The Dose
News from The Department of Pharmacology and Toxicology
University of Utah

A Message from the Chair

So the last nine months have been very busy for the Department of Pharmacology and Toxicology and we are excited to share all the news with you in this edition of The Dose. We made our first new hire in 9 years! Dr. Marco Bortolato will be joining us in May, 2016 as a new Associate Professor. He will bring his innovative research program to the department to study the development of novel therapeutic approaches for the treatment of disorders such as pathological aggression, autism-spectrum disorder, Tourette syndrome, schizophrenia and impulse-control disorders. Since our last edition, Sarah Cooke, Tatjana Bevans, Trevor Fidler, Chandni Sheth, and Chris Stockman successfully defended their dissertations and received their Ph.D. Congratulations to them all! Also of note, Dr. H. Steve White has left the department after many years to become the new Chair of Pharmacy Practice at the University of Washington School of Pharmacy. We wish Steve all the best in his new endeavor although he will certainly be missed! I look forward to trying to fill Steve’s shoes as the new director of the Anticonvulsant Drug Development Program. Dr. Steven Bealer will be retiring in June and he and his wife Adele will be returning to Tennessee. We wish them all the best in this new chapter of their lives and thank Steve for his service to the department and the college. Finally, I hope you enjoy this edition of The Dose and we look forward to hearing from you.
Dr. H. Steve White

After more than 30 years as a faculty member in the department of pharmacology and toxicology, Dr. H. Steve White has decided to accept a position as the Chair of the Department of Pharmacy at the University of Washington.

A leader in translational research in anticonvulsant drug therapies, Dr. White is well recognized for his scientific leadership of the University of Utah NIH-sponsored Anticonvulsant Drug Development (ADD) Program, founded in 1975 by the late Ewart A. Swinyard in collaboration with the National Institutes of Neurological Disorders and Stroke (NINDS), NIH. Dr. White’s career in antiepileptic drug discovery began in 1986 as the senior scientist of the ADD Program. Over the three decades that mark Dr. White’s research in the field, this program has played a crucial role in the early identification and characterization of thousands of novel anticonvulsant medications using established seizure and epilepsy models.

We are sad to see him leave as he played such an integral role in the department and College of Pharmacy as an educator, mentor, and colleague. We thank him for his many years of service and we wish him the best of luck on his future endeavors.
The Pharmacology and Toxicology Department welcomes its newest faculty member!

Dr. Marco Bortolato

Dr. Marco Bortolato received his MD (Neurology) and PhD (Pharmacology) from the University of Cagliari, Italy. He completed his post-doc training at the University of California, Irvine, and was appointed a Research Assistant Professor at the University of Southern California. Dr. Bortolato then accepted a position as an Assistant Professorship at the University of Kansas where he grew his current research program and focused on translational studies on a variety of neuro-developmental disorders such as autism-spectrum disorder, Tourette syndrome, pathological aggression and intellectual disabilities and potential novel therapeutic approaches for their treatment. His current research program encompasses both clinical trials and preclinical animal models. The aim of Dr. Bortolato’s research program is to identify the mechanisms whereby genetic, environmental and sex-related vulnerability factors interact to underpin neuropsychiatric conditions, in order to identify novel strategies for their early diagnosis, prevention and therapy. His laboratory is currently involved in two major translational research goals. The first aim is the characterization of the molecular substrates of gene x environment interactions in impulsive aggression. The second aim is the development of novel steroid- and cannabinoid-based tools for the therapy of impulse-control disorders, Tourette syndrome and schizophrenia. In particular, we have discovered the antipsychotic efficacy of neurosteroid-based therapies in patients affected by schizophrenia, Tourette syndrome and impulse-control disorders. Both projects involve multiple national and international collaborations with both basic and clinical scientists throughout the United States, Canada, Italy, Spain, France and Croatia. The Department of Pharmacology and Toxicology at the University of Utah extends its warmest welcome to our newest faculty member, Dr. Marco Bortolato.

Dr. Steve Bealer

After 16 years as a faculty member in the department of Pharmacology and Toxicology, Dr. Steve Bealer has decided to retire to Memphis, Tennessee.

Please join us at a Farewell Reception in his honor:

Thursday, May 26, 2016
2:00 – 4:00 PM
Skaggs Pharmacy Institute Atrium
Student News:

Congratulations to Chris Stockmann, Sarah Cook, Chandni Sheth, Trevor Fidler, and Tatjana Bevans for their successful dissertation defenses. We look forward to hearing where your scientific careers take you!

