

Pharmacology & Toxicology Update

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Boonshoft
School of Medicine
WRIGHT STATE UNIVERSITY

Department of Pharmacology
and Toxicology

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CHAIR'S CORNER



The Department of Pharmacology and Toxicology has started a newsletter to keep our alumni and the Boonshoft School of Medicine and Wright State University apprised of the happenings in the department. This is the fourth newsletter—the first was in the fall of 2015. The newsletter will be issued three times per year, and can be found online: medicine.wright.edu/pharmacology-and-toxicology

Each issue will also contain a "Spotlight" section that highlights a faculty colleague or a program. To get on the departmental mailing list to receive an electronic version, or to provide suggestions as to content, please contact Catherine Winslow

at catherine.winslow@wright.edu.

FACULTY NEWS

Faculty retreat focuses on the master's program

The faculty spent Monday, October 24, meeting at the Wright State University Foundation board room near campus on a retreat that focused on the Pharmacology & Toxicology master's program. The retreat was led by Dr. Terry Oroszi, director of the M.S. Program, as well as by Dr. Sol Bobst, an adjunct faculty toxicologist from Houston, Texas. Dr. Bobst has had significant experience in teaching toxicology at several institutions and thus brought a wealth of expertise to the retreat. We were also fortunate to have Associate Dean of the Graduate School Dr. William Ayres join us, who provided tremendous institutional knowledge. The faculty reviewed the tremendous growth of the M.S. program and reviewed results of a recent survey of our alumni. The plan moving forward is to grow the M.S. program by 50 percent in the next five years by: 1) expanding the thesis M.S. program to take advantage of the increased numbers of scientists in the department; 2) adding a clinically-oriented track involving the Pharmacology Translational Unit to the Leadership-Administration Program; and 3) expanding the M.D.-M.S. program. Dr. Oroszi and Drs. Ravi Sahu and Yong-jie Xu have formed an ad-hoc committee to work on the follow-up issues brought up during the retreat.

Sometimes we must retreat to move forward...

Drs. Ji Bihl and Mauricio Di Fulvio receive American Diabetes Association grants



It is with great excitement we announce that both Drs. Ji Bihl and Mauricio Di Fulvio received ADA grants. These are several-year grants and are very competitive. Dr. Bihl's grant is designed to test the ability of microvesicles to treat preclinical ischemic stroke in diabetic mice. Dr. Di Fulvio's grant is designed to define the role of the K⁺ Cl⁻ transporter KCC2 in islet cell insulin secretion.

Two ADA grants in one department at the same time—How Sweet!

Drs. Di Fulvio and Bihl

FACULTY SPOTLIGHT

For this newsletter, we are taking the opportunity to spotlight Courtney E.W. Sulentic, Ph.D., associate professor of Pharmacology & Toxicology



Dr. Sulentic was born and raised in Sandusky, Michigan, on the farm that has been in her family for several generations. Her father, William, farmed, and her mother, Joan, was an interior decorator and spatial designer. She has one sister, Heather, an art director and graphic and web designer. Growing up in Sandusky, Dr. Sulentic always remembers having a strong interest in science. Following graduation from high school, she attended Lake Superior State University, where she graduated with a B.S. in Biology. During college, she took separate courses in immunology and toxicology, both of which really excited her interest. During college she gained more experience in toxicology as an intern for SC Johnson Wax, where she also worked for six months after graduating college and prior to entering graduate school. It was during this time at a local Society of Toxicology meeting that she met Dr. Michael Holsapple, a preeminent immunotoxicologist. The field of immunotoxicology appeared perfect as it combined her two interests. Dr. Sulentic went to the Medical College of Virginia at Virginia Commonwealth University where she was a graduate student with Dr. Holsapple until he left academia for a position at Dow Chemical. He transferred his funding to Dr. Norbert Kaminski at Michigan State University, which lead to

