

# Med School Watercooler

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

Wednesday, December 12, 2018

## USA Faculty Honored at Inventor Recognition Luncheon



Back row: Reggie Taylor, Dr. Andrew E. Byrd, Dr. Victor Solodushko; middle row: Dr. Kuang-Ting Hsiao, Anna Buford, Dr. Brian Fouty; front row: Dr. Gary A. Piazza, Dr. Sanjeev Srivastava, Dr. Ajay Singh, and Dr. Seema Singh.

The University of South Alabama Office of Commercialization and Industry Collaboration (OCIC) recently held its 2018 Inventor Recognition Luncheon.

The Inventor Recognition Luncheon is an opportunity for the OCIC to acknowledge the university's inventors for their dedication to innovative research that results in valuable intellectual property. At the event, special recognition awards were formally presented to inventors named on recently issued patents in the United States.

This year the OCIC presented six awards to the following USA inventors listed on five U.S. patents that issued between October 2016 and October 2018, as well as the inventor of the university's first licensed trade secret:

- Dr. Brian Fouty, professor of internal medicine and pharmacology at the USA College of Medicine and a pulmonologist with USA Physicians Group; and Dr. Victor Solodushko, associate professor of pharmacology at the USA College of Medicine, are co-inventors on a patent issued Dec. 12, 2017. The patent describes a gene delivery system that utilizes genetic elements of the piggyBac family transposon system, and methods of introducing nucleic acid into target cells. This technology consolidates plasmids into a single delivery vector, while also dramatically reducing incorporation of non-essential DNA into the target genome, thereby reducing or eliminating potential side effects associated with more traditional transposition systems.
- Dr. Ajay Singh, professor of oncologic sciences at the USA Mitchell Cancer Institute and professor of biochemistry and molecular biology at

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the USA College of Medicine; and Dr. Seema Singh, associate professor of oncologic sciences at the USA Mitchell Cancer Institute, are co-inventors on a patent issued Nov. 28, 2017. The patent describes a method to alleviate Gemcitabine (chemotherapeutic) associated resistance in pancreatic cancer. Another patent, issued Oct. 4, 2016, included co-inventor Dr. Sanjeev Srivastava, assistant professor of oncologic sciences at the USA Mitchell Cancer Institute. The subject of this patent was the identification of relevant functions of Myb in prostate cancer.

- Dr. Gary A. Piazza, professor of oncologic sciences and pharmacology, leader of the Cancer Chemoprevention and Experimental Therapeutics Programs, and chief of the Drug Discovery Research Center at the USA Mitchell Cancer Institute, is an inventor on a patent issued Aug. 7, 2018. The patent covers both diagnostic tools and therapeutics for the treatment of cancer based on phosphodiesterase (PDE) inhibition. This assay is an opportunity to repurpose known inhibitors of PDE towards a cancer therapeutic indication as well as identify novel compounds as PDE specific inhibitors.
- Dr. Kuang-Ting Hsiao, professor of mechanical engineering, is the inventor on a patent issued Sept. 4, 2018. The patent is a transformative method of manufacturing composite materials that enhances a fiber-reinforced polymer's level of performance, while mitigating weaknesses and enabling multi-functionality.
- Anna Buford, a research assistant in physiology and cell biology, is the inventor of a trade secret formulation of a specialty cell culture media allows primary cells isolated from animals to remain viable longer and survive a greater number of passages than standard cell culture media. This can significantly reduce the cost associated with *in vitro* studies that require primary cells from a myriad of animal models.

The USA Office of Commercialization and Industry Collaboration is responsible for managing the intellectual property assets of the university and serves as a point of contact for research-related industry collaboration.

Posted by [Med School Watercooler](#) at [11:05 AM](#) No comments:

## Register Now: Pediatrics Symposium Set for Jan. 18

The University of South Alabama Department of Pediatrics and the Office of Continuing Medical Education will present "Be Better, Be Greater, Be Extraordinary in Pediatric Care" Jan. 18, 2019, in the Strada Patient Care Center first-floor conference room. The symposium is set for 7:30 a.m. to 5:30 p.m., followed by a mix and mingle.

The symposium will bring together experts in sports participation in children, authorities in the care of children with chronic medical conditions, and experienced specialists in the care of children with metabolic and hormonal needs.



Dr. Russell Steele, a nationally known pediatric infectious disease specialist, is the keynote speaker.

Other speakers include Dr. Lynn Batten, associate professor of pediatrics at the USA College of Medicine and a pediatric cardiologist with USA Physicians Group; Dr. Anthony Martino, professor and chair of neurosurgery at the USA College of Medicine and a neurosurgeon with USA Health; Dr. James Toldi, assistant professor of family medicine at the USA College of Medicine and a family medicine and sports medicine physician with USA Physicians Group; and Dr. Anne-Marie Kaulfers, associate professor of endocrinology at the USA College of Medicine and a pediatric endocrinologist with USA Physicians Group.

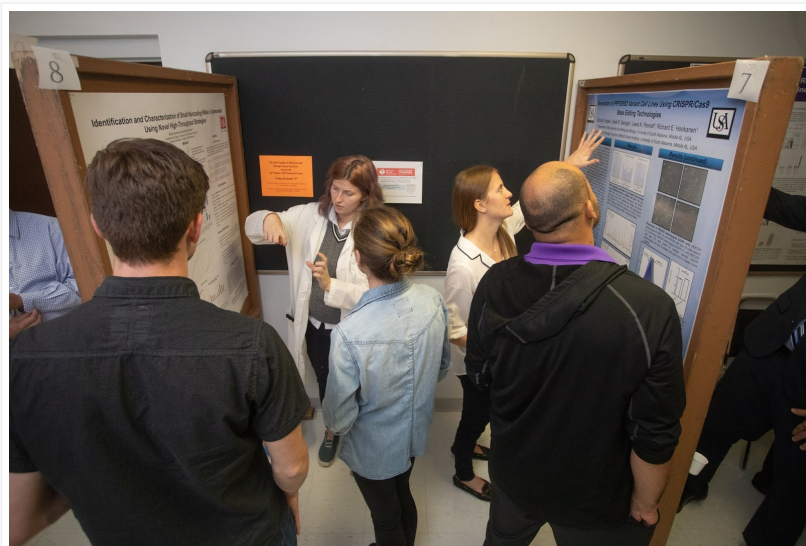
[Register online](#) or contact Sharrie Cranford at (251) 414-8080 or [scanford@southalabama.edu](mailto:scanford@southalabama.edu) to register.

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## 12th Annual COM Research Forum Winners Announced



The 12th annual Research Forum hosted by the University of South Alabama College of Medicine and USA Mitchell Cancer Institute was held Nov. 9, 2018, on USA's main campus. First place winners Tyler Mattox and Dr. Antonio Ward were presented travel awards for their extensive research.

"Presentations this year were exceptionally good," said Dr. Donna Cioffi, associate professor of biochemistry and molecular biology at the USA College of Medicine. "The topics included basic and translational science, as well clinical medicine. It was indeed exciting to see the outstanding work being done here at the USA College of Medicine and at the USA Mitchell Cancer Institute. It is something we can all be proud of."

The forum consisted of two sessions. The morning session was comprised of nine oral presentations, and the afternoon session had 41 poster presentations.

Tyler Mattox, a basic medical science graduate student, won a \$1,000 travel award for best overall graduate student presentation. "I plan to use the award to attend a cancer research conference, which would allow me to share our findings with the brightest minds in oncology research," he said. "In addition to presenting my results, the exposure to cutting-edge projects from other institutions will allow me to return to USA with new ideas and collaborations to continue moving my project forward."

His research was performed in oncologic sciences in the lab of Dr. Gary Piazza, chief of the Drug Discovery Research Center and Abraham A. Mitchell Distinguished Investigator and professor of oncologic sciences at USA Mitchell Cancer Institute.

