

# PET-RTRC

*The latest news from the PET Radiotracer  
Translation and Resource Center*

 Washington  
University in St. Louis  
SCHOOL OF MEDICINE

## Letter from the Program Director



Dear Colleagues,

Welcome to the Spring 2023 edition of the PET-RTRC newsletter. We have had an active winter since our last newsletter. I presented an overview of the Center at the NIBIB National Technology Center Webinar Series on December 12, 2022 that highlighted molecular imaging centers including Drs. El Fakhri (MGH) and Pomper (Johns Hopkins). The PET-RTRC Workshops and Scientific Sessions were conducted in hybrid format in February with more than 280 registered attendees. It was great to see so

many in person again for these sessions. The Workshops focused on Regulatory Topics and Theranostics with a variety of didactic lectures in these areas. The Scientific Session focused on Imaging of Oxidative Stress and Neuroinflammation with outstanding lectures from Drs. Andrew Gelman, Erik Musiek, Joel Perlmutter, and Caroline Guglielmetti. In person attendees were able to take tours of the facilities and participate in the poster session. Dr. Al Sinusas from Yale University gave an outstanding seminar entitled “Multi-Modality and Molecular Imaging of Cardiac Injury and Remodeling: Emerging Role of Theranostics” on February 22. Finally, the Site Visit for our P41 renewal application was conducted in April. Great effort was put into the preparation for this Site Visit by the entire Center. We will be following up with the NIBIB program office over the next few months to determine the status of our renewal application.

In this issue, the Spotlight section focuses on Drs. Michael Nickels and Buck Rogers, leaders of the Technology Training & Dissemination Core.

We will be hosting booth #3049 at SNMMI in Chicago in June. It would be great to see you, so please stop by and say hello. In addition, we had a banner at [iSRS](#) in Hawaii in May and will have a booth at WMIC in Prague in September. Similar to the NIBIB Webinar held last December, a Session will be held on September 9 from 7:30-9:00 am at WMIC in Prague to highlight our PET-RTRC along with other molecular imaging P41's.

Please visit our website to learn more about the [PET-RTRC](#) and our upcoming activities. To stay up to date with our most recent developments or to be added to our mailing list, please contact Michelle Hoelscher at [michellehoelscher@wustl.edu](mailto:michellehoelscher@wustl.edu)

Best Regards,

Robert J Gropler, MD  
PET-RTRC Program Director

Spring 2023

## A Look Inside

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The PET-RTRC is the U.S. innovation hub for the development of novel PET radiotracers. Leading the way for a nationwide network of collaborators, the center seeks to expand the understanding of diseases and advance the mission of precision imaging.

*The PET-RTRC is supported by the NIH NIBIB Grant # P41 EB025815*

 Mallinckrodt Institute  
of Radiology

 National Institute of  
Biomedical Imaging  
and Bioengineering

## Spotlight

The NIBIB funded P41 PET-RTRC program at WashU and MIR has a multifaceted research program, which includes three distinct Translational Research and Development (TR&D) projects all focusing on developing new PET radiotracers that will image biologic targets modulating the ubiquitous disease processes of inflammation and oxidative stress. While these projects have been highly productive and been the subject of previous spotlight articles, one of the additional major goals of the PET-RTRC program has always been the training of outside personnel in need and the dissemination of the technology developed through the hard work of the PET-RTRC. To this end, the Technology Training and Dissemination Core (TTD), co-led by Drs. Buck Rogers (left) and Michael Nickels (right), has been highly active over the lifetime of the grant. The main objectives of the TTD are to offer a robust training program to improve the general understanding on the use of radiotracers developed by the TR&D projects, as well as those already available at WashU and MIR, and create a cadre of biomedical researchers trained in this area. Another set of objectives is to inform the greater scientific community about the capabilities and accomplishments of the PET-RTRC and to promote and enable broader use of Center products. This can be achieved in a variety of different fashions, which we learned during the COVID-19 Pandemic do not all have to be in person activities.



