FIU Engineering & Computing
Department of Biomedical Engineering

Wallace H. Coulter Foundation
Biomedical Engineering Seminar Series

DETLEV BOISON, PHD - Having a passion for translational research and for finding cures for intractable conditions that cause human suffrage and death, I seek to translate fundamental mechanisms of biochemistry and energy metabolism into novel therapeutic approaches for the treatment of neurological conditions. A major research effort is the development of metabolism-based therapies that enable disease modification in epilepsy and after traumatic brain injury. I graduated at the University of Köln, Germany, in 1994 with a PhD in Biochemistry. In 2005, I received the venia legendi (Habilitation) in Cellular Pharmacology from the University of Zurich, Switzerland, for my work on cell-based adenosine augmentation therapies for epilepsy. Over the past 25 years, I have maintained a rigorous research program on translational adenosine research and have been continuously NIH funded since 2008. I have published over 190 papers with an h-index of 64 and have delivered over 150 invited lectures worldwide.

9/29/23

Dr. Detlev Boison

Professor and Vice Chair

Rutgers Robert Wood Johnson Medical School

Friday, September 29th | 9:00 AM | EC 2300

Biomedical engineering approaches for the treatment and prevention of epilepsy and its comorbidities

ABSTRACT: Epilepsy is one of the most common neurological disorders affecting around 80 million people worldwide. Epilepsy is a complex syndrome comprised of seizures and associated comorbidities, which include depression, sleep dysfunction, and sudden unexpected death in epilepsy (SUDEP). Unfortunately, conventional antiseizure medications are not effective in over one third of all patients with epilepsy, they do not treat the comorbidities, and they do not affect the development and progression of epilepsy. Therefore, novel therapeutic strategies are needed to provide improved treatment options for persons with epilepsy. The Boison lab has pioneered novel adenosine-based therapeutics, which treat epilepsy through metabolic reprogramming. This lecture will present several preclinical therapeutic approaches designed for the treatment and prevention of epilepsy and its comorbidities, which include encapsulated adenosine releasing cell grafts, bioengineered adenosine releasing silk, novel small molecule adenosine kinase inhibitors designed for the prevention of epilepsy, and a closed loop system diaphragmatic pacing device for the prevention of SUDEP.

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Through the generous support of the Wallace H. Coulter Foundation, the Department of Biomedical Engineering facilitates weekly lectures each year during academic terms. Experts in all areas of Biomedical Engineering are invited to provide a research seminar and to meet with faculty and students to discuss the latest developments and research in Biomedical Engineering.

Friday, September 29th, 2023 | 9:00AM - 10:00AM | EC 2300

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