

Seattle Institute for Biomedical and Clinical Research

January - March 2019

Spotlight Feature

MICHELLE (SHELLY) ERICKSON, PHD



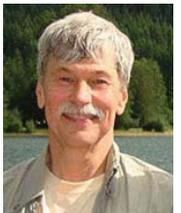
Michelle (Shelly) Erickson, PhD, is a Research Biologist at the VA Puget Sound Health Care System and a Research Assistant Professor at the University of Washington in the Department of Medicine. She received her PhD in Pharmacological and Physiological Sciences from Saint Louis University in 2012 under the mentorship of William A. Banks, MD, where she studied mechanisms of blood-brain barrier dysfunction in Alzheimer's disease. Shelly then completed her postdoctoral fellowship under the mentorship of Dr. Kelly Jordan-Sciutto, PhD, and Reynold Panettieri, MD, at the University of Pennsylvania. Her studies focused on neuroinflammatory responses to HIV infection, glutamate excitotoxicity, and environmental toxicants. During her postdoctoral training, Shelly was awarded a 2-year T32 fellowship and a 1-year F32 fellowship from NIEHS to study mechanisms by which air pollution contributes to brain dysfunction.

Shelly began her current position at the VA in June of 2016. Her long-term research goals aim to characterize novel aspects of communication between the brain and the immune system, with a particular focus on how the blood-brain barrier regulates neuroimmune communication in health and in pathological states that are considered to be risk factors for Alzheimer's disease. Shelly's current work focuses on serum amyloid A (SAA), which is a protein that is produced in high quantities by the liver and secreted into blood following acute inflammatory stimuli, and is also elevated in chronic inflammatory diseases. Shelly and her collaborators have recently shown that SAA can cross the intact blood brain barrier, suggesting that there is a transporter that facilitates the entry of circulating SAA into the brain. Further, SAA can inhibit the clearance of Alzheimer's disease-associated proteins from the brain, which suggests that SAA overproduction during inflammation could contribute to Alzheimer's disease progression.

Shelly is currently the principal investigator on an ADRC Junior Investigator pilot project award which aims to assess the causal role of SAA in AD. She is also the principal investigator on an R21 from NIEHS which aims to investigate SAA as a mediator of communication in the lung-liver-brain axis following ozone exposure. Ozone is a widespread component of air pollution, and ozone exposure has been linked to cognitive decline and Alzheimer's disease in human epidemiological studies. However, the mechanisms by which ozone causes neurological dysfunction are unknown. Using a mouse model of whole body ozone exposure, Shelly's future work will characterize cognitive and neurobehavioral deficits that are caused by acute and chronic ozone exposure paradigms, and the associations of behavioral outcomes with SAA overproduction.

By developing a better understanding of how environmental factors contribute to CNS dysfunction from a systemic perspective, Dr. Erickson hopes to identify novel therapeutic targets for the prevention and treatment of age-associated cognitive decline and dementia.

2018 MIDDLETON AWARD WINNER - WILLIAM A. BANKS, MD



William A. Banks, MD, Associate Chief of Staff for Research and Development, VA Puget Sound, has received the 2018 Middleton Award. The Middleton Award is awarded annually to senior VA biomedical research scientists in recognition of outstanding scientific achievements in the areas of biomedical and bio-behavioral research. It was established in 1960 to honor Dr. William S. Middleton, distinguished educator, physician-scientist, and VA Chief Medical Director from 1955 to 1963. It is the highest honor conferred by the VA Biomedical Laboratory Research and Development (BLR&D) Service.

The award recognizes Dr. Banks' long history of contributions to VA research, particularly his groundbreaking work in the emerging field of neuroimmunology—which studies interactions between the nervous and immune systems. He is considered a leading expert on the blood-brain barrier and how it functions within the body.

Dr. Banks' laboratory studies how the brain communicates with the rest of the body through the transfer of molecules across

WILLIAM A. BANKS, MD CONTINUED

the blood-brain barrier. The barrier consists of different cells within the blood vessels that limit the passage of certain molecules from the blood into the brain. His work has also helped scientists comprehend how disruptions in the homeostasis mechanisms within the body—such as blood sugar level maintenance—can lead to diseases in the nervous system.

Dr. Banks is also a Professor in the Division of Gerontology and Geriatric Medicine at the University of Washington and editor in chief of Current Pharmaceutical Design. He is the author of over 360 research papers in well-known journals such as Diabetes and Brain Research.

In addition to fostering the health of Veterans and patients worldwide, his work has helped spur ongoing development of new drug therapies for the treatment of nervous system disorders. For example, his lab has studied several peptide analogs that have increased therapeutic action on conditions like Alzheimer's disease.

Dr. Banks will be honored with an award ceremony during Research Week in 2019. Congratulations to Dr. Banks!

CHANGES IN SPONSORED PROGRAMS



Rebecca Walker and Allison Malate

Rebecca Walker has taken over from Danielle Fleumer (SIBCR Executive Director) as leader of the Office of Sponsored Programs at SIBCR. Please escalate grant-related issues to her for discussion, or directly to your SIBCR grant contact. Danielle is stepping away from an active role in grants management in order to focus more on strategic issues for the institute. In addition, we have a new face - Allison Malate! Allison is new to SIBCR but comes to us with many years of valuable experience at the Palo Alto VA Non-Profit (PAVIR) and at state universities.

Rebecca has administered a diverse portfolio of VA research and education projects as an SIBCR grant administrator from 2011-2014 and 2016-2018. Rebecca also has international experience as a Contracts Officer at the University of Bristol's Research and Enterprise Development division, negotiating research and consultancy agreements for the University. Before becoming a grant administrator, Rebecca was a paralegal at an immigration law firm. She recently completed a Master's degree in public administration from the University of Washington and also holds a Bachelor's degree in history from Yale College. Rebecca can be reached at 206-204-6186 or rebecca@sibcr.org.

Allison Malate is a new Senior Grants and Contracts Manager at SIBCR. She has worked in the research administration field in both non-profit and academic settings for over ten years. She started off her career as a Financial Analyst for the Office of Sponsored Projects Management at Loma Linda University. From there, she moved on to managing grants at the department level at state universities in both California and Washington. More recently, Allison led the Post Award division of the Grants department at a large VA-affiliated non-profit, the Palo Alto Veterans Institute for Research (PAVIR). Allison has an MBA from the University of Redlands and a Bachelor's Degree in Business Administration from the University of California Riverside. Allison can be reached at 206-204-6178 or allison@sibcr.org.

UPCOMING R&D SEMINARS

March 6, 2019 - Michael Schwartz, MD, "Diabetes, Obesity and the Brain"

April 22, 2019 - Dr. Jerry Jarvik, MD, MPH, "Making It CLEAR- the UW Clinical Learning, Evidence and Research Center for Musculoskeletal Disorders"

May 20, 2019 - Konrad Talbot, PhD, "A New Hope for Treating Alzheimer's Disease with Novel Antidiabetics"