

2009

MIR

RESEARCH POSTER SESSION

The second annual poster exhibit was held on September 10 in the atrium of the Farrell Learning and Teaching Center. The event, sponsored by the Division of Radiological Sciences, featured scientific posters from all divisions of Mallinckrodt Institute.

Photographs by MIR Photography Lab

POSTER AUTHORS AND TITLES

Eric Hatfield; Agus Priatna; John Kotyk, PhD; Benjamin Tan; Vamsi Narra, MD, "Whole-body oncologic imaging with TimCT."

Parinaz Massoumzadeh, PhD; Xiang He; Keith Rich, MD; Joel Garbow, PhD; Dmitriy Yablonskiy, PhD; Tammie Benzinger, MD, PhD, "Quantitative measurement of hypoxia in human brain tumors using QBOLD MRI."

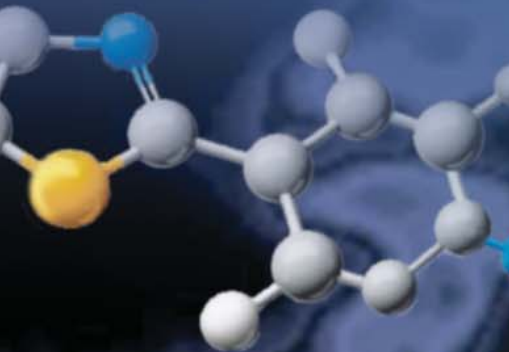
Wincha Chong, MD; Christine Menias, MD; Vamsi Narra, MD, "MRI of acute abdomen."

Stephen Currie; Elio Beta; Mandie Street, RT(R)(MR); Henry Dalsania, MD; James Duncan, MD, PhD, "Optimizing fluoroscopy use during image-guided procedures."

Pamela Woodard, MD; Michael Gitter, MD; Arthur Martin, MD; Paul Singh, MD; Raye Bellinger, MD; Ronald Mikolich, MD; Rubin Sheng, MD, "Iso-osmolar contrast agent influence on heart rate during coronary computed tomography angiography."

M. Lyons; Janet McGill, MD; Pilar Herrero, MS; Ibrahim Saeed, MD; Carol Recklein; Kenneth Schechtman, PhD; Robert Gropler, MD, "Impact of gender on the myocardial metabolic response to diabetic therapy."

Huie Lin, MD; Pilar Herrero, MS; Suraj Kurup, MD; Jasdeep Sidhu; Richard Stein; Robert Gropler, MD; Samuel Klein, MD; Deborah Delano, RN; Linda Peterson, MD, "Diet-induced weight loss improves myocardial glycolysis and glucose oxidation rates in obese humans."



Pablo Soto, MD; Pilar Herrero, MS; Robert Schuh; Kenneth Schechtman, PhD; Jeffrey Baumstark, MS; Faye Rao, MD; Robert Gropler, MD, "The PPAR- α activator fenofibrate fails to alter myocardial metabolism in healthy individuals despite marked peripheral effects."

Jonathan McConathy, MD, PhD; Dong Zhou, PhD; Stephany Shockley; Lynne Jones; Elizabeth Griffin; Hsiaoju Lee; Susan Adams; Robert Mach, PhD, "Click synthesis and biological evaluation of novel fluorine-18 labeled 1H-[1,2,3]triazole substituted amino acids for brain tumor imaging."