Over the last few years the traditional means of broadly disseminating information and training outside personnel dramatically changed to a new model of distance learning. This presented a unique challenge to the TTD core, which we feel as though we did an exceptional job of navigating. Starting in June of 2020, we successfully held our first virtual seminar given by Jason Lewis PhD (MSKCC) and immediately followed this with a virtual webinar (Tammie Benzinger MD PhD, WashU) hosted jointly between the PET-RTRC and the World Molecular Imaging Society (WMIS). This model continued with great success, averaging over 100 attendees per virtual event from a wide array of different institutions and countries around the world. While organizing a virtual seminar or webinar was new challenge, taking on a 2.5 day virtual workshop/scientific day presented a new level of complexity for the TTD team. The first of these workshops was hosted in February of 2021 and was a smash hit with 422 attendees registered from all over the world. During the next calendar year, the success of these virtual meetings was continued with one additional purely virtual workshop/scientific day and 6 virtual seminars and webinars presented. We then moved into virtual training videos, the first of which was on the [preparation of C-11 PIB](#).

The model that was forced upon us by the pandemic did prove to be highly beneficial for us to be able to access audiences we would never be able to access through traditional means (i.e. Asia, Africa, Middle East and Australia). With this in mind, we have now returned to in person events including attending SNMMI, WMIC and iSRS, but have vowed to continue a hybrid model for lectures and workshops. We are strong proponents of the power of this approach and look forward to increasing our attendee numbers throughout the lifetime of this program.



**Left, Dr. Nickels leads a tour of the Cyclotron during the 2023 Workshops and Scientific Session. Right, participants engage in discussion with Regulatory Topics speakers Reiko Oyama, Sally Schwarz, and Deborah Koudelis.**

**Collaborative Projects**

**IOWA**

**The University of Iowa**  
Cystic Fibrosis

**MASSACHUSETTS**

**Massachusetts General Hospital**  
Liver Fibrosis

**MISSOURI**

**Washington University School of Medicine**  
Abdominal Aortic Aneurysm  
Heart Failure  
Neuroinflammation  
Pulmonary Fibrosis  
Short Gut Syndrome

**NEW YORK**

**Memorial Sloan Kettering Cancer Center**  
Non-Small Cell Lung Cancer

**OREGON**

**Oregon Health & Science University**  
Atherosclerosis

**GERMANY**

**Hannover Medical School**  
Left Ventricular Hypertrophy

**Service Projects**

**CALIFORNIA**

**University of Southern California**  
Non-Small Cell Lung Cancer

**University of California San Francisco**  
Multiple Sclerosis

**CONNECTICUT**

**Yale University**  
Neuroinflammation

**MISSOURI**

**Washington University School of Medicine**  
CD36 Function in Immunity and Metabolism  
Lung Transplant  
Multiple Sclerosis  
Neuroinflammation

**NEW YORK**

**Icahn School of Medicine at Mount Sinai**  
Atherosclerosis

**NORTH CAROLINA**

**University of North Carolina**  
Infectious Disease

**PENNSYLVANIA**

**University of Pennsylvania**  
Neuroinflammation

**TEXAS**

**The University of Texas Southwestern  
Medical Center**  
Liver Cancer

**NETHERLANDS**

**Eindhoven University**  
Atherosclerosis

**Interested in becoming a member of the Center?**

Please fill out the [Collaborative Project](#) or [Service Project](#) application and send to [michellehoelscher@wustl.edu](mailto:michellehoelscher@wustl.edu)





### PET-RTRC WORKSHOPS AND SCIENTIFIC SESSION



*February 21-23, 2023*



## Seminar Speaker Albert Sinusas, MD Yale University | February 22, 2023






**Multi-Modality and Molecular Imaging of Cardiac Injury and Remodeling: Emerging Role of Theranostics**

Professor of Medicine (Cardiology)  
Professor of Radiology & Biomedical Imaging  
Professor of Biomedical Engineering  
Director of Yale Translational Research Imaging Center (Y-TRIC)

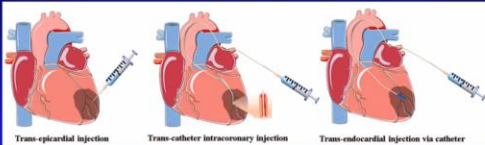
Al Sinusas, MD, FACC, FAHA  
Yale University School of Medicine

Hosted by PET-RTRC  
Wednesday, February 22, 2023 | 7:30AM

### Approaches for Delivery of Theranostics Hydrogels

Myocardial tissue engineering approaches for prevention of post-MI remodeling are advancing rapidly.  
Optimal methods for delivery under development.



