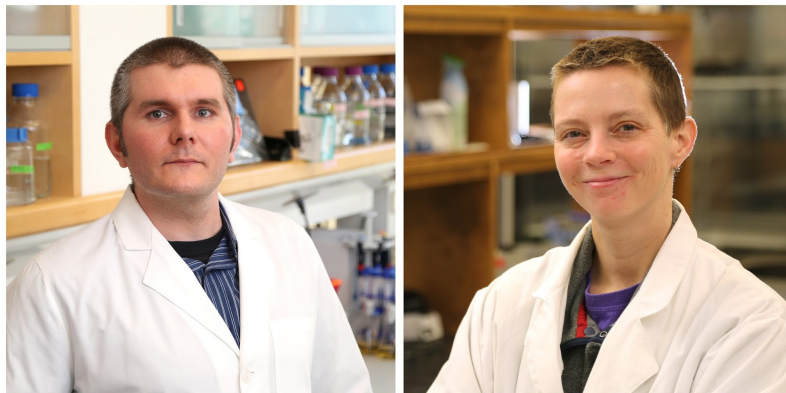


Med School Watercooler

NEWS FROM FREDERICK P. WHIDDON COLLEGE OF MEDICINE
AT THE UNIVERSITY OF SOUTH ALABAMA

Friday, December 9, 2016

USA Basic Medical Science Students Defend Doctoral Dissertations



Brandon D'Arcy and Tiffany Norton, two students from the Interdisciplinary Graduate Program in Basic Medical Sciences at the University of South Alabama College of Medicine, recently defended their doctoral dissertations.

Norton described a potentially fatal fungus in humans in her dissertation that was titled "Prenylation Pathways Mediate Growth, Development, Thermotolerance, and Virulence in *Aspergillus fumigatus*." Her research showed that mislocalizing proteins by stopping the addition of hydrophobic molecules impairs the ability of the fungus *Aspergillus fumigatus* to develop and grow properly at human body temperature. Norton hopes that her work as a researcher will lead to the development of new antifungal drugs, as fungal infections can be difficult to diagnose and treat.

Brandon D'Arcy studied whether human cells could be engineered to degrade excess cholesterol in his dissertation, "Enabling Cholesterol Catabolism in Human Cells." His research identified unique, cellular forms of treatment for familial hypercholesterolemia (FH), a genetic disease characterized by high levels of cholesterol. D'Arcy hopes that his research will allow for more effective treatment for those who suffer from FH, as the disease can be difficult to treat due to the variations in genetic defects found in those with FH. "My dissertation impacts both USA and the medical community by demonstrating that an outside-the-box style of research still has a strong place in basic research," D'Arcy said.

Both researchers look forward to their futures in using research to combat serious medical conditions.

"I am generally interested in studies that investigate disease processes in the human body (infectious or non-infectious) or development of treatments," Norton said. She is currently pursuing a position as a postdoctoral research fellow in gynecological oncology at the USA Mitchell Cancer Institute, and she hopes to stay as close to lab work as possible throughout her career.

D'Arcy is joining Dr. Aishwarya Prakash at the USA Mitchell Cancer Institute as a

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postdoctoral fellow. "Dr. Prakash is leading MCI's new structural biology lab, where we will study key enzymes involved in cancer progression and their underlying molecular mechanisms," D'Arcy said.

Both Norton and D'Arcy are grateful for the time they spent working and learning in the labs of the basic medical sciences Ph.D. program at USA.

"I am greatly indebted to the USA College of Medicine, Dr. Mark Taylor and the Basic Medical Sciences Ph.D. Program. I would also like to thank Dr. David Wood and the Department of Microbiology and Immunology and my research advisor, Dr. Jarrod Fortwendel, for investing in me as a student and developing me as a researcher," Norton said. "This phase of my training has been a very invigorating and enjoyable experience, and I would recommend the program to others who might be interested in medical research."

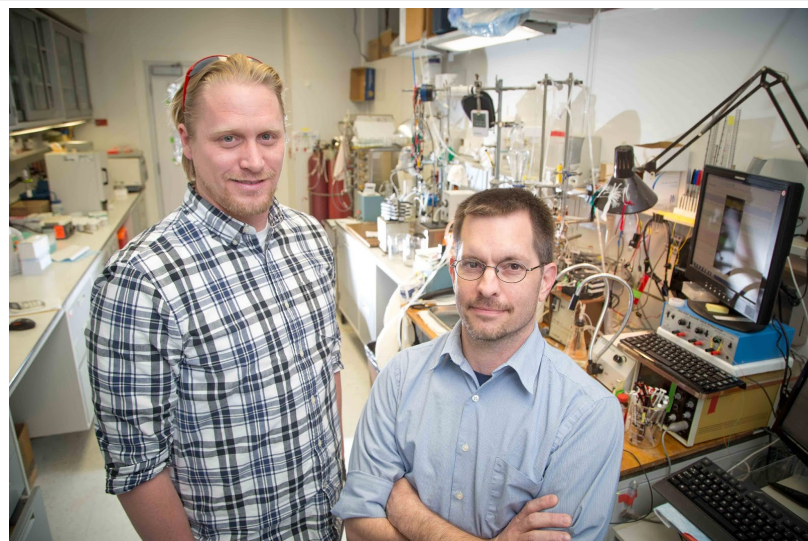
"I would like to thank the University of South Alabama and the Basic Medical Sciences program for providing the environment and opportunity for students to reach their fullest potential," D'Arcy said. "I would also like to thank my mentor, Dr. Richard Honkanen, who has instilled in me that one's limitations are only defined by themselves."

