

2010-2011
Summary of Activities
Medical Student Summer Research Program

The Thirty-eighth Annual Medical Student Research Day was held on Friday, August 5, 2011 hosting approximately 140 attendees in the Medical Sciences Building auditorium and College of Medicine Conference Room. Sixteen first and second-year medical students participated in research projects with basic science and clinical faculty in the College of Medicine during the summer. A weekly seminar series introduced students to important research related topics. The program aims to highlight the relation between scientific discoveries and their application in clinical medicine.

Dr. Talmadge King, Julius R. Krevans Distinguished Professor of Medicine and Chair at the University of California at San Francisco was the keynote speaker. Dr. King's seminar was entitled, "Physician-Scientist: Pursuit of a Career in Patient-Oriented Research."

Culmination of the summer's work was the presentation of seven oral and nine poster presentations at the Annual Medical Student Research Day. Student presentations and their faculty sponsors were as follows:

ORAL PRESENTATIONS

Jason Largen, sophomore medical student. Antisense oligonucleotides of SER/THR protein phosphatases 5 in HELA cells enhances Chk1 and p53 phosphorylation after UV light induced genomic damage. Sponsored by Honkanen, Richard, Ph.D., Department of Biochemistry and Molecular Biology.

Stephen Cheek, freshman medical student. Response of children with autism spectrum disorders and neurotypical children to an educational robot. Sponsored by Swingle, Hanes, M.D., M.Ph., Department of Pediatrics, and Zlomke, Kim, Ph.D., Department of Psychology.

Amber Bartlett, sophomore medical student. Autoreactive T follicular helper cells and the development of murine lupus. Sponsored by Barrington, Robert, Ph.D., Department of Microbiology and Immunology.

Stephanie Stopka, sophomore medical student. Regulation of metalloproteinase expression by mitochondrial oxidative stress in osteoarthritic human chondrocytes. Sponsored by Grishko, Valentina, Ph.D., and, Pearsall, Albert, M.D., Departments of Cell Biology and Neuroscience, and Orthopaedic Surgery.

Austin Reece, freshman medical student. The role of $\alpha 5\beta 1$ integrin in vasoconstriction of pulmonary arteries in an animal model of severe pulmonary arterial hypertension. Sponsored by Fagan, Karen, M.D., Departments of Internal Medicine, Pharmacology, and Center for Lung Biology.

R. Evan Levy, sophomore medical student. Role of MMP-2/MMP-9 expression in neointimal formation following carotid injury. Sponsored by Rocic, Petra, Ph.D., Department of Biochemistry and Molecular Biology, and Weber, David, Ph.D., Department of Physiology.

Cara Stalzer, sophomore medical student. NCK-Interacting Kinases (NIK) regulates invadopodia formation through phosphorylation of cofilin. Sponsored by LeClaire, Lawrence, M.D., Department of Biochemistry and Molecular Biology.

POSTER PRESENTATIONS

Benton Carson, sophomore medical student. Occurrence of influenza in a vaccinated population and its effects on compliance. Sponsored by Howell, Druhan, M.D., Departments of Pediatrics and Internal Medicine.

L. Tiara Murphy, sophomore medical student. Dynamic changes in plasma HSP27 levels & phosphorylation in patients with cardiovascular disease. Sponsored by Gerthoffer, William, Ph.D., Department of Biochemistry and Molecular Biology, and Massey, Clara, M.D., Department of Internal Medicine.

Sara Embree, sophomore medical student. Reactive oxygen species potentiate SOC entry in pulmonary artery endothelial cells. Sponsored by Cioffi, Donna, Ph.D., Department of Biochemistry and Molecular Biology.

Landon Brown, sophomore medical student. Hypoxia-induced extrusion of cyclic AMP containing microparticles. Sponsored by Bauer, Natalie, Ph.D., Department of Pharmacology and Center for Lung Biology, and Sayner, Sarah, Ph.D., Department of Cell Biology and Neuroscience.

Zachary Simms, sophomore medical student. Glucose-6-phosphate-dehydrogenase contributes to phenotypic changes in hypoxic pulmonary artery smooth muscle cells. Sponsored by Gupte, Sachin, Ph.D., Department of Biochemistry and Molecular Biology.

Benjamin Sherman, freshman medical student. The role of the unfolded protein response in hyperoxia induced pre-term lung disease. Sponsored by Benjamin, John, M.D., M.Ph., and Brewer, Joseph, Ph.D., Department of Pediatrics, and Microbiology and Immunology.

Thomas Garth, Jr., sophomore medical student. Effect of donor oocytes obtained from infertile patients on donor and recipients' outcomes. Sponsored by Inge, George, M.D., and Koulianos, George, M.D., Department of Obstetrics and Gynecology, Degelos, Suzanne, Ph.D., The Center for Reproductive Medicine, Mobile Infirmiry Medical Center.

Cameron Corte, sophomore medical student. Comparison of alveolar macrophage function in wild-type and TRPV4 knock-out mice. Sponsored by Parker, James, Ph.D., Department of Physiology.

James Myer, sophomore medical student. Spatial proximity of basal Ca^{2+} events and eNOS in swine coronary artery endothelium. Sponsored by Taylor, Mark, Ph.D., Department of Physiology.

The Clyde G. "Sid" Huggins Medical Student Research Awards were presented to Mr. Jason Largen, sophomore medical student for best oral presentation entitled, "*Antisense oligonucleotides of SER/THR protein phosphatases 5 in HELA cells enhances Chk1 and p53 phosphorylation after UV light induced genomic damage.*" He was sponsored by Richard Honkanen, Ph.D., Department of Biochemistry and Molecular Biology, and Mr. Zachary Simms, sophomore medical student for best poster presentation entitled, "*Glucose-6-phosphate-dehydrogenase contributes to phenotypic changes in hypoxic pulmonary artery smooth muscle cells.*" He was sponsored by Sachin Gupte, Ph.D., Department of Biochemistry and Molecular Biology. Each winner was presented with a plaque of recognition and cash award. Both recipients are eligible to make their presentations at the Annual National Research Forum in Galveston, Texas.