

Pharmacology & Toxicology Update

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and Toxicology

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CHAIR'S CORNER



The Department of Pharmacology and Toxicology has a newsletter to keep our alumni, the Boonshoft School of Medicine and Wright State University apprised of happenings in the department. The newsletter will be issued three times per year, and can be found on the departmental website: <http://medicine.wright.edu/pharmacology-and-toxicology>

Each issue will also contain a "Spotlight" section that highlights a faculty colleague or a program. For this issue, we will be highlighting Dr. Ji Bihl, assistant professor of pharmacology and toxicology. To get on the mailing list for an electronic version, or to provide suggestions as to content, please contact Ms.

Catherine Winslow at catherine.winslow@wright.edu.

FACULTY NEWS



Dr. Ji Bihl promoted to Assistant Professor

Following a nationwide search, we are pleased to announce that Dr. Ji Bihl has been hired as assistant professor of pharmacology and toxicology. Please see the Spotlight Section for more details as to our "newest" faculty colleague.



Dr. Michael Kemp promoted to Research Assistant Professor

It is with great excitement we announce that Dr. Michael Kemp has been promoted to research assistant professor of pharmacology and toxicology. Dr. Kemp is a native of Dayton, who received his Ph.D. here at Wright State University working under Dr. Michael Leffak.

Dr. Kemp received further training under 2015 Nobel Laureate Dr. Aziz Sancar and has been a postdoctoral fellow with Dr. Travers since March 2016. Dr. Kemp is studying DNA damage mechanisms in geriatric skin and his work can help to explain why geriatric patients develop non-melanoma skin cancers. Dr. Kemp has been amazingly productive and has already published a manuscript with members of the department as well as authoring a single-author manuscript just accepted for publication in the Journal of Biological Chemistry.

It's always nice to see a Wright State alumnus do well!

FACULTY SPOTLIGHT

For this issue, we are taking the opportunity to spotlight Ji C. Bihl, M.D., Ph.D., assistant professor of pharmacology and toxicology.



Dr. Ji Bihl was born and raised in Zhuzhou, China. Her father, Qinfang Chen, worked in a factory and was an office manager. Her mother, Liumei Chen,

started as a teacher but ended up starting a home business selling various products. Growing up, Ji was interested in sports, especially badminton and skating, and lived with her grandparents. She decided upon a career in medicine and went to the South China University Medical School in Hengyang, China. During her first year of medical school, her grandfather who was very healthy had a stroke which ended his life. This experience was very impactful for Dr. Bihl. After a one-year internship, she decided to pursue a career as a biomedical scientist and obtained a Ph.D. from the prestigious Peking University in Beijing.

At a scientific meeting in China, she met our own Dr. Yanfang Chen, who recruited her to come to the USA to pursue a postdoctoral fellowship. Dr. Bihl was in part attracted to Dr. Chen's internationally famous program on stroke. Starting in August 2010, Dr. Bihl was highly productive with involvement in multiple important publications in the field of

microparticles and stroke. Under the mentorship of Dr. Yanfang Chen, Dr. Bihl became a research assistant professor in June 2014. Following her ability to garner career development awards from both the American Heart Association and the American Diabetes Association, and an impressive score on her first NIH grant, she successfully competed for an assistant professor faculty position in the department and started in February 2017.

During her time as postdoctoral fellow, she met her future husband Dr. Trevor Bihl at their weekly coffee hour sponsored by the WSU International Office in 2011. They married in 2013 and have a daughter Talia, who was born in 2016. With his Ph.D. in electrical engineering, Dr. Trevor Bihl works for the Air Force Research Laboratory and teaches classes part-time in biomedical engineering and pharmacology and toxicology. He has also written a book on biostatistics to be published later this year.

Dr. Ji Bihl's main focus is on her research, which could uncover important mechanisms in stroke, as well as potential therapeutics. She is currently making internationally recognized advances in the use of microvesicles and exosomes for the treatment of cardiovascular diseases. This area is especially meaningful for her given her personal experience of a loved one under-



Celebrating Dr. Ji Bihl's promotion to assistant professor.

going a stroke. Beyond cardiovascular diseases, her research has also extended to the role of microvesicle particles in UVB-induced skin injury. Dr. Bihl also is involved in teaching and is currently mentoring a post-doctoral researcher.