For more information about the Interdisciplinary Graduate Program in Basic Medical Sciences, [click here](#).

Posted by [Med School Watercooler](#) at [3:10 PM](#) No comments:

Wednesday, December 7, 2016

10th Annual COM Research Forum Winners Announced



Dr. Nathaniel Holton (left), and Ed Crockett recently were recognized with awards for the research they presented at the USA College of Medicine's 10th annual Research Forum.

The University of South Alabama College of Medicine hosted its 10th annual Research Forum on Nov. 4, 2016. Travel awards recently were presented to Ed Crockett and Dr. Nathaniel Holton for their extensive research.

Forum organizer Dr. Donna Cioffi, associate professor of biochemistry and molecular biology at USA, said excitement filled the air at the forum. "This year, the number of presentations was just a few less than last year, but the overall turnout was our biggest yet," she said. The forum consisted of two sessions - the morning session was comprised of nine oral presentations, and the afternoon session included 55 poster presentations.

Ed Crockett, a basic medical science graduate student, won a \$1,000 travel award for best overall graduate student presentation. He was recognized for his poster presentation titled "Thermal Imaging: Advancing Burn-Wound Analysis by Infrared Imaging." He chose to do his research in the department of pharmacology in the lab of Dr. Wiltz Wagner, with assistance from Dr. Jon Simmons, assistant professor of surgery at the USA College of Medicine.

- 08/21 - 08/28 (4)
- 08/14 - 08/21 (4)
- 08/07 - 08/14 (4)
- 07/31 - 08/07 (5)
- 07/24 - 07/31 (3)
- 07/17 - 07/24 (5)
- 07/10 - 07/17 (5)
- 07/03 - 07/10 (4)
- 06/26 - 07/03 (3)
- 06/19 - 06/26 (6)
- 06/12 - 06/19 (4)
- 06/05 - 06/12 (5)
- 05/29 - 06/05 (5)
- 05/22 - 05/29 (4)
- 05/15 - 05/22 (4)
- 05/08 - 05/15 (5)
- 05/01 - 05/08 (4)
- 04/24 - 05/01 (4)
- 04/17 - 04/24 (4)
- 04/10 - 04/17 (3)
- 04/03 - 04/10 (5)
- 03/27 - 04/03 (4)
- 03/20 - 03/27 (2)
- 03/13 - 03/20 (8)
- 03/06 - 03/13 (3)
- 02/28 - 03/06 (5)
- 02/21 - 02/28 (4)
- 02/14 - 02/21 (4)
- 02/07 - 02/14 (4)
- 01/31 - 02/07 (4)
- 01/24 - 01/31 (4)
- 01/17 - 01/24 (4)
- 01/10 - 01/17 (4)
- 01/03 - 01/10 (4)

- 2015 (205)
- 2014 (241)
- 2013 (232)
- 2012 (245)
- 2011 (262)
- 2010 (247)
- 2009 (88)

According to Crockett, it is important to use infrared thermal imaging as a method to assess the severity of burn depth because the information will help determine if the viable tissue will heal on its own or require grafting. The thermal imaging sensor used for his research is small, plugs into an Android cell phone and operates using a free app.

Crockett said using infrared thermal imaging to detect skin surface temperature provides physicians with information that is otherwise unavailable in visible light, allowing them to see heat that is undetectable to the naked eye. "Visible light is detectable with the naked eye between 400 and 700 nano-meters," Crockett said. "Heat emission and light emission are closely linked, so the hotter the object, the shorter its wavelength of emitted light."

Crockett believes this technique for assessing burn depth will remove the subjective assessment which is only 50 percent accurate on the first day. "Our technique can increase the first-day accuracy and reduce the pain and suffering days sooner if a graft is required," he said.

Crockett said the forum provides a great opportunity for students. "Participating in this research forum is an excellent opportunity for young scientists to gain experience discussing their research with a broad audience," he said. "Since it is a local event, we are able to practice our presentations with people we know in a relaxed atmosphere before taking them to national conferences."

The post-doctorate award was presented to Dr. Nathaniel Holton for his research project titled "Application of Laser Micro-Irradiation for Examination of Single and Double Strand Break Repair in Cells." Dr. Holton performed his research at the USA Mitchell Cancer Institute in the lab of Dr. Natalie Gassman, assistant professor of oncologic sciences.

