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MCRI in the News

Matters of the Heart

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Upcoming MMS Talks Stearns Auditorium, Farnsworth 1 12:00 PM

May 1, 2018

Ronglih, Liao, PhD
Brigham and Women's Hospital

May 8, 2018

Rosanne Rouf, MD
Johns Hopkins University

May 15, 2018

Jeanne Nerbonne, PhD
Washington University, St. Louis

May 22, 2018

Masanori Aikawa, MD, PhD
Brigham and Women's Hospital

Employee Spotlight

MCRI Highlights

Honors and Recognition

- **Gordon Huggins, MD** was the Co-Chair of a session on Genetic Testing for Cardiomyopathies at the American College of Cardiology Meeting.
- **Iris Jaffe, MD, PhD** was elected into the Association of University Cardiologists.
- **Kevin Morine, MD** and **Shiva Annamalai, MD**, in Dr. Kapur's lab, were each selected as one of the top 40 science oral presenters for Cardiovascular Research Technologies (CRT) in Washington DC. **Kevin's** talk was entitled "Congestive Profiles Correlate with Clinical Outcomes Among Patients Requiring Acute Mechanical Circulatory Support for Cardiogenic Shock" and **Shiva's** talk was entitled "Uncoupling Cardio-renal Hemodynamics In Heart Failure: Effects Of An Intra-aortic Micro-axial Flow Pump In A Swine Model Of Ischemic Heart Failure."
- **Michele Esposito**, in Dr. Kapur's lab, was awarded **second place** in the Basic/Translational Science Young Investigator Award Competition at the ACC 2018 meeting.

Grants

- **Iris Jaffe** was awarded two new R01 subcontracts from the University of Missouri. She is a co-investigator on an R01 grant entitled "Mineralocorticoid receptor-dependent coronary vascular dysfunction in obesity" and co-Principal Investigator on an R01 grant entitled "Mechanisms for Sex Differences in CVD Pathology and Development of a Targeted Therapeutic."

Faculty Appointments

Mary Wallingford, PhD was jointly recruited by the Mother Infant Research Institute (MIRI), where she holds a primary appointment and the Molecular Cardiology Research Institute (MCRI), where she holds a secondary appointment. The research focus in the Wallingford Lab is vascular development and pathophysiology of the least





**Meet Lauren Biwer, PhD
Post-Doctoral Fellow in the
Jaffe Lab**

Hometown: Casa Grande, Arizona
(by way of Virginia, Texas and Iowa)

Favorite Boston

Neighborhood: I imagine this is like trying to choose your favorite child, but I really like the architecture of the South End.

Favorite Boston Restaurant:

Carmelina's in the North End. Amazing food and service!

What are you currently working on in the MCRI?

Broadly, I am interested in the mechanisms of female cardiovascular disease and how risk factors (for example, obesity, hypertension, or preeclampsia) affect microvascular function. I am using several approaches including isolating human coronary microvascular arteries to look at differences in vasodilation between men and women with various CVD risk factors. I am also using mouse models of preeclampsia and diet-induced obesity to understand how vasodilation is detrimentally affected and what role the endothelial mineralocorticoid receptor plays in this process.

What do you like to do when you are not in the lab? Cook, travel, watch college football and read non-fiction.

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understood human organ: the placenta. The placenta contains highly specialized vasculature that mediates interaction between maternal and fetal circulatory systems during pregnancy. Normal placental growth and function are essential for maternal and fetal health, both during pregnancy and delivery as well as later in life. Dr. Wallingford's overarching research goal is to advance biomedical knowledge of the placenta and assist in the development of early diagnostics and novel therapeutics for disorders of placental dysfunction. Specific areas of interest include placental phosphate transport mechanisms, morphogenetic analysis of placentation, and development of new approaches to assess vascular structure and function at the maternal-fetal interface.

Dr. Wallingford was trained in the field of mammalian embryonic development in the Mager Lab at the University of Massachusetts, Amherst. Her postdoctoral studies investigated the role of phosphate transporters in vascular development and disease in the Giachelli Lab at the University of Washington Seattle.

New Employees

Welcome to the following new staff members in the MCRI:

- **Lija Swain, PhD** recently joined the Kapur lab as a Post-Doctoral Research Fellow and is located on Tupper 13.
- **Rachel Kenney** recently joined the DuPont lab as a Research Assistant and is located on Tupper 12.

MCRI Announcements

Save the Date

- September 27th – September 28th: The 20th Annual MCRI Scientific Retreat in Woods Hole, MA

MCRI in the News

- Be sure to check out this article featuring Iris Jaffe, MD, PhD and Jennifer DuPont, PhD

Matters of the Heart: The Gender Difference



Have questions or updates for the next newsletter? Contact Chrissie Connors-
cconnors@tuftsmedicalcenter.org

- MCRI Members braved some terrible commutes during Boston's Blizzard Conditions. Jonas Galper's commute was chronicled in the Boston Herald.