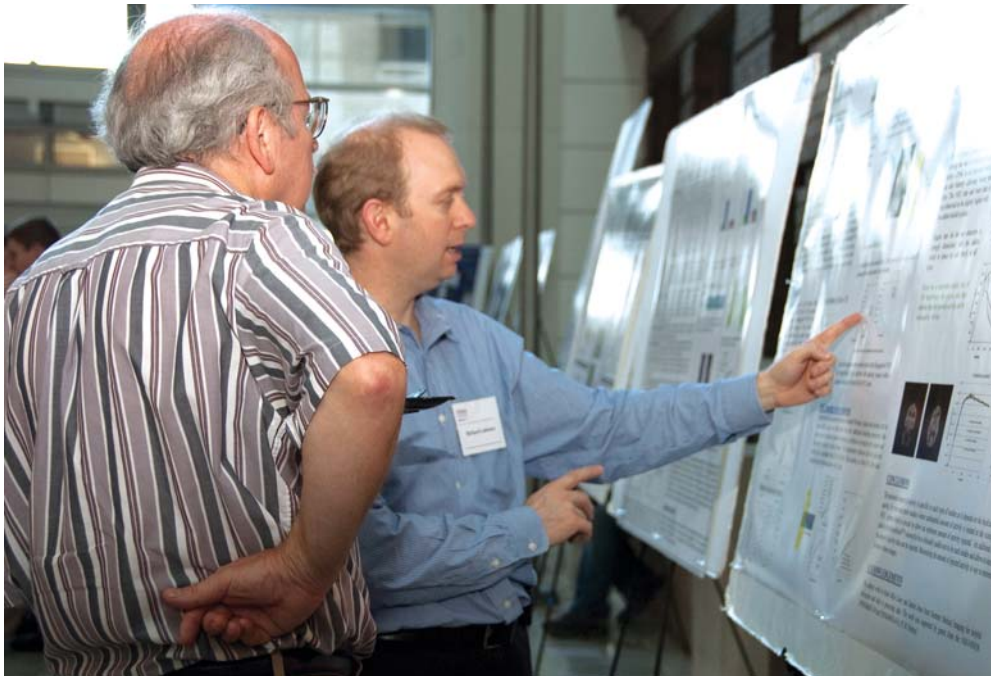
James Johnson; Brandon Kocher; Dustin Maxwell; Qing Chang; Edward Barnett; David Piwnica-Worms, MD, PhD, "Caspase-activated cell-penetrating probes for in vivo optical imaging of retinal neurodegeneration."

Claire Cobley; Leslie Au; Yiyun Cheng; Mustafa Yavuz; Kwang Hyun Song; Sara Skrabalak; Jingyi Chen; Lihong Wang, PhD; Younan Xia, "Gold nanocages for biomedical applications."

Delphine Chen, MD; Dong Zhou, PhD; Wenhua Chu, PhD; Phillip Herrbrich; Jacquelyn Engle; Lynne Jones; Justin Rothfuss; Elizabeth Griffin; Marco Geraci; Dana Fuchs; Michael Welch, PhD; Robert Mach, PhD, "Comparison of radiolabeled isatin analogs for imaging caspase-3 activation with positron emission tomography."

Mai Xu, PhD; Dengfeng Cao, MD, PhD; Michael Rettig, PhD; Walter Akers, PhD; Gail Sudlow; Samuel Achilefu, PhD, "Novel antibody to carbohydrate antigen for tumor targeted imaging."

Mikhail Berezin, PhD; Adah Almutairi, PhD; Guorong Sun, PhD; Walter Akers, PhD; Jinda Fan, PhD; Steven Guillaudeu, PhD; Karen Wooley, PhD; M. J. Frechet, PhD; Samuel Achilefu, PhD, "In vitro optical characterization of fluorescent nanoparticles."



Zongren Zhang, PhD; Duanwen Shen, PhD; Samuel Achilefu, PhD, "Free and nanoparticle-arrested optical imaging agents and their interaction with cells."

Robert Mach, PhD; Zhude Tu, PhD; Jinbin Xu; Suwanna Vangveravong, PhD; Shihong Li, PhD; Lynne Jones; Ryuji Higashikubo, PhD; Delphine Chen, MD, "[F18]SO-1: a novel radiotracer for imaging cell proliferation in tumors."

Zhude Tu, PhD; J. Xu; Shihong Li, PhD; Lynne Jones; Robert Mach, PhD, "Development of PET tracer for imaging phosphodiesterase 10A (PDE 10A)."

Richard Laforest, PhD; Michael Harrod, RT(R); Mark Mintun, MD, "Optimization of 15-O-water activation studies in PET/CT."

Albert Chang, MD; Kim Nguyen; Yunjun Guo; Alexander Zheleznyak; Carolyn Anderson, PhD, "Receptor-targeted copper-64 labeled radiopharmaceuticals for cancer imaging and therapy."