Congratulations also go out to A. Cameron Hill for successfully completing his qualifying exam.

Chandni Sheth presented the following posters this past fall at the Society for Neuroscience’s 45th annual meeting and the 38th Annual Meeting of the Research Society on Alcoholism:


The Department of Pharmacology and Toxicology was well-represented by Glenna Wallis and Erica Larson at this year’s Molecular Biology and Biological Chemistry recruitment dinners. Glenna and Erica presented their posters titled “Temporal regulation of TNF pathway during seizure development in a mouse model of epilepsy” and “Investigating the mechanism of action of equisetin against Staphylococcus aureus – possible impact on energy metabolism.”

Greg Remigio (West Lab) recently was awarded best biological science poster at the 2016 Center on Aging Research Retreat. The title of his poster was: "5-HT6 receptor localization and its effects on memory and synaptic transmission"

Meredith Gibbons Hasenoehrl (Wilcox Lab) and Shelley MacNeil (Bild Lab) have been awarded Graduate Research Fellowships from the University of Utah Graduate School.

Anthony Umpierre (Wilcox Lab) has been awarded a pre-doctoral NRSA award. The title of his proposal is: “Investigating the Role of the Astrocyte mGluR5 Pathway in Temporal Lobe Epilepsy”

Two students were awarded AFPE pre-doctoral fellowships in the pharmaceutical sciences:
- Erica Larson (Barrows Lab): “Mechanism of Action of Pyrrolocins against Mycobacterium tuberculosis.”
- Jaycie Loewen (Wilcox Lab): “Mechanisms of astrocyte mediated glutamate homeostasis in a model of viral induced temporal lobe epilepsy”

Dipan Patel (Wilcox Lab) has recently received two travel awards:
- Young Investigator Education Enhancement Travel Award ($600), American Society for Neurochemistry (ASN) for attending annual meeting of ASN in March 2016 at Denver
- Bursary ($1500), International League Against Epilepsy - Commission on European Affairs (ILAE-CEA) for the Eilat international educational course on the pharmacological treatment of epilepsy in October 2015 at Jerusalem

Way to go PHTX students!
Faculty News:

- Dr. Don Blumenthal has been invited, and has accepted, to serve on the editorial board of the Journal of Biological Chemistry. This is a 5 year, 3 month term starting in July 2016.
- Dr. Douglas Rollins (Professor Emeritus) and Dr. Don Blumenthal have just published companion textbook to Goodman & Gilman's Pharmacological Basis of Therapeutics, 12th edition. The title of the book is Workbook and Casebook for Goodman & Gilman's Pharmacological Basis of Therapeutics. The publisher is McGraw-Hill and get your copy now!

- Dr. Don Blumenthal has an active collaboration with investigators from UCSD and Oak Ridge National Laboratory to do structural studies of the human form of acetylcholinesterase in order to develop antidotes for nerve-gas poisoning that are faster-acting and that could be used in the event of a terrorist attack to treat exposed citizens and first-responders. This work is funded by a U01 grant from the CounterACT program at NIH. Part of the project involves collecting neutron diffraction data from crystals of the protein. This requires growing much larger crystals of protein than are needed for conventional x-ray crystallography. One method to enhance the growth of protein crystals is to grow them in a microgravity environment. They just learned that our application to the Center for the Advancement of Science in Space (CASIS) to grow crystals of human acetylcholinesterase in space at the International Space Station has been selected for award. This is a significant award because the cost to launch this experiment into space is ~$3 million!
Faculty News: Recent Publications


Faculty News: Recent Grants

- David Moody (PI) 01/15 - 06/16 ($118,141 total direct; $176,030 total) (Barbara Insley-Crouch, co-Principal Investigator) “Mining the Annual Reports of the American Association of Poison Control Centers’ National Poison Data System for Co-Drug Identification in Fatalities Associated with Poison Control Center Contacts (2000-2013)” National Institute of Justice, NIJ, 2014-R2-CX-K012

- David Moody (PI) 02/14 - 02/19 Option year approved for 2/15-2/16 (new funds, 1/5th of total, provided on yearly basis if option approved. ($705,045); N01DA-14-7788 "Quantitation of Drugs of Abuse and Related Substances in Biological Specimens" National Institute on Drug Abuse, NIDA

- David Moody (PI) 01/16 – 12/18 ($1,276,160 total requested); “Prediction of drug interactions with methadone, buprenorphine and oxycodone from in vitro inhibition of metabolism” National Institute of Justice, NIJ, Agency tracking number GRANT11884621 (258229)