VA RESEARCH | THE PATH of PROGRESS

NATIONAL VA RESEARCH WEEK MAY 16-20, 2016

Research Day, May 20, 2016

Malcom Randall VA Medical Center - Auditorium
Gainesville, Florida

No admission charge and open to the public!

8:30 a.m. Meet and Greet, Refreshments and Poster Exhibit
9:00 a.m. Musical Tribute, the Pledge of Allegiance, VA Leadership Comments

Robert A. Hromas, MD, FACP

- Professor and Chair, Department of Medicine, University of Florida Health
- Vice President of the University of Florida Physicians Clinical Practice Association
- Member of the University of Florida Health Executive Board

10:00 a.m. ***"Preventing the Chromosomal Translocations that Cause Cancer"***

Approximately one half of all cancers have at their origin chromosomal translocations. These translocations can occur after exposure to exogenous DNA damaging agents such as radiation or chemotherapy. They can also occur spontaneously. How they occur and how to prevent them has not been well understood. We demonstrated that they occur via a DNA repair pathway call alternative non-homologous end joining (aNHEJ) that mistakenly repairs DNA double strand breaks. We also found that such translocations can be prevented by treatment with a novel cancer drug called olaparib that targets a component of the alternative NHEJ pathway.

Janis J. Daly, PhD, MS

- Director, Brain Rehabilitation Research Center, NF/SGVHS
- Director, Brain Rehabilitation Research Program, McKnight Brain Institute, UF
- Professor of Neurology, College of Medicine, UF

10:20 a.m. ***"Brain Training – Pathway to Stroke Recovery of Arm and Hand Function"***

There are many ways that we 'train' our brain throughout our lives, including motor coordination for complex activities. This learning occurs through the development of complex new brain pathways that are formed in response to focused and repeated practice. We have tested innovative upper limb motor learning methods for chronic stroke survivors (greater than one year after stroke) – with and without the technologies of robotics and functional electrical stimulation. In response to innovative motor learning, brain plasticity of a complex nature produced gains in coordination and function in stroke survivors which were dramatic for a number of participants. This presentation will include brain maps and videos of function recovery.

David J. Clark, ScD

- Co-Coordinator, Locomotor Initiative, BRRC, NF/SGVHS
- Director of the Locomotor Neuroscience Laboratory, BRRC, NF/SGVHS
- Assistant Professor, Institute on Aging, College of Medicine, UF

10:40 a.m. ***"Walking the Path to Recovery from Neurological Impairments"***

The ability to walk safely in home and community settings is crucial to the independence of Veterans with neurological impairments. Walking in these settings often involves challenging conditions that pose a risk for trips, slips, collisions, and injurious falls. Dr. Clark's research seeks to assess and intervene in the central nervous system's ability to successfully control walking, especially in challenging settings. This presentation will focus on recent findings from studies that measure brain activity and sympathetic nervous system activity during walking to gauge the demand placed on the nervous system during challenging walking tasks.

Micah Flores, PhD

- Center of Innovation on Disability and Rehabilitation Research, NF/SGVHS
- Research Scientist, Department of Obstetrics and Gynecology in the Institute for Wound Research Laboratory, UF

11:00 a.m. ***"Is Morphine More than Just a Pain Reliever?"***

There are more than 6.5 million patients with chronic non-healing wounds, many of whom are Veterans. Often times these wounds can be painful and can disrupt the daily lives of these patients. Topical morphine is known as a pain reliever but is also known to reduce inflammation and influence wound healing. Dr. Flores' study team sought to determine if, in a wounded rat model, whether rats with and without morphine heal at different rates. Additionally the team wanted to evaluate if increased wound healing was due to feeling better (no more pain) rather than the morphine providing the healing effects. These data have provided an understanding of the role morphine plays in wound healing and how wounds heal in patients with spinal cord injury. The team plans to expand this model to include problems affecting wounds in our Veteran population, such as bacterial infections and pressure sores.

Joshua F. Yarrow, PhD, MS

- Research Health Scientist, NF/SGVHS
- Courtesy Assistant Scientist, Department of Applied Physiology and Kinesiology, UF

11:20 a.m. ***"Causes of and Treatments for Bone Loss after Spinal Cord Injury"***

The VA is the largest provider of medical services to individuals with spinal cord injury (SCI) in the United States. Marked bone loss occurs in most individuals with functionally-complete SCI, which increases bone fracture risk and risk of hospitalization. This bone loss results primarily from disuse that occurs after injury. However, we have identified that dysregulation also exists in several molecular signals that control bone metabolism

after SCI in a manner that is independent from disuse, which has lead to a VA-funded clinical trial to determine whether testosterone plus finasteride represents a means of ameliorating the musculoskeletal deficits occurring in Veterans with motor-incomplete SCI.

12:00 noon – 1:00 p.m. Research Poster Exhibit

After the research presentations, there will be an Interactive Research Poster Exhibit showcasing 12 VA researchers and their studies. This is an opportunity to talk personally with researchers about their work – all this and more while enjoying our Research Day celebration cake and refreshments.

For more information contact Research Service at 352-548-6069,
email **helen.vaillancourt@va.gov** or visit **www.northflorida.va.gov/research/**