Monica Shokeen, PhD; Julie Schwarz, MD; Alexander Zheleznyak; Jessica Wilson; Ruiwu Liu, PhD; Kim Nguyen; Riccardo Ferdani, PhD; Kit Lam, MD, PhD; Carolyn Anderson, PhD, "{Positron emission tomography (PET) imaging of the pre-metastatic niche with ^{64}Cu -CB-TE2A-LLP2A, a high affinity ligand for integrin $\alpha 4\beta 1$."

Riccardo Ferdani, PhD; Thaddeus Wadas, PhD; Ashley Fiamengo; Christopher Sherman, MS; D. J. Stigers; Lei Wei, MD, PhD; E. H. Wong; Gary Weisman, PhD; Carolyn Anderson, PhD, "In vivo evaluation of new copper-64-labeled cross-bridged tetraazamacrocyclic complexes."

Carl Jenks, PhD; Ephraim Parent, PhD; Dong Zhou, PhD; Maiko Kume; Michael Welch, PhD; John Katzenellenbogen, PhD, "Radiotherapy evaluation and imaging of bromine-76 and bromine-77 labeled 16 α -[$^{76,77}\text{Br}$]-bromo-11 β -methoxyestradiol-17 β ."

Scott Harpstrite, MS; Jothilingam Sivapackiam, PhD; Julie Prior; David Piwnica-Worms, MD, PhD; Vijay Sharma, PhD, "Validation of a 67/68Ga-radiopharmaceutical for probing MDRP1 P-glycoprotein-mediated functional transport activity."

Scott Harpstrite, MS; Julie Prior; Nigel Cairns; David Piwnica-Worms, MD, PhD; Vijay Sharma, PhD, "Evaluation of a novel SPECT agent for imaging β -amyloid in the brain."

Jennifer Griffith; Terrie Inder, MD; Carl White; Sandra Juul, MD, PhD; Donald McCurnin, MD; Jeffrey Neil, MD, PhD, "High-dose erythropoietin reduces cerebral injury in preterm baboons."

Jennifer Griffith; Jason Hill; Donna Dierker; Terrie Inder, MD; Jeffrey Neil, MD, PhD; David Van Essen, PhD, "The term brain: a surface based approach to studying asymmetries of shape and cortical development in the newborn."

Pascal Sati, PhD; Anne Cross, MD; Robert Schmidt, MD, PhD; Dmitriy Yablonskiy, PhD, "In-vivo and ex-vivo evaluation of multiple sclerosis lesions using gradient echo plural contrast imaging."

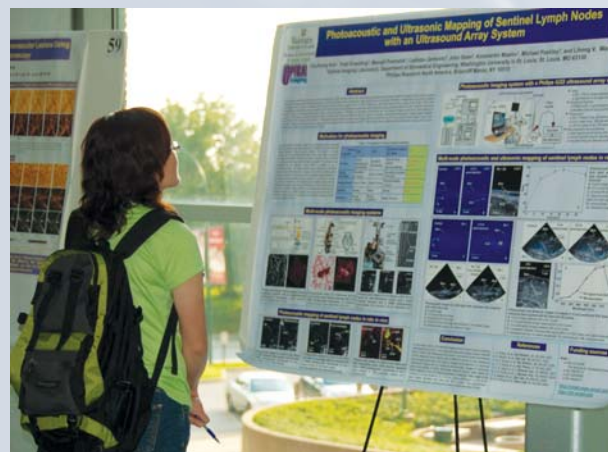
Joong Kim, PhD; David Loy, MD, PhD; Sheng-Kwei Song, PhD, "Hyper-acute evaluation of spared white matter in mouse model of contusion SCI using /in vivo/ DTI."

Junqian Xu, PhD; Eric Klawiter, MD; Tammie Benzinger, MD, PhD; Robert Naismith, MD; Anne Cross, MD; Sheng-Kwei Song, PhD, "Directional diffusivities in human spinal cord correlate with functional outcome."