According to Dr. Holton, although molecular biology techniques have helped clarify the structure, enzymatic functions and kinetics of a large number of DNA repair proteins, there is still a need to understand how repair proteins interact and coordinate repair within the constraints of the nucleus. He found laser micro-irradiation to be a powerful tool for studying DNA damage repair response.

Dr. Holton's research demonstrates the power of laser micro-irradiation to examine repair of single and double strand breaks in cells. Using lasers, he created a very small spot of DNA damage within the nucleus of the cell and studied the recruitment of DNA repair proteins to that spot of laser damage. His research describes how to properly calibrate and control the applied laser power to induce specific damage mixtures, providing methods for performing laser micro-irradiation data acquisition and analysis.

Dr. Holton believes it is beneficial for students to participate in the Research Forum because it is a great place to introduce themselves to the research community, helping build a professional network.

"The connections that are made during some of these meetings can be critically important for future career development," he said.

To learn more about participating in the annual College of Medicine Research Forum, contact Dr. Cioffi at dlcioffi@southalabama.edu.

Posted by Med School Watercooler at [10:58 AM](#) No comments:

Josh Braswell of Mobile Selected as Floragraph Honoree on Donate Life Float in Rose Parade

Karen Braswell, clinical education coordinator for the University of South Alabama College of Medicine, has served as an advocate for organ donation following her son, Josh's, untimely death and his subsequent donation in 2003.

Next month, Josh's floral portrait, or floragraph, will be among 60 other organ, eye and tissue donors appearing on the Donate Life float in the Rose Bowl Parade



in Pasadena, Calif.

The symbolic float, made of organic material, will be in the shape of a Polynesian catamaran propelled by 24 organ, tissue and eye recipients, with 12 living donors walking alongside carrying flowers. Ocean waves on the float will be comprised of 1,000 white Akito roses given in memory or honor of those touched by donation. Josh's floragraph will be displayed on one of the sails, and it will go back to his parents after the parade.

"We are proud that our son was able to save five lives through organ donation, and we are very excited that Josh was chosen to be a part of the parade," Braswell said. "We are looking forward to attending the Donate Life ceremonies and events leading up to the parade on Jan. 2."

In June 2003, Josh sustained injuries in an automobile accident and was life-flighted to USA Medical Center. His accident left his parents with a heart wrenching decision that would affect the lives of five other individuals. Josh's parents honored his decision to be an organ donor – a decision that he often communicated with his family.

"This invitation to participate in the parade will be a great opportunity for us as a family to continue to spread the word about organ donation," Braswell said. "If you have not already done so, please tell your loved ones how you feel about organ donation. Josh was in the medical field, and fittingly, his last act on Earth was to save five lives."

Recently, representatives from the Alabama Organ Center gathered at the USA Faculty Club, along with Josh's family and friends, to complete a floral portrait of Josh. A video from the event can be found here - <https://vimeo.com/193445874>.

[Click here](#) to view the full story featured on al.com.

For more information about the Donate Life Rose Parade float, visit donatelifefloat.org.

Posted by Med School Watercooler at [10:45 AM](#) No comments:

Monday, December 5, 2016

College of Medicine Accepting Nominations for Faculty Assembly Positions



The USA College of Medicine is currently soliciting nominations for two positions within the College of Medicine Faculty Assembly - vice chair and secretary.

The Faculty Assembly serves as the venue for active participation of all College of Medicine faculty with the goal of achieving and maintaining levels of excellence in all aspects of medical education, research and health services.

The vice-chair will be responsible for presiding over meetings of the Faculty Assembly in the absence of the chair. The secretary will be responsible for keeping meeting minutes and distributing notices of meetings and all necessary information to the Council.

With the College of Medicine's upcoming strategic planning, as well as the need to make changes in the promotion and tenure guidelines and faculty assembly by-laws, faculty engagement in the assembly is vital in the upcoming year.

USA College of Medicine faculty should send nominations to Nicole Schultz at nschultz@southalabama.edu by Monday, Dec. 12, 2016.

Posted by [Med School Watercooler](#) at [12:00 PM](#) No comments:

Dec. 8 DSS to Feature Dr. Karla Satchell



The next Distinguished Scientist Seminar at the University of South Alabama College of Medicine will feature Dr. Karla Fullner Satchell, professor of microbiology and immunology at Northwestern University Feinberg School of Medicine in Chicago.

The lecture, titled "Role of Large MARTX Toxins in Vibrio Pathogenesis," will take place Dec. 8, 2016, at 4 p.m. in the first floor auditorium of the Medical Sciences Building on USA's main campus.

Dr. Satchell earned her Ph.D. in microbiology from the University of Washington in 1996. She then completed postdoctoral training at the University of Pittsburgh and Harvard Medical School. Her research focuses on the role of secreted protein toxins on bacterial pathogenesis.

The lecture series is comprised of distinguished scientists from other academic institutions who are invited by the USA College of Medicine basic science departments to present a seminar showcasing their latest research findings. Faculty, staff and students are strongly encouraged to attend.

Learn more about Dr. Satchell [here](#).

Posted by [Med School Watercooler](#) at [11:18 AM](#) No comments: