Recruitment of AJ Cardounel, PhD, NIH Investigator with Strong Passion for Medicine and Science

Arturo J. Cardounel, PhD received his B.A. in Biology/Spanish from the University of Richmond in 1994, and his PhD in Physiology/Biophysics in 1999 from the Medical College of Virginia. He trained as a post-doctoral Fellow in cardiology at Johns Hopkins University from 1999-2002 prior to joining the OSU faculty as an assistant professor. In 2007, AJ moved with his wife, Wendy, to Gainesville, Florida, where he accepted a faculty position at the University of Florida, Department of Physiology and Functional Genomics. In 2009, he was promoted to associate professor with tenure.

AJ has always been passionate about his research and professional career, and this is quite evident from his strong academic record and national reputation in the field of cardiovascular research. He has had a passion for both research and medicine, and it has now become possible for him to also fulfill his dream of becoming a physician, adding to a brilliant career as a scientist. We are thankful for the tremendous support, understanding, vision, and forward-thinking of our leadership at the college and university levels that has made it possible for AJ to fulfill his aspiration.

Grants & Clinical Trials/Studies

AJ Cardounel, PhD (principal investigator) received a new NIH R01 NHLBI award on “Methylarginines and Vascular Injury” for $1,884,353 from 2010 - 2015. Lawrence J. Druhan, PhD is co-PI on the award.

Sergio D. Bergese, MD and his team have three new clinical trials:

1. Multi-center desirudin utilization registry in patients with or without thrombosis requiring an alternative to heparin-based anticoagulation (DESIR-ABLE) (Canyon Pharmaceuticals, Inc.)
2. A double-blind, randomized, multicenter, dose-ranging study to evaluate the safety and efficacy of LUSEDRA (fospropofol disodium) as an intravenous sedative for diagnostic or therapeutic colonoscopy in adult special populations (Eisai Co Ltd.)
3. A long-term open-label safety study of hydrocodone bitartrate controlled-release capsules (HC-CR) with flexible dosing to treat subjects with moderate to severe chronic pain (Zogenix, Inc.)

Joseph G. Werner, MD submitted a proposal titled “A randomized, double-blind, double-arm trial comparing desflurane to sevoflurane for the effect on recovery time in patients undergoing urological cystoscope surgery under general anesthesia with a laryngeal mask airway (LMA)” to Baxter Healthcare Group.
Recruitment (continued from page 1)

of becoming a physician scientist. He is a dedicated Med I student, with a unique opportunity to continue his ongoing research activities as a research scientist in the Department of Anesthesiology. We are fully committed to his success as a physician and supporting his research.

AJ will continue to serve as co-PI of a new competitive renewal R01 grant awarded in 2010 on “Methyarginines and Vascular Injury” (NHLBI) that provides five years of continued support for his research program. AJ has teamed up with Lawrence J. Druhan, PhD who serves as co-PI and also manages this research program. Larry has been collaborating with AJ for a number of years and we have recruited him as an assistant professor in our department together with AJ; Larry serves as a co-investigator on other NIH grants as well. Recruitment of AJ and Larry adds to our strengths and growing interest in mechanistic/signaling studies of disease processes and translational research with therapeutic applications. AJ’s research program is also closely tied to experimental therapeutics and drug discovery. Industry-funded project(s) have focused on the development of novel therapeutic targets for treating vascular proliferative disorders (e.g. atherosclerosis, restenosis, transplant vasculopathy). Results from these studies have led to a patent submission as an inventor and funding of multiple NIH SBIR grants over the years.

The focus of ongoing research involves endogenous nitric oxide synthase (NOS) regulation and its role in the pathophysiology of vascular and neurological disease; a primary focus is on the role of endogenous methyarginines and their effects on NOS function. Their findings demonstrated that endogenous methyarginines, ADMA and NMMA, critically regulate NOS function and are capable of modulating both NOS-derived nitric oxide and superoxide generation. Because cellular methyarginine levels are tightly regulated by the methylating and demethylating enzymes, current research efforts are focused on the role of protein methylation in the regulation of endothelial function and cardiovascular disease susceptibility.

AJ has already made significant contributions to research in his field and has received national recognition for his efforts. The impact of his research is evidenced by quality publications in top-tier journals, including PNAS, JBC, IBD, Gastroenterology, Biochemistry and AJP. He has published 56 peer-reviewed articles, as well as chapters, reviews, and many abstracts presented at national and international meetings. He has served as moderator or organizer of national symposia, and has been an invited speaker or lecturer on his research. AJ has been NIH-funded for more than 10 years with $3.3 million in funding from NIH as PI and over $8 million in total funding as co-I/PI. He has served as an ad hoc and permanent member of NIH study sections (including NHLBI/NIH-AICS study section), chair of the American Heart Association cardiac biology study section, and was elected president of the biennial ADMA Research Conference, and has successfully mentored and graduated five PhD students and two post doctoral research Fellows.

Acquiring new knowledge is at the very heart of our academic mission, which can only be realized through education, research and scholarly activities. We welcome AJ and Larry to our department, who share these values.

3rd Annual CA-1 Skills Lab a Success

The 3rd annual CA-1 skills lab held on Friday, July 9 was a great success! Fourteen CA-1 residents and dental anesthesia residents participated in the all-day course, which demonstrated hands-on techniques for fiberoptic bronchoscopy, epidural/spinal placement, needle decompression, chest tube placement, central lines, difficult airway management, and cardiothoracic anatomy. Mark A. Gerhardt, MD, PhD and Gretel Monreal, PhD directed the course and preceptors included Ronald L. Harter, MD, Andrew H. Roth, MD, Brian Kelly, MD, Derek Foerschler, DO, Ken R. Moran, MD, Abram Elsenraat, MD, and Michelle Santiago, MD.

The course was sponsored by a Teleflex Medical Education grant. Equipment and supplies were generously donated by Arrow International Inc., Cook Medical Inc., Mallinckrodt/Covidien, and Olympus America Inc.
Awards & National Presentations

Derek Foerschler, DO won two awards at the Society for Ambulatory Anesthesia (SAMBA) 25th annual meeting! He received a resident travel award ($1,000) and the White Mountain Institute Award (3rd place of all resident-submitted abstracts) for his abstract titled “Retained femoral perineural catheter in the outpatient setting.” Ralph Beltran, MD and Dwight Mosley, MD also presented abstracts.

Tyler Burnett, MD won 2nd place in the ‘Resident/Medical Student Forum: Best Case Report’ category for his abstract, “Local anesthetic infiltration for cesarean section in a patient with spinal muscular atrophy type II,” at the Society for Obstetric Anesthesia and Perinatology (SOAP) 42nd annual meeting. Also presenting abstracts were Dave Anderson, MD, Jake Coffman, MD, Jennifer Elmore, DO, Derek Foerschler, DO, and Tom Harris, MD.

Medical student Courtney M. Jablonski won a Roessler grant for her work with Hamdy Elsayed-Awad, MD on his wound healing study.

The poster submitted by Thomas J. Papadimos, MD, Andrew H. Roth, MD, Michael J. Andritzos, MD, and Katja R. Turner, MD titled “The use of standardized patients to evaluate interpersonal communication skills of anesthesiology residents: a follow-up study” was ranked first out of 42 entries in the scientific category at The Society for Education in Anesthesia 25th annual spring meeting on June 4-6.

Dane Yuratich and Brian Schloss completed their research rotation week.

Faculty-authored Publications


Chen Y, Xia Y, Liu L, Shi T, Shi K, Wang Q, Chen L, Papadimos TJ, Xu X. Lipid emulsion resuscitates bupivacaine-induced asystole in isolated rat hearts: concentration-response and time-response relationships. Accepted for publication in Anesthesiology.


Dzwonczyk R, Weaver TE, Puente EG, Bergese SD. Postoperative nausea and vomiting prophylaxis from the economic point of view. Am J Ther 2010 [epub ahead of print].


Goldman E. Age-dependent cardiopulmonary interaction during airway obstruction: a simulation model. Accepted for publication in Am J Physiol Heart Circ Physiol.


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Promotions & Leadership Activities in Research

- New recruits:
  - Arturo J. Cardounel, PhD - research scientist
  - Lawrence J. Druhan, PhD - research assistant professor
  - Ravi S. Tripathi, MD - assistant professor clinical
  - Michael K. Essandoh, MD - assistant professor clinical

- Sergio D. Bergese, MD was promoted to associate professor clinical.
- Fievos L. Christofi, PhD reviewed (permanent member) NIH grants in the Clinical, Integrative and Molecular Gastroenterology study section from October 4-6.
  - Served as an ad hoc reviewer for Gastroenterology, Am J Physiology, Neurogastroenterol Motil, and Reviews in Medicine.
  - Dr. Christofi was also nominated to become an American Gastroenterology Fellow.

New staff:
- Dorothy Atzler - post doctoral researcher
- Josh Beaver - clinical research coordinator
- Altaf Mohammed - post doctoral researcher

Faculty-authored Publications (continued from page 3)


Pappada SM, Cameron BD, Rosman PM, Bourey RE, Papadimos TJ, Orlorunto W, Borst MJ. Neural network based real- time prediction of glucose in patients with insulin dependent diabetes. Accepted for publication in Diabetes Technol Ther.


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