She describes both her work and home life as happy. Though she always carries a ready smile and is very patient, Dr. Ji Bihl enjoys being able to spend many hours at a time focused on projects, whether it is conducting an experiment or writing a grant or paper. When not working, she enjoys time with her family, and her hobbies include hiking, fishing, photography and watching movies.

For Dr. Ji Bihl, our colleague who brightens 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; Amy Williams, CMA; and nurse practitioner Scott Newman, M.S.N., NP. We are pleased to announce that the PTU has active pharmaceutical studies enrolling both adults and children subjects with atopic dermatitis (eczema) or psoriasis. For questions or more details, please contact PTU Director Hager or Liz Cates at 937.245.7500.

Dr. Richard Simman Hosts Party to Support the Simman Foundation

Dr. Richard Simman, professor of pharmacology and toxicology, sponsored a fundraiser to support the Simman Foundation, which supports research and education focused on wound healing. The party held on Saturday, May 27, at the Engineer's Club in downtown Dayton, had a 1920s theme and provided dance lessons for participants. A good time was had by all for a great purpose!



Students and faculty dressed as "original gangsters"

KUDOS



Dr. Ji Bihl who just received a new NIH R21 grant entitled, "Microvesicles as a novel transmitter for UVB-induced bioactive products." She received an amazing score of four percent!!!

Such a great score for such little particles...

Dr. Javier Alvarez-Leefmans who was an invited speaker for the Experimental Biology 2017 meeting in Chicago in April. Look for him to update his chapter on intracellular chloride



regulation for the Cell Physiology Sourcebook: Essentials of Membrane Biophysics.

We are swollen with pride over Professor Alvarez-Leefman's work on ion and fluid regulation!

Dr. Jeffrey Travers who, along with members of his laboratory (post-doctoral fellow Dr. Eric Romer and students Langni Liu, M.S., and Katherine Fahy), attended the 4th Annual Bioactive Lipids Conference at Wayne State University in Detroit in April 2017. Dr. Travers was an invited plenary speaker and lab members presented posters of their ongoing studies. Katherine Fahy received an award for third place in the poster competition. For details of the meeting, see <http://lipids.wayne.edu/symposium/2017.php>



Katherine Fahy (second from left), with other two awardees.



Dr. Yanfang Chen who will serve as an abstract reviewer for the American Heart Association Scientific Sessions 2017.



Dr. Khalid Elased, who was elected to serve on the school of medicine Faculty Curriculum Committee.

It's great to have good friends in high places...

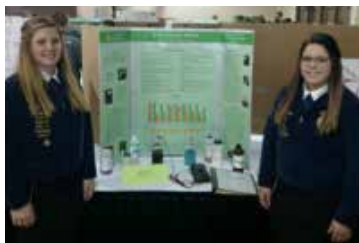
Dr. Khalid Elased and Dr. Nadja Grobe whose student, Rucha Fadnavis, was presented the Graduate Student Excellence Award for the department.



Dr. Khalid Elased (l), Rucha Fadnavis, Dr. Robert Fyffe

Dr. Saber Hussain and his Biomolecular Interactions of Nanomaterials research team has been chosen as an AFOSR STAR Team for the years 2017-2019.

Christine Rapp's daughter, Allison Rapp, received first place in their division at the FFA Agriculture Science Fair. Allison and her classmate, Sarah, will go on to compete at the National Convention in November, held in Indianapolis. Christine is the lab manager for Dr. Jeffrey Travers.



Sarah Harner (l) and Allison Rapp

Allison will study animal science in the pre-veterinary track at Ohio State University

Dr. Terry Oroszi has attended and presented at numerous conferences this year. This includes speaking at the WSU Staff Development Day on "Americans Killing Americans," a presentation at the Xenia Chamber of Commerce, and several federally sponsored events including the National Homeland Security Conference in Buffalo, New York and the Nuc/Bio/Chem Industry Group meeting in Washington, D.C. Kudos to you for representing us nationally with your expertise on terrorism and leadership!
I never thought leadership and terrorism went together...

