dr. Nie’s lab) received an NIOSH Pilot Project Research Grant from the University of Michigan Environmental Research Center (ERC) for her project titled “Portable XRF Technology for Noninvasive In Vivo Quantification of Uranium (U) in Bone and Arsenic (As) in Skin among a Population with High U and As-Exposures”.

Eric Cameron (Dr. Stantz’s lab) was selected for a travel award from the Radiological Society of North America to present his work at their annual meeting. This meeting is the largest meeting in radiology annually with 40–60,000 participants, and is held annually in Chicago. Devin Miles (also in Dr. Stantz’s lab) was awarded the Compton Travel Grant.

Undergraduate Student Authors (HSCI Faculty Mentor)

Courtney Oare (Dr. Dydak’s lab): Imaging Parkinson’s Disease: Gray Matter Atrophy Associated With Motor Dysfunction

Devang Thanki (Dr. Freeman’s lab): Water Contaminated With the Herbicide Atrazine: Alteration of Cancer Associated Tumor Protein D52-like 1 (tpd52l1) Gene Using the Zebrafish Model

Research Snapshots: Undergraduate Student Authors (HSCI Faculty Mentor)

Joseph Amaro (Dr. Cannon’s lab): Optineurin and the Pathogenesis of Parkinson’s Disease

Emma Wallens (Dr. Nie’s lab): Accuracy of Portable L-shell X-ray Fluorescence (L-XRF) Machines to Quantify Lead in Condor Bones In Vivo

Kendal Weger (Dr. Freeman’s): The Effect of Arsenic Concentration of Water on Rice Samples
Every year the week after Thanksgiving, Chicago is flooded by approximately 50,000 radiologists and medical physicists from around the world gathering to learn about new advances in medical imaging at the annual meeting of the RSNA. Attendance is free for students and presenters. Among the many thousand of presentations, Aunt Minnie interviewed and reported on the presentation by Eric Cameron (Dydak lab), who talked about a new technique on how to make Quality Assurance of Diffusion Weighted Imaging (DWI) in MRI simpler and more feasible in the clinical environment. Eric Cameron won a student travel award from the RSNA for his presentation. Emily Diller (Parker/Dydak lab), another HSCI PhD student, presented a poster in the Molecular Imaging session.

As already in past years, IU Radiology and Imaging Sciences hosted an alumni reception, at which also alumni from the Purdue/IU medical physics program are invited. Former HSCI PhD students Judy James (Mayo Clinic Arizona) and Zaiyang Long (Mayo Clinic Rochester) met there with Dr. Dydak, Dr. Parker (Assistant Prof. at IUSM and adjunct faculty with HSCI) and current students.

**IN OTHER LAB NEWS:**

- Chien-Lin Yeh and Eric Cameron from Dr. Dydak’s lab received AAPM ORVC Student Travel Award in Indianapolis on November 3, 2017.

- Eric Cameron received a RSNA travel award for the RSNA 2017 meeting in Chicago on November 26th, and he received a Purdue Institute for Integrative Neuroscience Travel Award for oral presentation at AAPM Annual Meeting in Denver, CO., in August.

**2017 CHAOYANG INTERNATIONAL CONFERENCE OF MEDICINE**

Drs. Zheng and Shannahan were invited by the 2017 Chaoyang International Conference of Medicine taking place in Beijing November 17-19 for their recognized research in toxicology and lung diseases.

Dr. Zheng discussed the role of metal exposure in human disease causation, diagnosis and treatment. Dr. Shannahan presented his discovery on pulmonary disorders and nanoparticle exposure with a focus on mechanism. Invited speakers also include those scholars from Australia, Europe, Japan and other regions.
“Simpler and more feasible” is how researchers from Purdue University describe their new diffusion-weighted MR imaging (DWI-MRI) quality assurance method based on an American College of Radiology (ACR) phantom.

If proved successful, virtually any institution accredited by the ACR could use the protocol for weekly quality assurance checks without additional phantoms or extensive preparation.

It would also be in competition with the RSNA’s Quantitative Imaging Biomarkers Alliance (QIBA) quality assurance process, which requires a special ice water phantom that is not widely available and is difficult to prepare, according to the study authors.

“This project is designed to show that, given the gold standard DWI quality assurance of the QIBA phantom, the ACR phantom can be used to perform DWI quality assurance to the same precision, given an accurate temperature measurement of the ACR phantom,” said study co-author Eric Cameron, PhD, a medical physics student at Purdue.

The new DWI quality assurance method based on the ACR phantom thus far has been reproducible and capable of detecting similar deviation from apparent diffusion coefficients (ADCs) as the QIBA DWI quality assurance method, according to the researchers.

“The benefits of the ACR phantom over the QIBA are mainly accessibility and preparation time,” Cameron told AuntMinnie.com. "DWI quality assurance could simply be added to the protocol and scanned in the same session as the rest of the weekly quality assurance tests."

There are, however, two caveats: The method with the ACR phantom is limited to one ADC value, and correction for phantom temperature could be an additional source of error.

