

The Computer Science Program of CSU Channel Islands presents:

Nonlinear measures of heart rate variability

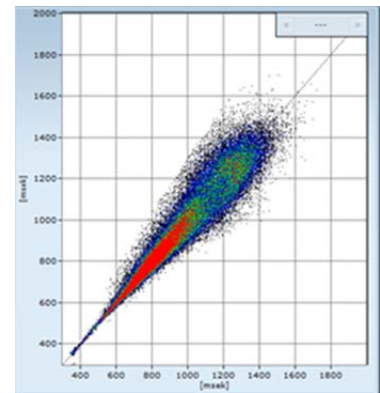
a talk by

Beata Graff and Grzegorz Graff

Medical University of Gdansk and Gdansk University of Technology, Poland

Tuesday, May 2, 2017, 6:00–7:00pm in SIE 1411

Abstract: Healthy human heart rate is characterized by oscillations observed in intervals between consecutive heartbeats (RR intervals). Conventional methods of heart rate variability analysis measure the overall magnitude of RR interval fluctuations around its mean value or the magnitude of fluctuations in predetermined frequencies. The new nonlinear methods provide powerful tools that allow to predict clinical outcome in patients with cardiovascular diseases. In our talk we present some methods based on different types of entropies, ordinal patterns, and symbolic dynamics.



Bio: Grzegorz Graff obtained his PhD in Mathematics at Adam Mickiewicz University in Poznan, Poland. In the past, he was awarded a Fulbright Senior Fellowship at the Center for Dynamical Systems and Nonlinear Studies, Georgia Institute of Technology. He is currently the head of Department of Differential Equations and Mathematical Applications at Gdansk University of Technology, working in the area of topology, dynamical systems, and applications to bio-medical systems.



Bio: Beata Graff MD, PhD, is a cardiologist working at the Department of Hypertension and Diabetology of the Medical University of Gdansk, Poland. Her research interests include noninvasive assessment of cardiovascular regulation in patients with hypertension, stroke, and vasovagal syncope. Together with mathematicians and physicists, she works on implementing and developing various methods of heart rate and blood pressure variability. She was recently awarded a prestigious INTER grant for the interdisciplinary collaboration, funded by the Foundation for Polish Science.

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