Injectable hydrogels are soft gels that can be engineered to alter mechanics, change electrical conductivity, and locally deliver therapy over a variable time period

Zhuang et al., 2021 J Controlled Release 335:216-236

Dr. Albert Sinusas, from the Yale School of Medicine, traveled to campus for the PET-RTRC Workshops & Scientific Session. While he was here, he also gave a virtual presentation at the Nuclear Medicine morning conference on the “Multi-Modality and Molecular Imaging of Cardiac Injury and Remodeling: Emerging Role of Theranostics.”

## National Technology Centers Webinar Series

Robert Gropler, MD | Georges El Fakhri, PhD | Martin Pomper, MD, PhD



**NCBIB Webinar Series**  
**Molecular Imaging Technology Centers Webinar**  
**December 12, 2022**

**Behrouz N. Shabestari, Ph.D.**  
Director, NIBIB National Technology Centers  
Acting Director, Division of Health Informatics Technologies – NIBIB  
[behrouz.shabestari@nih.gov](mailto:behrouz.shabestari@nih.gov)

**Tatjana Atanasijevic, Ph.D.**  
Scientific Program Manager, Division of Applied Science & Technology - NIBIB (Bioimaging)  
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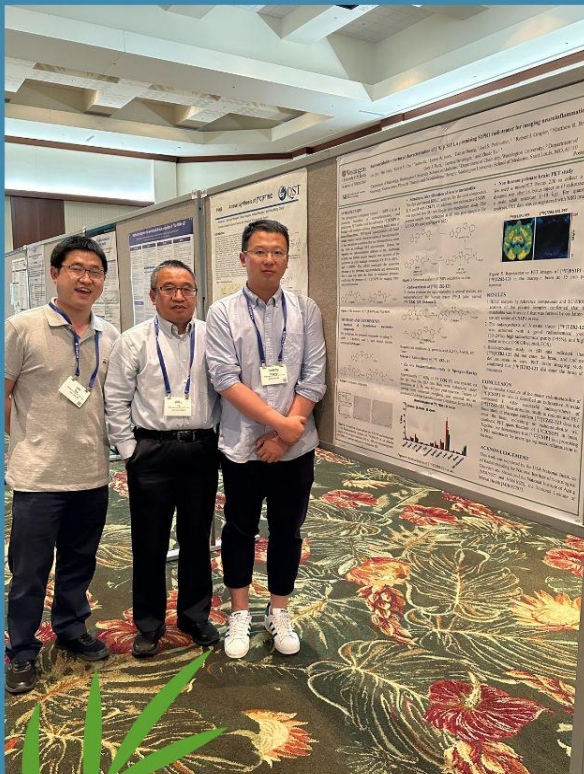


[www.nibib.nih.gov](http://www.nibib.nih.gov)



Asha Storm  
Tatjana Atanasijevic  
Martin Pomper  
Robert Gropler  
Behrouz Shabestari  
Georges El Fakhri

In December, The National Institute of Biomedical Engineering and Bioengineering (NIBIB) hosted a new Webinar Series, which kicked off with three NIBIB-funded P41 Molecular Imaging Technology Centers, led by Dr. Gropler (PET-RTRC), Dr. El Fakhri (Massachusetts General Hospital), and Dr. Pomper (Johns Hopkins).



