Department of Mechanical and Biomedical Engineering

Seminar Series

Flourishing cardiovascular well-being: achieved by bioengineering converging with medicine?

Dr. Donna Wang
College of Human Medicine
Michigan State University

Date: November 14, 2011 (Monday)
Time: 3:00 pm <Tea Reception at 2:45pm>
Venue: Room B5-208, 5/F, (near Lift 9) Academic 1

ABSTRACT

More than 74 million American and 1 billion subjects worldwide suffer from hypertension, a debilitating disease leading to end organ damage including renal failure, heart failure, and stroke. Our research, using state-of-the-art molecular biological and neurobiological techniques combined with nanotechnology, focuses on elucidating how neuro-hormonal systems, in interacting with changing environment, regulate blood pressure and cardiovascular function, and how dysfunction of molecules expressed in the neuro-hormonal systems leads to hypertension and tissue/organ damage such as cardiac hypertrophy and infarction. Once key molecules are identified/characterized, newer and more targeted drugs/ interventions may be developed that will accelerate and improve clinical practice of prevention, diagnosis, and treatment of cardiovascular illness. Converging of bioengineering and medicine would empower us when facing the challenge of complexity of biological systems as well as diseases, so that personalized medicine would be fully realized in the not too far future.
BIOGRAPHY

Donna Wang, MD, FAHA, is Professor of Medicine, Neuroscience Program, and Cell and Molecular Biology Program at Michigan State University. She also directs the Division of Nanomedicine and Molecular Intervention in Department of Medicine at MSU. Dr. Wang is an Established Investigator of American Heart Association, a Fellow of the American Heart Association Council for High Blood Pressure Research, and a Fellow of Cardiovascular Section of the American Physiological Society. She has served on a number of national and international scientific and policy review panels/committees, including US National Institutes of Health and American Heart Association. She has acted as a Editor/Associate Editor/Editorial Board Member for numerous premier professional journals/books. Dr. Wang's research interests lie in molecular intervention, neuroscience, cardiovascular medicine, drug discovery, and nanomedicine. Her laboratory discovered TRPV channels play a central role in the “salt pathway”. These molecules signal a particularly exciting breakthrough, as they are capable of protecting tissues/organs from inflammation and injury.

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All are welcome!

MBE Seminar 2011-2012/004