Mattox said his project focuses on characterizing the mechanism of action of a novel anti-cancer compound DC070-547. "We found that DC070-547 potently and selectively inhibits the growth of pancreatic tumor cells that harbor a mutation in a RAS gene," he said. "Mutations in RAS genes are known to drive aggressive and metastatic cancers such as pancreatic, lung and colorectal cancers. These tumors are notoriously resistant to conventional treatment options, and this resistance can often be attributed to a RAS mutation."

After nearly 40 years of research in both academia and the pharmaceutical industry, Mattox said there are still no FDA-approved RAS inhibitors on the market. "My project presents a first-in-class RAS inhibitor that holds promise to be developed for the treatment of pancreatic cancer, along with other RAS-driven cancers," he said.

The post-doctorate award was presented to Dr. Ward for his research on colorectal cancer tumor formation. According to Dr. Ward, colorectal cancer can develop from non-cancerous polyps – or abnormal tissue growth – found on the colon and have the potential to become cancerous over time if not properly removed or treated.

The goal of his research is to develop small molecule inhibitors that target specific mutations, or oncogenes, responsible for colorectal cancer progression. "One of these oncogenes responsible for colorectal cancer progression,  $\beta$ -catenin, is highly expressed in colorectal cancer due to a mutation of the APC/ $\beta$ -catenin gene.  $\beta$ -catenin expression has been correlated with colorectal cancers that also have high expression levels of the enzyme phosphodiesterase-10 (PDE10)," he said.

So far, Dr. Ward said PDE10 inhibitors have only been developed to treat central nervous system disorders. "Our lab has discovered for the first time that PDE10 is a target for colorectal cancer treatment and has developed a compound that is selective for PDE10 with greater potency than current PDE10 inhibitors that also exhibit anti-cancer properties by its effect on  $\beta$ -catenin cell signaling."

Dr. Ward said his research has far-reaching potential to impact patient care. "The colorectal cancer burden is very high in the United States," he said. "Therefore, developing and discovering a small molecule inhibitor that can one day be applied as a preventative or therapeutic drug for treating pre-cancerous colorectal polyps will greatly reduce cancer progression and overall colorectal cancer burden."

Both Mattox and Dr. Ward agree that the annual Research Forum is beneficial for graduate students and postdoctoral fellows alike. "I am truly blessed to be a part of such a talented group of researchers at the USA Mitchell Cancer Institute," Mattox said. "MCI has previously played a significant role in my life by aiding family and friends in their fights against cancer, and now I am fortunate to be conducting my dissertation research in the same building."

To learn more about participating in the annual College of Medicine Research Forum, contact Dr. Cioffi at [dlcioffi@southalabama.edu](mailto:dlcioffi@southalabama.edu).

[View more photos on Flickr.](#)

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## Mark Your Calendar: Forum on Community-Engaged Scholarship Set for Jan. 11

The University of South Alabama Center for Healthy Communities, in collaboration with the USA Office of Community Engagement and the USA Translational Research Service Center, is hosting its 3rd Forum on Community-Engaged Scholarship.



The forum, titled "Building Blocks for Impactful Community Engagement Toward Health Equity," is set for Jan. 11, 2019.

The forum has a two-fold objective: focus on key elements of community engagement that foster progression to health equity; and encourage interconnections between researchers and community-based organizations working toward health equity in our community.

The forum will include a panel discussion on practical experiences of community engagement for working towards health equity and a poster session highlighting projects and organizations.



[Register to attend the forum. Submit a poster abstract.](#)

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**Monday, December 10, 2018**

## Med School Café: Expert Advice for the Community

Dr. Gino DiVittorio, who serves as a rheumatologist with USA Mobile Diagnostic Center, presented November's Med School Café lecture, "Gout."

At the lecture, Dr. DiVittorio discussed the diagnosis and treatment options for gout.

Dr. DiVittorio earned his medical degree from the University of Los Andes in Merida, Venezuela. He completed his residency training in internal medicine at Sinai Hospital in Baltimore and fellowship training in rheumatology at the University of Alabama at Birmingham in Birmingham, Ala.



Watch [November Med School Café - Gout](#) on YouTube or below.

### November Med School Café - Gout



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