## Publications

### TR&D 1:

Luo Z, Han J, Liu H, Rosenberg AJ, Chen DL, Gropler RJ, Perlmutter JS, Tu Z. *Syntheses and in vitro biological evaluation of S1PR1 ligands and PET studies of four F-18 labeled radiotracers in the brain of nonhuman primates*. Organic & biomolecular chemistry. 2018 December 5;16(47):9171-9184. [PubMed PMID: 30462126](#)

Luo Z, Liu H, Klein RS, Tu Z. *Design, synthesis, and in vitro bioactivity evaluation of fluorine-containing analogues for sphingosine-1-phosphate 2 receptor*. Bioorganic & medicinal chemistry. 2019 August 15;27(16):3619-3631. [PubMed PMID: 31279524](#)

Luo Z, Gu J, Dennett RC, Gaehle GG, Perlmutter JS, Chen DL, Benzinger TLS, Tu Z. *Automated production of a sphingosine-1 phosphate receptor 1 (S1P1) PET radiopharmaceutical <sup>11</sup>C S1P1 for human use*. Applied radiation and isotopes. 2019 October;152:30-36. [PubMed PMID: 31280104](#)

Liu H, Luo Z, Gu J, Jiang H, Joshi S, Shoghi KI, Zhou Y, Gropler RJ, Benzinger TLS, Tu Z. *In vivo Characterization of Four <sup>18</sup>F-Labeled S1PR1 Tracers for Neuroinflammation*. Mol Imaging Biol. 2020 Oct;22(5):1362-1369. doi: 10.1007/s11307-020-01514-8. [PubMed PMID: 32602083](#)

Liu H, Laforest R, Gu J, Luo Z, Jones LA, Gropler RJ, Benzinger TLS, Tu Z. *Acute Rodent Tolerability, Toxicity, and Radiation Dosimetry Estimates of the S1P1-Specific Radioligand <sup>11</sup>C S1P1*. Molecular imaging and biology. 2020 April;22(2):285-292. [PubMed PMID: 31165387](#)

Tangadanchu VKR, Jiang H, Yu Y, Graham TJA, Liu H, Rogers BE, Gropler R, Perlmutter J, Tu Z. *Structure-activity relationship studies and bioactivity evaluation of 1,2,3-triazole containing analogues as a selective sphingosine kinase-2 inhibitors*. Eur J Med Chem. 2020 Nov 15;206:112713. [PubMed PMID: 32919113](#)

Chen DL, Ballout S, Chen L, Cheriyan J, Choudhury G, Denis-Bacelar AM, Emond E, Erlandsson K, Fisk M, Fraioli F, et al. *Consensus recommendations on the use of <sup>18</sup>F-FDG PET/CT in lung disease*. J Nucl Med. 2020 Dec; 61(12):1701-1707. [PubMed PMID: 32948678](#)

Zhou Y, Flores S, Mansor S, Hornbeck RC, Tu Z, Perlmutter JS, Ances B, Morris JC, Gropler RJ, Benzinger TLS. *Spatially constrained kinetic modeling with dual reference tissues improves <sup>18</sup>F-flortaucipir PET in studies of Alzheimer disease*. Eur J Nucl Med Mol Imaging. 2021 Sep; 48(10):3172-3186. [PubMed PMID: 33599811](#)

Jiang H, Gu J, Zhao H, Joshi S, Perlmutter JS, Gropler RJ, Klein RS, Benzinger TLS, Tu Z. *PET study of sphingosine-1-phosphate receptor expression in response to S. aureus infection*. Mol Imaging. 2021 Oct 4;2021:9982020. [PubMed PMID: 34934406](#)

Jiang H, Joshi S, Liu H, Mansor S, Qiu L, Zhao H, Whitehead T, Gropler RJ, Wu GF, Cross AH, Benzinger TLS, Shoghi KI, Perlmutter JS, Tu Z. *In vitro and in vivo investigation of S1PR1 expression in the CNS using [<sup>3</sup>H]CS1P1 and [<sup>11</sup>C]CS1P1*. ACS Chem Neurosci. 2021 Oct 6; 12(19):3733-3744. [PubMed PMID: 34516079](#)

Luo Z, Liu H, Yu Y, Gropler RJ, Klein RS, Tu Z. *Synthesis and evaluation of highly selective quinazoline-2,4-dione ligands for sphingosine-1-phosphate receptor 2*. RSC Med Chem. 2022 Jan 3;13(2):202-207. [PubMed PMID: 35308025](#)

Qiu L, Jiang H, Yu Y, Gu J, Wang J, Zhao H, Huang T, Gropler RJ, Klein RS, Perlmutter JS, Tu Z. *Radiosynthesis and evaluation of a fluorine-18 radiotracer <sup>18</sup>F-FS1P1 for imaging sphingosine-1-phosphate receptor 1*. Org Biomol Chem. 2022 Feb; 20(5): 1041-1052. [PubMed PMID: 35029272](#)

Chand GB, Jiang H, Miller JP, Rhodes CH, Tu Z, Wong DF. *Differential sphingosine-1-phosphate receptor-1 protein expression in the dorsolateral prefrontal cortex between schizophrenia type 1 and type 2*. Front Psychiatry. 2022 Mar; 13:827981. [PubMed PMID: 35350429](#)

Brier MR, Hamdi M, Rajamanikam J, Haiyang Z, Mansor S, Jones LA, Rahmani F, Jindal S, Koudelis D, Perlmutter JS, Wong DF, Nickels M, Ippolito JE, Gropler RJ, Schindler TH, Laforest R, Tu Z, Benzinger TLS. *Phase 1 evaluation of <sup>11</sup>C-CS1P1 to assess safety and dosimetry in human participants*. J Nucl Med. 2022 Mar; jnumed.121.263189. [PubMed PMID: 35332093](#)

Qui L, Jiang H, Zhou C, Wang J, Yu Y, Zhao H, Huang T, Gropler RJ, Perlmutter JS, Benzinger TLS, Tu Z. *Discovery of a promising Fluorine-18 PET Radiotracer for Imaging Sphingosine-1-Phosphate Receptor 1 (S1PR1) in the Brain*. J Med Chem. 2023 Mar. doi:10.1021/acs.jmedchem.2c01752. [PubMed PMID: 36926861](#)

## TR&D 2:

Heo GS, Kopecky B, Sultan D, Ou M, Feng G, Bajpai G, Zhang X, Luehmann H, Detering L, Su Y, Leuschner F, Combadiere C, Kreisel D, Gropler RJ, Brody SL, Liu Y, Lavine KJ. *Molecular imaging visualizes recruitment of inflammatory monocytes and macrophages to the injured heart*. Circ Res. 2019 Mar; 124(6):881-890. [PubMed PMID: 30661445](#)

English SJ, Sastriques SE, Detering L, Sultan D, Luehmann H, Arif B, Heo GS, Zhang X, Laforest R, Zheng J, Lin CY, Gropler RJ, Liu Y. *CCR2 Positron Emission Tomography for the Assessment of Abdominal Aortic Aneurysm Inflammation and Rupture Prediction*. Circulation. Cardiovascular imaging. 2020 March;13(3):e009889. [PubMed PMID: 32164451](#)

Liu Y, Gropler RJ. *Delineating the Role of Macrophages in Cardiovascular Disease: How Specific Do We Need to Be?* Circ Cardiovasc Imaging. 2020 Oct;13(10). [PubMed PMID: 33076697](#)

Peterson LR and Gropler RJ. *Metabolic and molecular imaging of the diabetic cardiomyopathy*. Circ Res May 2020; 126:1628-1645. [PMID: 32437305](#)

Heo GS, Bajpai G, Li W, Luehmann HP, Sultan DH, Dun H, Leuschner F, Brody SL, Gropler RJ, Kreisel D, Lavine KJ, Liu Y.J. *Targeted PET Imaging of Chemokine Receptor 2-Positive Monocytes and Macrophages in the Injured Heart*. Nucl Med. 2021 Jan;62(1):111-114. [PubMed PMID: 3244372](#).

Brody S, Gunsten S, Luehmann H, Sultan D, Hoelscher M, Heo G, Pan J, Koenitzer J, Lee E, Huang T, Mpoy C, Guo S, Laforest R, Salter A, Russell T, Shifren A, Combadiere C, Lavine K, Kreisel D, Humphreys B, Rogers B, Gierada D, Byers D, Gropler R, Chen D, Atkinson J, Liu Y. *Chemokine Receptor 2-targeted molecular imaging in pulmonary fibrosis. A Clinical Trial*. Am J Respir Crit Care Med. 2021 Jan; 203(1):78-89. [PubMed PMID: 32673071](#)

Baba O, Huang LH, Elvington A, Szpakowska M, Sultan D, Heo GS, Zhang X, Luehmann H, Detering L, Chevigne A, Liu Y, Randolph GJ. *CXCR4-Binding Positron Emission Tomography Tracers Link Monocyte Recruitment and Endothelial Injury in Murine Atherosclerosis*. Arterioscler Thromb Vasc Biol. 2021 Feb;41(2):822-836. [PubMed PMID: 3327748](#)

Wong N, Mohan J, Kopecky B, Guo S, Du L, Leid J, Feng G, Lokshina I, Dmytrenko O, Luehmann H, Bajpai G, Ewald L, Bell L, Patel N, Bredemeyer A, Weinheimer C, Nigro J, Kovacs A, Morimoto S, Bayguinov P, Fisher M, Stump WT, Greenberg M, Fitzpatrick J, Epelman S, Kreisel D, Sah R, Liu Y, Hu H, Lavine KJ. *Resident cardiac macrophages mediate adaptive myocardial remodeling*. Immunity. 2021 Sep; 54(9):2072-2088.e7. [PubMed PMID: 34320366](#)

Liu Z, Liao F, Zhu J, Zhou D, Heo G, Luehmann H, Scozzi D, Parks A, Hachem R, Byers D, Tague L, Kulkarni H, Cano M, Wong B, Li W, Huang H, Krupnick A, Kreisel D, Liu Y, Gelman A. *Reprogramming alveolar macrophage responses to TGF- $\beta$  reveals CCR2+ monocyte activity that promotes bronchiolitis obliterans syndrome*. J Clin Invest. 2022 Oct; 132(19):e159229. [PubMed PMID: 36189800](#)

Lavine KJ, Liu Y. *The dynamic cardiac cellular landscape: visualization by molecular imaging*. Nat Rev Cardiol. 2022 Jun; 19(6):345-347. [PubMed PMID: 35440737](#)

Cifarelli V, Kuda O, Yang K, Liu X, Gross R, Pietka T, Heo G, Sultan D, Luehmann H, Lesser J, Ross M, Goldberg I, Gropler R, Liu Y, Abumrad N. *Cardiac immune cell infiltration associates with abnormal lipid metabolism*. Front Cardiovasc Med. 2022 Aug; 9:948332. [PubMed PMID: 36061565](#)

Heo GS, Diekmann J, Thackeray JT, Liu Y. *Nuclear Methods for Immune Cell Imaging: Bridging Molecular Imaging and Individualized Medicine*. Circ Cardiovasc Imaging. 2023 Jan;16(1):e014067. [PubMed PMID: 36649445](#)

Toczek J, Gona K, Liu Y, Ahmad A, Ghim M, Ojha D, Kukreja G, Salarian M, Luehmann H, Heo GS, Guzman RJ, Chaar CIO, Tellides G, Hassab AHM, Ye Y, Shoghi KI, Zayed MA, Gropler RJ, Sadeghi MM. *Positron Emission Tomography Imaging of Vessel Wall Matrix Metalloproteinase Activity in Abdominal Aortic Aneurysm*. Circ Cardiovasc Imaging. 2023 Jan;16(1):e014615. [PubMed PMID: 36649454](#)