SCHOLARLY ACTIVITY

PUBLICATIONS

Kemp MG, Spandau DF, **Travers JB**. Impact of Age and Insulin-Like Growth Factor-1 on DNA Damage Responses in UV-Irradiated Human Skin. *Molecules*. 2017 Feb 26;22(3). pii: E356. doi: 10.3390/molecules22030356. PMID: 28245638.

Fahy K, Liu L, Rapp CM, Borchers C, **Bihl JC**, **Chen Y**, **Simman R**, **Travers JB**. UVB-generated Microvesicle Particles: A Novel Pathway by Which a Skin-specific Stimulus Could Exert Systemic Effects. *Photochemistry Photobiology*. 2016 Dec 31. doi: 10.1111/php.12703. PMID: 28039861

Kemp MG, Spandau DF, **Simman R**, **Travers JB**. Insulin-like Growth Factor 1 Receptor Signaling Is Required for Optimal ATR-CHK1 Kinase Signaling in Ultraviolet B (UVB)-irradiated Human Keratinocytes. *Journal of Biological Chemistry*. 2017 Jan 27;292(4):1231-1239. PMID: 27979966

Mari W, Younes S, **Simman R**. An Unusual Presentation of Deep Tissue Injury, Do We Really Understand It? A Case Report and Literature Review. *Wounds*. 2017 May;29(5):E32-E35. PMID: 28570255

Sun X, Ma X, Wang J, Zhao Y, Wang Y, **Bihl JC**, Chen Y, Jiang C. Glioma stem cells-derived exosomes promote the angiogenic ability of endothelial cells through miR-21/VEGF signal. *Oncotarget*. 2017 May 30;8(22):36137-36148. PMID: 28410224

Pan Q, Liu H, Zheng C, Zhao Y, Liao X, Wang Y, **Chen Y**, Zhao B, Lazartigues E, Yang Y, Ma X. Microvesicles Derived from Inflammation-Challenged Endothelial Cells Modulate Vascular Smooth Muscle Cell Functions. *Frontiers Physiology*. 2017 Jan 12;7:692. PMID: 28127288

Wang J, Guo R, Yang Y, Jacobs B, Chen S, Iwuchukwu I, Gaines K, **Chen Y**, Simman R, Lv G, Wu K, **Bihl J** (2016). The novel methods for analysis of exosomes released from endothelial cells and endothelial progenitor cells. *Stem Cells International*, 2016: 2639728.

Wu K, Yang Y, Zhong Y, Zhang P, Guo R, Liu H, Cheng C, Korosci TM, **Chen Y**, Liu S, **Bihl J** (2016). The effects of microvesicles on endothelial progenitor cells are compromised in type 2 diabetic patients via downregulation of miR-126/VEGFR2 pathway. *Am J Physiol Endocrinol Metab*. 310(10):E828-37.

Huang S, Zhu X, Huang W, He Y, Pang L, Lan X, Shui X, **Chen Y**, Chen C, Lei W. Quercetin Inhibits Pulmonary Arterial Endothelial Cell Transdifferentiation Possibly by Akt and Erk1/2 Pathways. *Biomedical Research International*. 2017;2017:6147294. doi: 10.1155/2017/6147294. PMID: 28428963

Pan Q, Liao X, Liu H, Wang Y, **Chen Y**, Zhao B, Lazartigues E, Yang Y, Ma X. MicroRNA-125a-5p alleviates the deleterious effects of ox-LDL on multiple functions of human brain microvessel endothelial cells. *American Journal Physiology Cellular Physiology*. 2017 Feb 1;312(2):C119-C130. PMID: 27903586

Havemann LM, **Cool DR**, Gagneux P, Markey MP, Yakic JL, Maxwell RA, Iyer A, Lindheim SR. Vulvodinia: What We Know and Where We Should Be Going. *Journal of Lower Genital Tract Disease*. 2017 Apr;21(2):150-156. PMID: 27984345



PUBLICATIONS CONT.

