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IEEE EMBS Distinguished Lecturer Series

EVENT DETAILS

Mackenzie Building, Rm. 4463
Carleton University

Monday, Nov. 11th, 2019
1:30 - 2:30 PM

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Carleton UNIVERSITY
Canada's Capital University

Department of Systems and Computer Engineering

HOSTED IN PARTNERSHIP WITH

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Ottawa Section
IEEE 125th EMBS Seminar Series

Model-Based Signal Processing in Neurocritical Care

Large volumes of heterogeneous data are now routinely collected and archived from patients in a variety of clinical environments, to support real-time decision-making, monitoring of disease progression, and titration of therapy. This rapid expansion of available physiological data has resulted in a data-rich – but often knowledge-poor – environment. Yet the abundance of clinical data also presents an opportunity to systematically fuse and analyze the available data streams, through appropriately chosen mathematical models, and to provide clinicians with insights that may not be readily extracted from visual review of the available data streams.In this talk, I will highlight our work in model-based signal processing for improved neurocritical care to derive additional and clinically useful information from routinely available data streams. I will present our model-based approach to noninvasive, patient-specific and calibration free estimation of intracranial pressure and will elaborate on the challenges of (and some solutions to) collecting high-quality clinical data for validation.

Dr. Thomas Heldt
Associate Professor at MIT
Department of Electrical Engineering and Computer Science
W.M. Keck Career Development Chair in Biomedical Engineering
Member of MIT's Institute for Medical Engineering and Science

Massachusetts Institute of Technology

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