Lavine K, Amrute J, Luo X, Penna V, Bredemeyer A, Yamawaki T, Yang S, Kadyrov F, Heo G, Shi S, Lee P, Koenig A, Kuppe C, Jones C, Kopecky B, Hayat S, Ma P, Terada Y, Fu A, Furtado M, Kreisel D, Stitzel N, Li CM, Kramann R, Liu Y, Ason B. *Targeting Immune-Fibroblast Crosstalk in Myocardial Infarction and Cardiac Fibrosis*. Res Sq. 2023 Jan 26;rs.3.rs-2402606. doi: 10.21203/rs.3.rs-2402606/v1. [PubMed PMID: 36747878](#)

Sastriques-Dunlop S, Elizondo-Benedetto S, Arif B, Meade R, Zaghoul MS, English SJ, Liu Y, Zayed MZ. *Ketosis Prevents Abdominal Aortic Aneurysm Rupture Through CCR2 Downregulation and Enhanced MMP Balance*. bioRxiv. 2023 Feb 22;2023.02.21.529460. doi: 10.1101/2023.02.21.529460. [PubMed PMID: 36865192](#)

Maier A, Toner YC, Munitz J, Sullivan NAT, Sakuri K, Meerwaldt AE, Brechbühl EES, Prévot G, van Elsas Y, Soultanidis G, Rasidian M, Pérez-Medina C, Heo GY, Gropler RJ, Liu Y, Reiner T, Nahrendorf M, Swirski FK, Strijkers GJ, Teunissen AJP, Calcagno C, Fayad ZA, Mulder WJM, Van Leent MMT. *Multiparametric immunoinaging maps inflammatory signatures in murine myocardial infarction models*. J Am Coll Cardiol Basic Trans Science. 2023. o (0).

### TR&D 3:

Sivapackiam J, Liao F, Zhou D, Shoghi KI, Gropler RJ, Gelman AE, Sharma V. *Galuminox: Preclinical validation of a novel PET tracer for noninvasive imaging of oxidative stress in vivo*. Redox Biology, 2020, 37: [PubMed PMID: 33039825](#)

Fox, GC, Su X, Davis JL, Xu Y, Kwakwa KA, Ross MH, Fontana F, Xiang J, Esser AK, Cordell E, Pagliai K, Dang HX, Sivapackiam J, Stewart SA, Maher CA, Bakewell SJ, Fitzpatrick JAJ, Sharma V, Achilefu S, Veis DJ, Lanza GM, Weillbaeher KN. *Targeted Therapy to  $\beta 3$  Integrin Reduces Chemoresistance in Breast Cancer Bone Metastases* Mol Cancer Ther June 1 2021 20 (6) 1183-1198; [PubMed PMID: 33785647](#)

Lynch CA, Guo Y, Mei Z, Kreisel D, Gelman AE, Jacobsen EA, Krupnick AS. *Solving the conundrum of eosinophils in alloimmunity*. Transplantation. 2022 Aug 1;106(8):1538-1547. [PubMed PMID: 34966103](#)

Park SJ, Kim Y, Li C, Suh J, Sivapackiam J, Goncalves TM, Jarad G, Zhao G, Urano F, Sharma V, Chen YM. *Blocking CHOP-dependent TXNIP shuttling to mitochondria attenuates albuminuria and mitigates kidney injury in nephrotic syndrome*. Proc Natl Acad Sci U S A. 2022 Aug 30;119(35):e2116505119. [PubMed PMID: 35994650](#)

### QI2R:

Zou W, Rohatgi N, Brestoff JR, Moley JR, Li Y, Williams JW, Alippe Y, Pan H, Pietka TA, Mbalaviele G, Newberry EP, Davidson NO, Dey A, Shoghi KI, Head RD, Wickline SA, Randolph GJ, Abumrad NA, Teitelbaum SL. *Myeloid-specific Asxl2 deletion limits diet-induced obesity by regulating energy expenditure*. J Clin Invest. 2020 May 1;130(5):2644-2656. [PubMed PMID: 32310225](#)

Savaikar MA, Whitehead T, Roy S, Strong L, Fettig N, Primeau T, Luo J, Li S, Wahl RL, Shoghi KI. *Preclinical PERCIST and 25% of SUV<sub>max</sub> threshold: Precision imaging of response to therapy in co-clinical <sup>18</sup>F-FDG PET imaging of TNBC patient derived xenografts*. J Nucl Med. 2020 Jun;61(6):842-849. [PubMed PMID: 31757841](#)

# Upcoming Events

World Molecular Imaging Congress | **September 5-9, 2023**



Similar to the NIBIB Webinar held last December, Dr. Gropler has been invited to present a P-41 [Session](#) on September 9 from 7:30-9:00 am at the WMIC in Prague to highlight our PET-RTRC along with other molecular imaging P41's from Johns Hopkins and Massachusetts General Hospital.