- Liu J, Law RA, Koles PG, Saxe JC, Bottomley M, **Sulentic CEW**. Allelic frequencies of the hs1.2 enhancer within the immunoglobulin heavy chain region in Dayton, Ohio patients screened for celiac disease with duodenal biopsy. *Digestive Liver Disease*. 2017 Apr 9. pii: S1590-8658(17)30803-4. PMID: 28473300
- Grabinski CM, Methner MM, Jackson JM, Moore AL, Flory LE, Tilly T, **Hussain SM**, Ott DK. Characterization of exposure to byproducts from firing lead-free frangible ammunition in an enclosed, ventilated firing range. *Journal of Occupational Environmental Hygiene*. 2017 Jun;14(6):461-472. PMID: 28278066
- Kursan S, McMillen TS, Beesetty P, Dias-Junior E, Almutairi MM, Sajib AA, Kozak JA, Aguilar-Bryan L, **Di Fulvio M**. The neuronal K+Cl- co-transporter 2 (Slc12a5) modulates insulin secretion. *Scientific Reports*. 2017 May 11;7(1):1732. PMID: 28496181
- Singh R, Kursan S, Almiyahoub MY, Almutairi MM, Garzón-Muvdi T, **Alvarez-Leefmans FJ, Di Fulvio M**. Plasma Membrane Targeting of Endogenous NKCC2 in COS7 Cells Bypasses Functional Golgi Cisternae and Complex N-Glycosylation. *Frontiers Cell Developmental Biology*. 2017 Jan 4;4:150. doi: 10.3389/fcell.2016.00150. PMID: 28101499
- Otaño-Rivera V, Boakye A, **Grobe N**, Almutairi MM, Kursan S, Mattis LK, Castrop H, Gurley SB, **Elsed 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*. 2017 Apr;51(2):138-146. PMID: 27166392
- Grobe N, Elsed KM**. Analysis of Angiotensin Metabolism in the Kidney Using Mass Spectrometry. *Methods Molecular Biology*. 2017;1614:189-197. PMID: 28500605
- Katherine Fahy, Langni Liu, Christine M. Rapp, Christina Borchers, **Ji C. Bihl, Yanfang Chen, Richard Simman, Jeffrey B. Travers**. (December 2016). UVB-generated microvesicle particles: a novel pathway by which a skin-specific stimulus could exert systemic effects. *Photochemistry and Photobiology*. Manuscript ID PHP-2016-10-SIIR 0228.R1.
- D Mrdjenovich, **R Simman**, C Fleck, T Luttrell. The American College of Clinical Wound Specialists (ACCWS) Rebuttal to the Recent NPUAP Pressure Ulcer Definition (August 2016) DOI: <http://dx.doi.org/10.1016/j.jaccw.2016.08.002>
- JinjuWang, Runmin Guo, **R Simman** et al. The Novel Methods for Analysis of Exosomes Released from Endothelial Cells and Endothelial Progenitor Cells. *Stem Cells International*, Volume 2016, Article ID 2639728, 12 pages.
- Mari W, Alsabri SG, Tabal N, Younes S, Sherif A and **Simman R**. Novel Insights on Understanding of Keloid Scar: Article Review. *J Am Coll Clin Wound Spec*. 2016 Nov 30;7(1-3):1-7. doi: 10.1016/j.jccw.2016.10.001. Review.PMID: 28053861
- Gibson, J. N., Beesetty, P., **Sulentic, C. E. W.**, Kozak, J. A. Rapid quantification of mitogen-induced blastogenesis in T lymphocytes for identifying immunomodulatory drugs. *JoVE*, 2016; 118:e55212. <http://www.jove.com/video/55212>
- Sherif, A., Benhammuda, M., Fares, S. and **Oroszi, T.L.** Cardiovascular Diseases and Radiations. *Journal of Biosciences and Medicines*, 5, 72-77. 2017. <https://doi.org/10.4236/jbm.2017.52007>