Brian White, MA; Joseph Culver, PhD, "Mapping the visual cortex with diffuse optical tomography."

Robert Mach, PhD; Zhude Tu, PhD; Suwanna Vangveravong, PhD; Jinbin Xu; Shihong Li, PhD; Lynne Jones; Elizabeth Griffin; Joel Perlmutter, MD; Mark Mintun, MD, "Radiotracers for imaging dopamine D3 and D2 receptors."

Beau Ances, MD, PhD; Florin Valda, PhD; Melinda Yeh; Christine Liang; Richard Buxton, PhD; Scott Letendre, MD; Allen McCutchan, MD; Ronald Ellis, MD, PhD, "HIV and aging independently affect brain function."



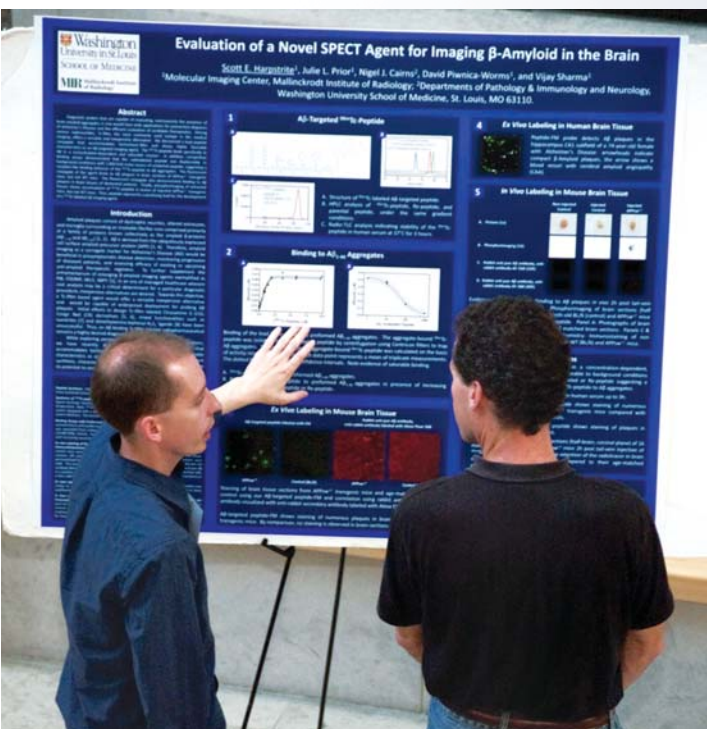
Alexandre Carter, MD; Serguei Astafiev, PhD; Catherine Lang, PT, PhD; Lisa Connor, PhD; Jennifer Rengachary, MSOT; Michael Strube, PhD; Daniel Pope, PhD; Gordon Shulman, PhD; Maurizio Corbetta, MD, "Resting state inter-hemispheric fMRI connectivity predicts performance after stroke."

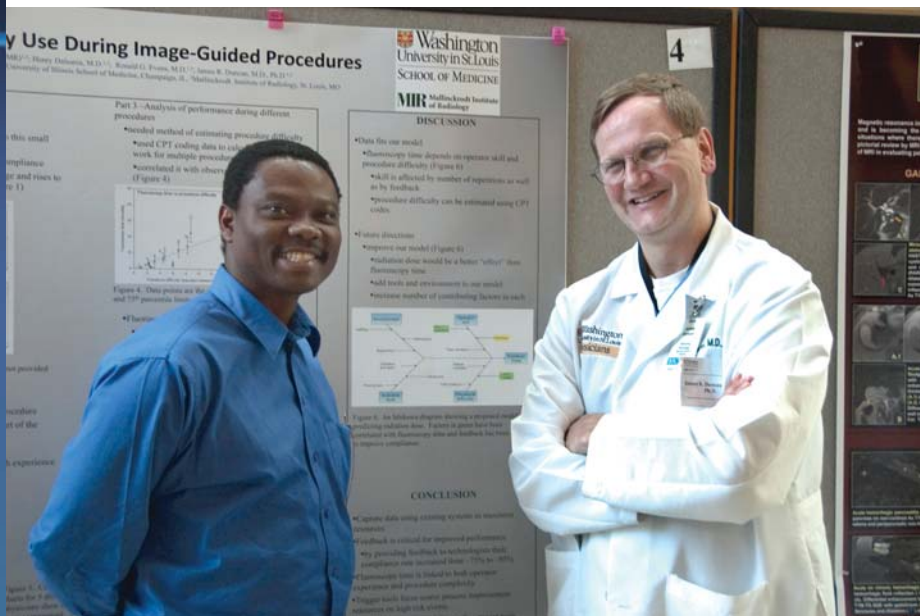
Colin Derdeyn, MD; P. H. Davis; S. Prabhakaran, MD; C. S. Ivan; A. Bruno; Venkatesh Aiyagari, MBBS, DM; Allyson Zazulia, MD; Tom Videen, PhD; Nancy Hantler, CCRC; Amber Tyler, PhD; J. J. Lee; Robert Grubb, MD; Gregory Zipfel, MD; Phillip Miller, "The role of cerebral hemodynamics in Moyamoya disease."