“This [ACR phantom] is not meant to be a better method than the QIBA phantom, but rather to be more widely accessible so that more clinics can perform DWI quality assurance on a regular basis,” Cameron said. ■

The Purdue Rare Isotope Measurement Laboratory (PRIME Lab) is a dedicated research and user facility for accelerator mass spectrometry (AMS). AMS is an ultra-sensitive analytical technique for measuring long-lived radionuclides.

Our mission is to provide measurements of long-lived radionuclides for researchers at Purdue University, at other universities, at national laboratories, and at agencies providing measurements of environmental levels of long-lived radionuclides in the U.S. and throughout the world.

PRIME Lab facilities include the AMS system, based on a tandem electrostatic accelerator, and those laboratories needed for physical preparation of samples and the chemical separation and purification of long-lived radionuclides. They routinely run 10Be, 14C, 26Al, 36Cl, 41Ca, and 129I. The run times for each nuclide are scheduled several months in advance; the schedule is updated regularly. New users are welcome to browse our web pages to obtain information about the scientific basis for the applications of these radionuclides and obtain pricing information. ■

In August 2017, at the 59th Annual AAPM meeting, Dr. Keith Stantz together one of our former MP students, Alison Roth, organized a Purdue dinner which was well attended.

With the number of alumni from the Purdue Medical Physics program steadily growing, starting a formal Purdue alumni meeting at the annual meetings of the American Association of Physicists in Medicine (AAPM) was long overdue. Everyone had a great time! ■
Purdue hosted the Society of Toxicology Ohio Valley Regional Chapter Meeting (OVSOT) on Friday Dec. 1, 2017. The Annual OVSOT meeting was a great opportunity to network with colleagues in the same geographical region and to contribute to the development of future toxicologists by interacting with our students and trainees.

This year’s meeting featured Dr. Thomas Knudsen, Developmental Systems Biologist, National Center for Computational Toxicology, US Environmental Protection Agency as the keynote speaker. Dr. Knudsen will be speaking on “Systems Toxicology and Computational Dynamics”. The meeting agenda will also include student and postdoc platform and poster presentations and “Lunch with an Expert”. The OVSOT Annual Meeting provided an inexpensive opportunity for students of all levels (undergraduate, MS, or PhD) to present their research.

Pictured above - (1) Dr. Jennifer Freeman and her research lab (2) Kathy Thompson and Dr. Freeman (3) Ola Wasel (4) Katie Horzmann (5) Sherleen Adamson, Jonathan Shannahan and (6) Sherleen Adamson and Dr. Freeman (7) David Edmondson and Dr. Freeman and Assem Imangallyeva (8) Leeah Reidenbach
This year’s Indiana Black Expo: Black and Minority Health Fair took place in Indianapolis Convention Center on July 14th. Drs. Wei Zheng and Jonathan Shannahan, representing the College of Health and Human Sciences, went to the event, prepared the exhibition booth and interacted with audiences particularly the students who participated in the Youth Leadership Summit.

These students wanted to see changes in their community and also wanted to hear and learn from professionals regarding academics, decision making, and advocacy. Dr. Shannahan told students the story about how bad invisible particles get into body and cause harmful injuries. Dr. Zheng used a human brain model to show students where the memory is stored and how brain controls body move. They also talked to high school students about educational programs in the college and School of Health Sciences. Some students expressed that they will look into Purdue for their future study to step into healthcare fields. There were so many visitors to the HHS booth that the give-out gifts like sunglasses were literally run out. It was a very productive yet pleasant day for both professors.

“It is always good to get engaged with local people to spread knowledge we learn from our work,” Dr. Zheng said. “Dr. Shannahan agreed and said he will do it again.”

**NEUROIMAGING SYMPOSIUM & HACKATHON HOSTED AT PURDUE**

For the first time, the Annual Indiana Neuroimaging Symposium was hosted by Purdue University. The organizing committee, chaired by Dr. Ulrike Dydak, welcomed over 100 attendees for the 5th Indiana Neuroimaging Symposium (November 3rd, 2017) and over 40 participants for the following Hackathon & Mini-Pulse Programming Course (November 4th, 2017). This two-day event helped foster a collaborative environment in neuroimaging for students and researchers across the state.

Together, Dr. Ulrike Dydak, Associate Professor in the School of Health Sciences and Dr. Joaquin Goñi, Assistant Professor of the School of Industrial Engineering succeeded in drawing preeminent speakers on a range of emerging neuroimaging techniques for the Symposium. Topics included “Cognitive Neuroimaging”, “Advanced Imagining Techniques”, “Neurological and Neurodegenerative Disorders”, “Connectomics and Data Mining”, and a “Data Blitz”. An afternoon session provided attendees an opportunity to visit the new Purdue MRI facility and explore potential research capabilities utilizing the two 3-Telsa MRI scanners.