# Look for Us

PET-RTRC BOOTH 3049 @ **SNMMI June 24-27, 2023** | Chicago, Illinois, USA



## Leadership

### Executive Committee Members

Robert Gropler, MD | Chair, Program Director,  
TR&D 2 Co-Leader

Will Tu, PhD | TR&D 1 Leader, Training &  
Dissemination Co-Leader-Training

Yongjian Liu, PhD | TR&D 2 Leader

Vijay Sharma, PhD | TR&D 3 Leader

Koresh Shoghi, PhD | TR&D 3 Co-Leader, QI2R  
Co-Leader

Dan Marcus, PhD | QI2R Co-Leader

Sally Schwarz, RPh, MS, BCNP | Training &  
Dissemination Co-Investigator

Buck Rogers, PhD | Training & Dissemination  
Project Leader

Richard Laforest, PhD | QI2R Co-Investigator

Farrokh Dehdashti, MD | TR&D 2 Co-Investigator

Michael Nickels, PhD | Training & Dissemination  
Co-Leader-Dissemination

Michelle Hoelscher, CNMT | Program Manager

### How to find us...

[mir.wustl.edu/pet-rtrc](http://mir.wustl.edu/pet-rtrc)

[#PETRTRC](https://twitter.com/PETRTRC)

### External Advisory Board

Henry VanBrocklin PhD, University of California  
San Francisco (Chair)

Richard Carson PhD, Yale University

Christopher Kevil PhD, Louisiana State University  
Health Sciences Center Shreveport

Craig Malloy MD, University of Texas  
Southwestern

David Mankoff MD, PhD, University of  
Pennsylvania

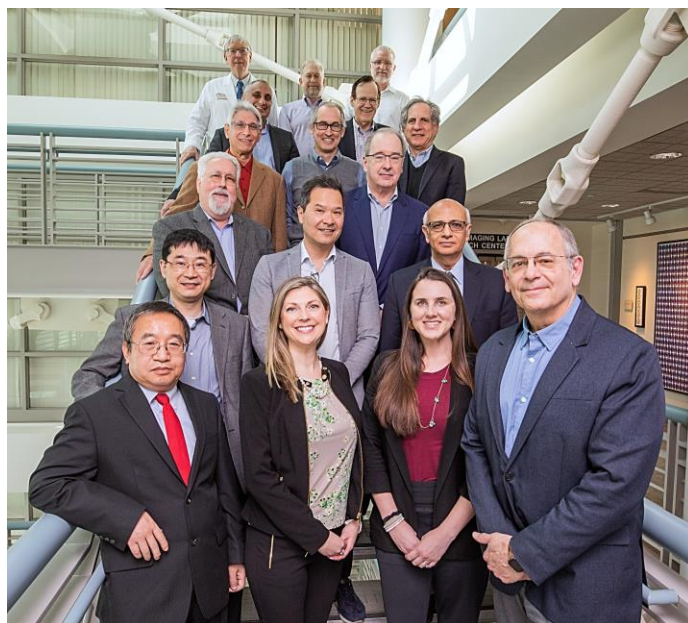
### Tracer Review Committee

Mark Goodman PhD, Emory University (Chair)

John Katzenellenbogen PhD University of Illinois  
at Urbana-Champaign

Buck Rogers PhD, Washington University

Richard L. Wahl MD, Washington University



For more information about the PET-RTRC contact:

Michelle Hoelscher, Project Administrator

[michellehoelscher@wustl.edu](mailto:michellehoelscher@wustl.edu)

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