William Powers, MD; William Clarke, PhD; Robert Grubb, MD; Harold Adams, MD; Tom Videen, PhD; Nancy Hantler, CCRC; Amber Tyler, PhD; Colin Derdeyn, MD, "Carotid occlusion surgery study (COSS)."

Linda Larson-Prior, PhD; Elaine Tamez; Tracy Nolan; Sandra Hale, PhD; Joel Myerson, PhD; Jeffrey Zacks, PhD, "Imaging motor learning before and after sleep."

Carlo Sestieri, PhD; Gordon Shulman, PhD; Maurizio Corbetta, MD, "Top-down attention for memory and perception: segregated networks in the parietal lobe."





Colin Derdeyn, MD; Marc Chimowitz, MBChB; David Fiorella, MD, PhD; Tanya Turan, MC; Michael Lynn, PhD; Bethany Lane, RN; Scott Janis, PhD, "Stenting and aggressive medical management for preventing recurrent stroke in intracranial stenosis (SAMMPRIS)."

Rajat Dhar, MD; Allyson Zazulia, MD; Tom Videen, PhD; Gregory Zipfel, MD; Colin Derdeyn, MD; Michael Diringer, MD, "Red blood cell transfusion increases cerebral oxygen delivery in patients with subarachnoid hemorrhage."

Andria Ford, MD; Hongyu An, DSc; Rosana Ponisio, MD; Katie Vo, MD; Abdullah Nassief, MD; Colin Derdeyn, MD; William Powers, MD; Weili Lin, PhD; Jin-Moo Lee, MD, PhD, "MR-derived oxygen metabolic index predicts infarction better than ADC during hyper-acute ischemic stroke."

Andria Ford, MD; Hongyu An, DSc; Katie Vo, MD; Abdullah Nassief, MD; Colin Derdeyn, MD; William Powers, MD; Weili Lin, PhD; Jin-Moo Lee, MD, PhD, "Perfusion instability in the penumbra influences infarct probability in acute ischemic stroke patients."

J. J. Lee; V. Parikh; Wanyong Shin, MS; Jessy Mouannes; Abraham Snyder, MD, PhD; Timothy Carroll, PhD; Colin Derdeyn, MD, "Validation of quantitative cerebral blood flow measurements by MR imaging and the bookend technique using positron emission tomography."

Mark McAvoy, PhD; Linda Larson-Prior, PhD; Abraham Snyder, MD, PhD; Debra Gusnard, MD; Marcus Raichle, MD; Giovanni d'Avossa, MD, "Baseline and oscillatory BOLD signals are modulated independently by resting state."

Chenbo Zeng, PhD; Fenghui Pan; Lynne Jones; Elizabeth Griffin; Yvette Sheline, MD; Mark Mintun, MD; Robert Mach, PhD, "Evaluation of 5-ethynyl-2'-deoxyuridine staining as a fast and sensitive method for studying neurogenesis in voluntary exercise mice."

Walter Akers, DVM, PhD; Mikhail Berezin, PhD; Hyeran Lee; Reece Goiffon; Samuel Achilefu, PhD, "Fluorescence lifetime: the tau of in vivo optical imaging."