The Symposium concluded with the awards of the student poster presentations, with Nicole Vike (Purdue, BME) winning 1st place for her poster titled “Acrolein as a Biomarker for Non-Invasively Assessing Concussion Severity and Location of Injury”, Emily Diller (IUSM & Purdue, HSCI) winning 2nd place for her poster titled “Multiparametric Nosologic Imaging Algorithms: Prognosis Predictions in Glioblastoma”, and Enrico Amico (Purdue, IE) winning 3rd place for his poster titled “Mapping joint structural-functional connectivity traits in the human connectome”. A total of 37 posters were presented by students, researchers, and faculty, providing a remarkable glimpse into current neuroimaging research and development. The Hackathon on Brain Connectomics, led by Dr. Goñi, and the Mini-Pulse Programming Course, led by Dr. Uzay Emir, Assistant Professor in the School of Health Sciences, added opportunities for hands-on experience in complex brain network analysis and programming of an MRI scanner.
GOODBYE TO AN OLD FRIEND

The School of Health Sciences was saddened by the passing Robert (Bob) Walkup on Sunday, September 3, 2017.

He graduated from Attica High School and served in the United States Navy as an Aerographers Mate from Aug 1967 to February 1971. He received his Bachelor and Masters Degrees in Education from Purdue. Bob worked as a teacher and later retired as an Academic Advisor from Purdue. He enjoyed playing guitar, fishing, and sports. He also loved football, all Purdue Sports, the Chicago Bears and classic cars.

Those of us that knew Bob knew of his dedication to his faith, family, friends, students and school. Bob was a special person, everyone who knew him would agree, we were blessed by the opportunity to have him in our lives.

"May the road rise to meet you,  
May the wind always be at your back,  
May the sun shine warm on your face,  
May the rains fall soft upon your fields,  
And 'til we meet again,  
May God hold you in the hollow of his hand"
**STUDY ABROAD**

### Join Health Sciences Maymester Study Abroad in Ireland!

This study abroad course, International Public Health, will provide opportunities for students to gain a new perspective on national and international public health and policies and to gain a deeper understanding of the Irish culture. Students will earn 3 credits in HSCI 400 upon completion of the program. Prerequisite: 3.0 GPA or higher. Travel dates: May 14-24, 2018.

See [https://www.studyabroad.purdue.edu/programs/flyer.cfm?flyer=1384](https://www.studyabroad.purdue.edu/programs/flyer.cfm?flyer=1384) or contact Dr. Ellen M. Wells, wells54@purdue.edu, for more details.

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**NEW GRADUATE LEVEL COURSES**

The National Nuclear Security Administration (NNSA) has just awarded Purdue University a contract to expand and create graduate level courses in Health Sciences, Nuclear Engineering, and Political Science in the field of Nuclear Security.

The Nuclear Security Education Program (NSEP) is led by Dr. Jason Harris and will include faculty members from different departments and colleges, including Dr. Robert Bean (Assistant Professor of Nuclear Engineering and Director of the Nuclear Engineering Radiation Laboratories), Dr. Aaron Hoffman and Dr. Keith Shimko (Associate Professors of Political Science).

"We are privileged and honored to be one of only five universities selected for this prestigious program. Along with other initiatives across campus, this contract will enable Purdue University to become a world leader in nuclear security education and research", says Dr. Harris who is the PI of the program.

This effort will combine classes across three colleges (Engineering, Health and Human Sciences, and Liberal Arts) to create a seven-course Nuclear Security Graduate Program. Classes will include technical topics such as radiation detection, physical security design and practice, and non-reactor technologies related to nuclear security as well as policy topics such as international treaties and agreements, terrorism, and nuclear nonproliferation.

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**CONSIDER DONATING**

Gifts from our alumni and friends are critical to achieving our strategic goals for scholarly excellence, student success and sustainable development in School of Health Sciences. Your thoughtful and generous donations allow the School of Health Sciences to continue to provide our students the opportunity to work alongside our faculty receiving hands-on experience through life-changing research. You play an essential role in helping our students become the best educated and well-trained professionals. Gifts like yours make the difference — they are critical to the success of School of Health Sciences.

Please consider supporting one or more of our funding priorities:

- **Unrestricted Gifts**: Flexible gifts support our mission in a number of critical programs, including special projects for students who are inspired to go above and beyond their required activities. Funds support invited guests and conferences that expand our students’ experience and while helping to improve the infrastructure essential to faculty and student's research and discovery activities. Broadly speaking, unrestricted gifts sustain and create an environment of world-class excellence.

- **Graduate Student Support**: The best programs attract the best graduate students, but not all of these talented students have sufficient resources. Scholarships, research stipends, summer research internships, and study abroad opportunities are all ways through which we can support students based upon need and upon excellence.

- **Honors Train Program**: This program promotes and supports honors research for high achieving undergraduate students enrolled in the School of Health Sciences. The School selects a small group of exceptional incoming Freshmen for participation in the School of Health Sciences Honors Program each year.

Donate now at [https://www.purdue.edu/hhs/giving/index.html](https://www.purdue.edu/hhs/giving/index.html)

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**SAVE THE DATE**

Nominations are being solicited for the School of Health Sciences Graduation and Awards Banquet which will be held on Friday, April 20 at the Purdue Memorial Union.

An email was sent out with a description of all the available scholarships and awards. We hope you will consider nominating yourself or a classmate for one if you feel that you are qualified.

If you would like additional information, please contact Helen Terrell (hterrell@pudue.edu) in the Office of Student Services.

We look forward to celebrating these successes with many of you in April!