AHA GO RED POST DOCTORAL FELLOWSHIP POSITIONS IN WOMEN'S HEALTH

CALL FOR APPLICATIONS – AHA POST-DOCTORAL FELLOWSHIP POSITIONS FOR TRAINING IN WOMEN'S CARDIOVASCULAR HEALTH RESEARCH

*******SUBMIT APPLICATIONS BY November 1th, 2016********

The AHA Strategic Focused Research Network (SFRN) site at Johns Hopkins University is recruiting post-doctoral fellows for a 2-year training program in Women's Cardiovascular Health. There will be 1 fellow recruited each year in 2016, 2017, and 2018 for a total of 3 AHA Fellows.

The 2017 fellowship position will start July 1, 2017 and conclude June 2019.

The Johns Hopkins project entitled "**Heart Failure With Preserved Ejection Fraction: Female Sex-Hormones and Cyclic GMP-PKG Modulation of Cardiac Disease and Metabolism"** is investigating this form of heart failure more common in older women for which there is currently no effective treatments. (*See below for detailed description of project*).

The AHA Fellows will lead a project affiliated primarily with one of three project Cores in Basic Science, Clinical, or Population-Based research, and collaboration with at least one of the other four Go-Red SFRN Centers nationally. Fellows participating in the clinical core will also work with the Clinical Core PI (Dr. Shah) affiliated with Northwestern University in Chicago, IL.

AHA Fellows will participate in a series of training didactics at Johns Hopkins University as well as participate in national AHA training-related activities held in conjunction with the other SRFN networks through teleconferences, annual scientific meetings, and semi-annual updates.

Fellowship Requirements

1. **Center Fellows must exhibit a strong commitment to research in Women's Health.**
2. **Center Fellows must hold an MD, PhD, DO or DVM or equivalent doctoral degree.**
3. **Center Fellows must meet one of the citizenship criteria throughout the duration of the award:**

- U.S. citizen
- Permanent Resident
- Pending Permanent Resident (must have applied for permanent residency and have filed Form I-485 with the U.S. Citizenship and Immigration Services and have received authorization to legally remain in the U.S., having filed an Application for Employment Form I-765)
- E-3 – Specialty Occupation Worker
- F-1 Visa – student
- G-4 Visa – family member of employee of internal organizations and NATO
- H1-B Visa – temporary worker in a specialty occupation
- J-1 Visa – exchange visitor
- O-1 Visa – temporary worker with extraordinary abilities in the sciences
- TN Visa – NAFTA professional

4. **Center Fellows must commit 75 percent effort to research training. Center fellows may commit a minimum of 70 percent effort if justification is accepted by the Oversight Advisory Committee.**

5. **Center Fellows may not hold another AHA affiliate fellowship or AHA Fellow-to-Faculty Transition Award for the duration of their time as a named fellow at an AHA Strategically Focused Center.**

6. **Center Fellows cannot hold a faculty/staff position any time during their two-year fellowship. (Exception: M.D. or M.D./Ph.D. applicants with clinical responsibilities who hold a title of instructor or similar due to their patient care responsibilities.)**

7. **Women and under-represented minority (URM) applicants are encouraged to apply.**

Applicants will submit a written application for the training program includes:

1. Personal statement addressing the trainee's interest in one of our Center's 3 project areas, past research experiences, long-term career goals, and how these plans align with a focus in Women's Cardiovascular Health.
2. Curriculum Vitae (CV)
3. Graduate school transcripts
4. Two or more letters of recommendation from prior supervisor(s).
5. Letter of support from the applicant's Division Chief/Department Chair indicating a commitment to support the trainee's time and effort during the AHA Fellowship training program (if applicable)

For more information and request for application, please contact:

Center Director: Pamela Ouyang, M.B.B.S. **pouyang@jhmi.edu**
Training Director: Erin Michos, MD, MHS **edonnell@jhmi.edu**

Application materials should be sent: Attn.: Dr Erin Michos, Blalock 524-B, Division of Cardiology, Johns Hopkins Hospital, Baltimore, MD 21287 or edonnell@jhmi.edu.

Johns Hopkins University School of Medicine

Center Director: Pamela Ouyang, M.B.B.S.

Basic Project PI: David Kass, MD, FAHA
Female Sex-Hormones and Cyclic GMP-PKG Modulation of Cardiac Disease and Metabolism

Clinical Project PI: Sanjiv Shah, MD- Northwestern [local Hopkins co-PI: Kavita Sharma, MD]
Role of Female Sex and Hormone Status on HFpEF Pathophysiology and Therapy

Population Project PI: Wendy Post, MD, MS [co-PI Dhananjay Vaidya, PhD, MB BS]
Sex Differences in Hormonal and Cyclic GMP Dependent Pathways to Heart Failure with Preserved Ejection Fraction

Project Summary:
Heart failure (HF) affects 5-6 million American adults, with half having preserved ventricular ejection fraction (HFpEF). The prevalence of HFpEF is rising, and associated with high morbidity, hospitalization rates, and mortality. HFpEF is now recognized to engage multiple extra-cardiac defects, including vascular dysfunction and stiffening, depressed skeletal muscle metabolism, pulmonary hypertension, and renal disease. This heterogeneity has stymied efforts at treatment, and better biological-based phenotyping is needed. HFpEF is more common in elderly, predominantly female, patients, and particularly female African-Americans (73% in ARIC cohort), a population also well represented in Baltimore. The cause for this sex-bias is unknown. The Hopkins Go Red for Women Center tests the hypothesis that the sex-bias results from depressed cyclic-GMP signaling post-menopause due to loss of sex hormones. Estrogen couples to NO-cGMP and phosphodiesterase (PDE)-5 regulation, so this defect can explain prior difficulties in enhancing cGMP and its effecter protein kinase G (PKG) in this population. PKG signaling can blunt maladaptive cardiac remodeling, fibrosis, improve metabolism and skeletal muscle efficiency, counter obesity and reduce inflammatory stimuli – all components of the HFpEF syndrome.

The Population Science Core leverages CARDIA, MESA and ARIC cohorts to test associations of sex-hormones and NO/NP-cGMP-signaling with cardiac structure and function changes over time and incidence of HFpEF. The Clinical Science Core extensively phenotypes HFpEF patients using sex, sex hormone status, cardiac structure and function, and biomarkers of cGMP/PKG signaling as well as metabolic parameters. Whether postmenopausal estrogen therapy alters the cGMP response to PDE5 inhibition will be tested. We will assess cGMP stimulation by natriuretic peptide (NP). The Basic Science Core dissects key pathways regulating cGMP/PKG signaling between the sexes, focusing on novel PDEs and their engagement of the NP pathway, and role of estrogen status on cardiac and metabolic protection. Human skeletal and cardiac muscle tissue samples from Clinical Core studies are assessed to determine a biological phenotype based on cGMP-dependent molecular profiling and broad-based non-biased protein and transcript profiling. Our work will identify novel options for enhancing the cGMP/PKG cascade and determine how to best leverage these in the female population.