Barry Edwards, PhD; Walter Akers, DVM, PhD; Philip Cheney; Yunpeng Ye, PhD; Richard Laforest, PhD; Samuel Achilefu, PhD, "Monitoring receptor targeted tumor therapy with a multimodal imaging agent."

Ralph Nothdurft, MS; Walter Akers, DVM, PhD; Samuel Achilefu, PhD; Joseph Culver, PhD, "High precision fluorescence lifetime tomography of a targeted optical probe in a living mouse."

Britney Moss; Shimon Gross, PhD; Anant Vinjamoori, MD; Christopher Contag, MD; David Piwnica-Worms, MD, PhD, "Real-time bioluminescence imaging of ligand-induced $1\text{k}\beta\alpha$ signal transduction in live cells."

Kelly Flentje; David Piwnica-Worms, MD, PhD, "Non-destructive, bioluminescence monitoring of salmonella invasion of eucaryotic cells."

Koresh Shoghi, PhD; Brian Finck, PhD; Kenneth Schechtman, PhD; Terry Sharp; Robert Gropler, MD; Michael Welch, PhD, "In vivo metabolic phenotyping of myocardial substrate metabolism in rodents: differential efficacy of metformin and rosiglitazone monotherapy."

Adil Bashir, PhD; Robert O'Connor, PhD; Robert Gropler, MD, "In vivo evaluation of high energy phosphate metabolism in myocardium."

Robert O'Connor, PhD; Gary Skolnick; Nicole Nejedly; Robert Gropler, MD; Samuel Klein, MD; Adil Bashir, PhD, " ^1H -MRS protocol optimization for hepatic lipid quantification."

Robert O'Connor, PhD; Jian Xu, PhD; Robert Gropler, MD; Adil Bashir, PhD, "Cross-validation of 1H-MRS quantification of myocardial lipid."

William Spees, PhD; Tsang-Wei Tu; Sheng Kwei Song, PhD; Joel Garbow, PhD, "Separating lipid and water in high-field MR imaging using side-lobe spatial-spectral RF pulses."

Ibrahim Ozcan, DSc, "Characterization and minimization of imaging gradients in diffusion tensor imaging."

Adam Hajari; Dmitriy Yablonskiy, PhD; James Quirk, PhD; Alex Sukstanskii, PhD; Mark Conradi, PhD; Richard Pierce, PhD; Gaetan Deslee; Jason Woods, PhD, "Alveolar-duct geometry during expiration via 3He diffusion MRI."