Dr. Sulentic transferring to Dr. Kaminski's lab to complete her Ph.D. training. During her graduate studies, she married Dr. Jon Sulentic, currently an orthopedic and sports medicine physician. She stayed at Michigan State University in Dr. Kaminski's lab for her postdoctoral fellowship from 1999-2003, funded in part by a National Research Service Award fellowship. With her husband being recruited to a medical practice in Middletown, Ohio, Dr. Sulentic joined the faculty in the department in 2003. She has continued to work in the area of immunotoxicology, specializing in the effects of dioxin on B cells. Dioxin is a chemical famous for being a constituent of Agent Orange. Dr. Sulentic garnered a prestigious Colgate Palmolive Society of Toxicology grant before being funded by a large, five-year R01 grant from the National Institutes of Health (NIH). More recently, she was awarded a two-year NIH R21 with Dr. Travers to study the immune effects of photodynamic light therapy on humans. She has trained five Ph.D. students and more than 15 master's students. Though the major focus in her lab has been B-cell immunotoxicology, she has developed novel techniques such as CRISPR gene editing and bioinformatics to provide state-of-the-art approaches to allow her to expand her research questions. In addition, Dr. Sulentic is active in teaching both in the department as well as in the medical school, and serves on multiple committees, including chairing the Wright State University Radiation Safety Committee. She is also an active member of the Society of Toxicology, having served on several committees, and is a past president of the Ohio Valley Society of Toxicology.



Mentors Mike Holsapple (l), Norb Kaminski (r)

Dr. Sulentic clearly enjoys the science, and especially mentoring her students. She relishes the "Ah-Hah moments, where a new research idea arises that turns into a successful research experiment." When not conducting experiments or classes, Dr. Sulentic enjoys time with her family, including her and Jon's two daughters, Analise (age 17) and Fiona (age 15). Dr. Sulentic is also a dance and soccer mom and a soccer wife. She loves watching her daughters and husband perform on the stage or the field. She plays soccer herself and is also interested in the arts and history, especially visiting museums and attending regional Jane Austen events.

For Dr. Sulentic, our colleague who is an amazing resource in the department, we are very pleased to highlight you and your efforts!

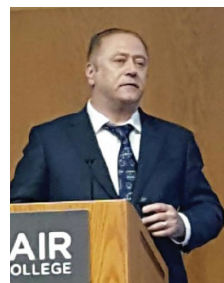
DEPARTMENT UPDATES

New study in the Pharmacology Translational Unit

One of the goals of the department is to foster translational studies to facilitate the process where discoveries at the laboratory bench can be brought to the clinic. Moreover, the Pharmacology Translational Unit (PTU) located in the Wright State Physicians Building next to our campus is set up to conduct both translational research studies as well as pharmaceutical clinical trials. The PTU consists of Director Faye Hager, B.S.N., RN, CRC, Full-time Coordinator Elizabeth Cates LPN, CRC and

Nurse Practitioner Cott Newman, M.S.N., NP. We are pleased to announce that the PTU has started enrolling subjects with atopic dermatitis (eczema) for a new study involving an infusion drug. This study, sponsored by Innovaderm, is the fourth clinical trial. For questions or more details, please contact PTU Director Hager or Coordinator Cates at 937.245.7500.

Sixth Annual Symposium



Dr. Richard Simman

Dr. Richard Simman's Sixth Annual Symposium on Advancing the Standards in Wound Care and Hyperbaric Medicine was held October 28-29, 2016, at Sinclair Community College.

KUDOS



11-12, 2016, in Philadelphia. Good for you Ravi!

Dr. Ravi Sahu gave a presentation entitled, "Tumor microenvironment associated immune cells mediate platelet-activating factor induced tumor growth and treatment effectiveness," at the Second International Conference on "The New Era of Antibody Research and Therapy" held July

Dr. Courtney Sulentic's master's students, Nicole Panstingel and Siham Abdulla, placed first and second, respectively, for the M.S. poster presentation competition at the Ohio Valley Society of Toxicology Annual meeting on October 28, 2016. There were 54 different posters presented at the meeting.



Nicole Panstingel



Siham Abdulla

Additionally, Panstingel graduated in December 2016 and began employment at Battelle as a data coordinator. She performs quality control of data generated by the life sciences division and compile reports in accordance with client requirements.

Dr. Courtney Sulentic's and Charlotte Morgan's BioSTAR students continue to shine:

Nooralhuda Arkan was awarded a travel scholarship for the International Society of Psychobiology that was held in San Diego in November.

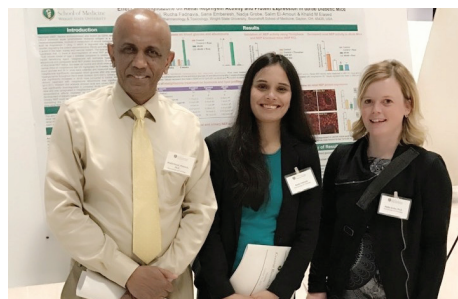
Yira Argumendo was awarded a scholarship by the Dayton Hispanic Chamber of Commerce and received this award at the Chamber 2016 Fiesta Gala on December 9.