[Read the article here.](#)



Website Updates

- You may have noticed our [website](#) is getting a facelift. If you have anything on your page you would like to add or update, please contact Chrissie Connors with the edit and the URL of the page at cconnors@tuftsmedicalcenter.org.

Recent Publications

1. Kim SK, McCurley AT, DuPont JJ, Aronovitz M, Moss ME, Stillman IE, Karumanchi SA, Christou DD, Jaffe IZ. Smooth Muscle Cell-Mineralocorticoid Receptor as a Mediator of Cardiovascular Stiffness with Aging. *Hypertension*. 2018 Apr;71(4):609-621. doi: 10.1161/HYPERTENSIONAHA.117.10437. Epub 2018 Feb 20. PubMed PMID: 29463624; PubMed Central PMCID: PMC5843545.
Pub Med Abstract
2. Mirhashemi ME, Noubary F, Chapman-Bonofiglio S, Tzipori S, Huggins GS, Widmer G. Transcriptome analysis of pig intestinal cell monolayers infected with *Cryptosporidium parvum* asexual stages. *Parasit Vectors*. 2018 Mar 12;11(1):176. doi: 10.1186/s13071-018-2754-3. PubMed PMID: 29530089.
Pub Med Abstract
3. Watanabe S, Fish K, Kovacic JC, Bikou O, Leonardson L, Nomoto K, Aguero J, Kapur NK, Hajjar RJ, Ishikawa K. Left Ventricular Unloading Using an Impella CP Improves Coronary Flow and Infarct Zone Perfusion in Ischemic Heart Failure. *J Am Heart Assoc*. 2018 Mar 7;7(6). pii: e006462. doi: 10.1161/JAHA.117.006462. PubMed PMID: 29514806.
Pub Med Abstract
4. Brinkley DM, DeNofrio D, Ruthazer R, Vest AR, Kapur NK, Couper GS, Kiernan MS. Outcomes After Continuous-Flow Left Ventricular Assist Device Implantation as Destination Therapy at Transplant Versus Nontransplant Centers. *Circ Heart Fail*. 2018 Mar;11(3):e004384. doi:

10.1161/CIRCHEARTFAILURE.117.004384. PubMed PMID: 29540471.

Pub Med Abstract

5. Bennett AH, O'Donohue MF, Gundry SR, Chan AT, Widrick J, Draper I, Chakraborty A, Zhou Y, Zon LI, Gleizes PE, Beggs AH, Gupta VA. RNA helicase, DDX27 regulates skeletal muscle growth and regeneration by modulation of translational processes. *PLoS Genet*. 2018 Mar 8;14(3):e1007226. doi: 10.1371/journal.pgen.1007226. eCollection 2018 Mar. PubMed PMID: 29518074.

Pub Med Abstract

6. Agrawal S, Garg L, Shah M, Agarwal M, Patel B, Singh A, Garg A, Jorde UP, Kapur NK. Thirty-Day Readmissions After Left Ventricular Assist Device Implantation in the United States: Insights From the Nationwide Readmissions Database. *Circ Heart Fail*. 2018 Mar;11(3):e004628. doi: 10.1161/CIRCHEARTFAILURE.117.004628. PubMed PMID: 29519902.

Pub Med Abstract

7. Morine KJ, Qiao X, York S, Natov PS, Paruchuri V, Zhang Y, Aronovitz MJ, Karas RH, Kapur NK. Bone Morphogenetic Protein 9 Reduces Cardiac Fibrosis and Improves Cardiac Function in Heart Failure. *Circulation*. 2018 Feb 27. pii: CIRCULATIONAHA.117.031635. doi: 10.1161/CIRCULATIONAHA.117.031635. [Epub ahead of print] PubMed PMID: 29487140.

Pub Med Abstract

8. Davel AP, Lu Q, Moss ME, Rao S, Anwar IJ, DuPont JJ, Jaffe IZ. Sex-Specific Mechanisms of Resistance Vessel Endothelial Dysfunction Induced by Cardiometabolic Risk Factors. *J Am Heart Assoc*. 2018 Feb 16;7(4). pii: e007675. doi: 10.1161/JAHA.117.007675. PubMed PMID: 29453308.

Pub Med Abstract

9. Freytsis M, Baugh L, Liu Z, Georgakoudi I, Hinds PW, Black LD, Huggins GS. Conditional deletion of RB1 in the Tie2 lineage leads to aortic valve regurgitation. *PLoS One*. 2018 Jan 5;13(1):e0190623. doi: 10.1371/journal.pone.0190623. eCollection 2018. PubMed PMID: 29304157; PubMed Central PMCID: PMC5755794

Pub Med Abstract

10. Baugh LM, Liu Z, Quinn KP, Osseiran S, Evans CL, Huggins GS, Hinds PW, Black LD, Georgakoudi I. Non-destructive two-photon excited fluorescence imaging identifies early nodules in calcific aortic-valve disease. *Nat Biomed Eng*. 2017 Nov;1(11):914-924. doi: 10.1038/s41551-017-0152-3. Epub 2017 Nov 6. PubMed PMID: 29456878; PubMed Central PMCID: PMC5811202.

Pub Med Abstract