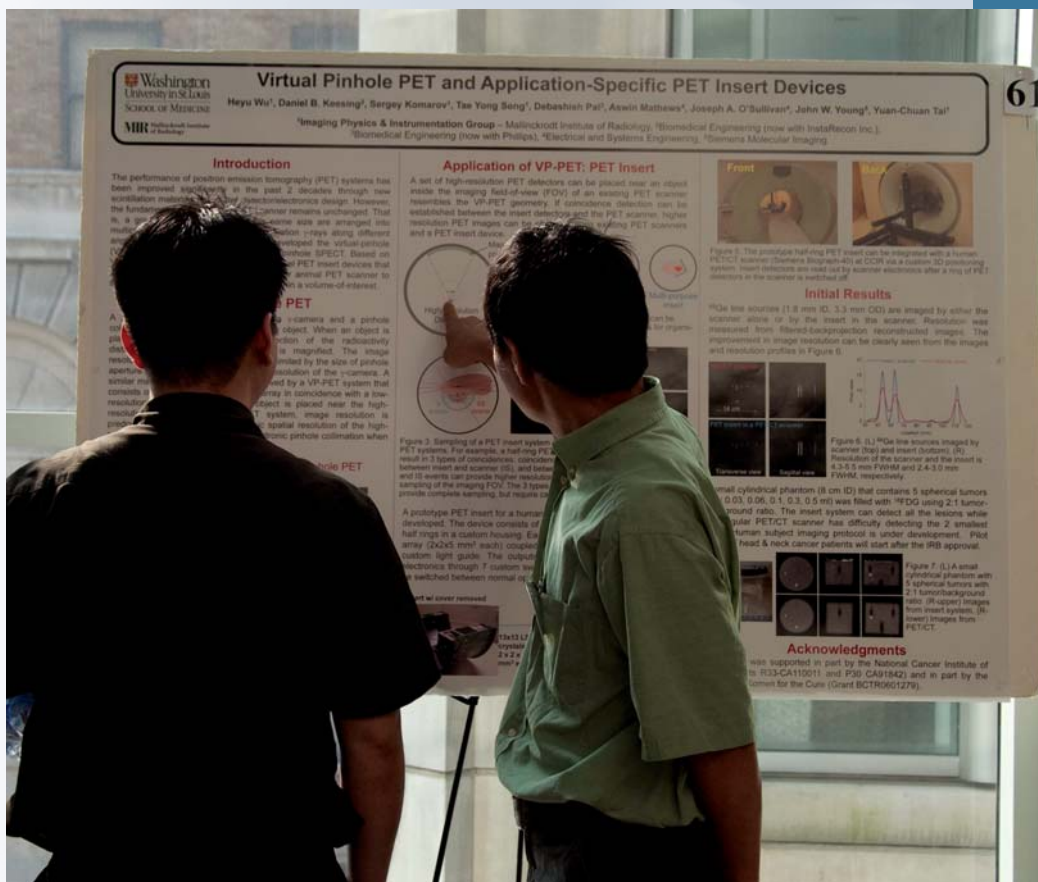
Andrea Pichler, PhD; Jayne Marasa; David Piwnica-Worms, MD, PhD, "Small molecule inhibition of mutant p53 transactivation of MDR1."

Song Hu; Konstantin Maslov, PhD; Lihong Wang, PhD, "Monitoring the healing process of laser-induced microvascular lesions using optical-resolution photoacoustic microscopy."

Chulhong Kim, PhD; Lihong Wang, PhD, "Photoacoustic and ultrasonic mapping of sentinel lymph nodes with an ultrasound array system."

Heyu Wu, PhD; Daniel Keesing, PhD; Sergey Komarov, PhD; Tae Yong Song; Debashish Pal, PhD; Aswin Mathews, PhD; Joseph O'Sullivan, PhD; John Young, PhD; Yuan-Chuan Tai, PhD, "Virtual pinhole PET and application-specific PET insert devices."

Tae Yong Song; Heyu Wu, PhD; Debashish Pal, PhD; Sergey Komarov, PhD; Joseph O'Sullivan, PhD; Stefan Siegel; Yuan-Chuan Tai, PhD, "Micro insert: extending the limit of animal PET image resolution."



Dexing Zeng, PhD; David Reichert, PhD; Amit Desai, PhD; Tobias Wheeler, PhD; Paul Kenis, PhD, "Microfluidic radiometal labeling reactors."

Daniel Marcus, PhD; Timothy Olsen, MS; Kevin Archie, PhD; Mohana Ramaratnam, MS; Sachin Dixit; Angela Jones, "The central imaging archive."

Mikhail Milchenko; Daniel Marcus, PhD, "Ensuring research subject privacy in distribution of imaging data: anatomical surface obscuring approach."

Kevin Cheng; Richard Laforest, PhD, "Iterative image reconstruction performance in microPET."

Maiko Kume; Curtis Carey; Tom Voller; Carl Jenks, PhD; Suzanne Lapi, PhD; Michael Welch, PhD, "Advancements in non-standard radionuclide production and automations."

Thaddeus Waddas, PhD; Christopher Sherman, MS; Jeffrey Miner, PhD; James Duncan, MD, PhD; Carolyn Anderson, PhD, "Using ¹⁵³Gd to help determine how gadolinium chelates and renal insufficiency lead to nephrogenic systemic fibrosis (NSF)."

Andrei Vlassenko, MD, PhD; Denise Head, PhD; Yvette Sheline, MD; John Morris, MD; Mark Mintun, MD, "Preliminary data on the time course of beta-amyloid deposition." **MIR**