Matt Almazan's poster was awarded a special prize at the Annual Biomedical Research Conference (ABRCMS), which was held in Tampa in November. He competed against over 3,000 students from all over the country.

The following seniors were accepted into graduate level education: Matt Almazan, Wright State University Boonshoft School of Medicine; Adam Koraym, Ohio University Heritage College of Osteopathic Medicine; and Noah Koraym, University of California, San Francisco, School of Dentistry.

Dr. Karen Mumy, Pharmacology & Toxicology adjunct, has accepted the position as the director of Environmental Health Effects at Wright-Patterson Air Force Base.

Dr. Khalid Elased's master's student, Rucha Fadnavis, was awarded first place for her poster presentation at the Women in STEM Leadership Institute Research Symposium. Dr. Nadja Grobe, Pharmacology & Toxicology adjunct and research scientist at Wright-Patterson Air Force Base, is a co-author of the poster.



Dr. Elased (l), R. Fadnavis (c), Dr. Grobe (r)

Dr. Saber Hussain received one of nine awards given for the Star Team Award (FY17-19). This was a great achievement for Dr. Hussain and his team and a testament to the technical quality and scientific contributions of his group. The star team status is a highly selective award given to a subset of all funded LRIRs (Laboratory Research Independent Research). Plaques and letters to commemorate the achievement will be handed out when the Air Force Office of Scientific Research director or chief scientist visits the 711th Human Performance Wing. In addition to the recognition of technical contributions, the star team status protects the LRIR from any future cuts and protects funding during the period of the award.

We all knew you had a "Star Team," Dr. Hussain. Congratulations!

SCHOLARLY ACTIVITY

PUBLICATIONS

- Krbanjevic A, **Travers JB**, Spandau DF. How Wounding via Lasers Has Potential Photocarcinogenic Preventative Effects via Dermal Remodeling. *Current Dermatology Reports*. 2016 Sep;5(3):222-227. PMID: 27840776.
- Sehra S, Krishnamurthy P, Koh B, Zhou HM, Seymour L, Akhtar N, **Travers JB**, Turner MJ, Kaplan MH. Increased Th2 activity and diminished skin barrier function cooperate in allergic skin inflammation. *European Journal of Immunology*. 2016 Nov;46(11):2609-2613. PMID: 27510401.
- Ward RE, Veerula VL, Ezra N, **Travers JB**, Mousdicas N. Multilevel symmetric neuropathic pruritus (MSNP) presenting as recalcitrant "generalized" pruritus. *Journal of the American Academy of Dermatology* 2016 Oct;75(4):774-81. PMID: 27476106.
- Loesch MM, Collier AE, Southern DH, Ward RE, Tholpady SS, Lewis DA, **Travers JB**, Spandau DF. Insulin-like growth factor-1 receptor regulates repair of ultraviolet B-induced DNA damage in human keratinocytes in vivo. *Molecular Oncology*. 2016 Oct;10(8):1245-54. PMID: 27373487.
- Morgan MS, Arian LG, Rider SD Jr, Grunwald WC Jr, **Cool DR**. A Proteomic Analysis of *Sarcoptes scabiei* (Acari: Sarcoptidae). *Journal of Medical Entomology*. 2016 May;53(3):553-561. PMID: 26792847.
- Domenig O, Manzel A, Grobe N, Königshausen E, Kaltenecker CC, Kovarik JJ, Stegbauer J, Gurley SB, van Oyen D, Antlanger M, Bader M, Motta-Santos D, Santos RA, **Elased KM**, Säemann MD, Linker RA, Poglitsch M. Neprilysin is a Mediator of Alternative Renin-Angiotensin-System Activation in the Murine and Human Kidney. *Science Reports*. 2016 Sep 21;6:33678. PMID: 27649628.
- Otaño-Rivera V, Boakye A, Grobe N, Almutairi MM, Kursan S, Mattis LK, Castrop H, Gurley SB, **Elased KM**, Boivin GP, **Di Fulvio M**. A highly efficient strategy to determine genotypes of genetically-engineered mice using genomic DNA purified from hair roots. *Laboratory Animals*. 2016 May 9. PMID: 27166392.
- Lucot, JB**. Effects of naloxone on motion sickness in cats alone and with broad spectrum antiemetics. *Autonomic Neuroscience: Basic and Clinical*. 2016 Aug 30; pii: S1566-0702(16)30156-4 PMID:27615675



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