

IEEE EMBS Pre-Conference Workshop
SEPTEMBER 1, 2004

Cardiorespiratory Variability: Models and Mechanisms

(sponsored by USC Biomedical Simulations Resource)

MICHAEL C.K. KHOO, Ph.D. - University of Southern California (*Organizer*)

The purpose of the workshop is to provide a forum in which the latest findings related to autonomic cardiovascular control, sleep-disordered breathing and physiological rhythms are presented and discussed by experts whose perspectives encompass a variety of clinical, experimental and theoretical approaches. The presentations will focus specifically on contemporary research efforts to elucidate the physiological mechanisms that underlie respiratory and cardiovascular oscillations in health and disease, as well as the modeling methodologies employed to characterize these mechanisms. Variability of cardiorespiratory activity over a broad spectrum of time-scales (seconds to hours) will be discussed.

SPEAKERS AND TITLES – FINAL –

(Alphabetic Order)

SERGIO CERUTTI, Ph.D. & **GIUSEPPE BASELLI**, Ph.D. - Politecnico di Milano
Modeling cardiovascular variability: a signal processing perspective

MICHAEL C.K. KHOO, Ph.D. - University of Southern California
Minimal closed-loop assessment of cardiovascular variability during sleep

ELISA MAGOSSO, Ph.D. & **MAURO URSINO**, Ph.D. - University of Bologna
Mathematical modeling of cardiovascular variability and short-term pressure regulation

SIMON C. MALPAS, Ph.D. - University of Auckland
The role of the sympathetic nervous system in generating and regulating oscillations in blood pressure; pitfalls and possibilities

NICOLA MONTANO, MD, Ph.D. - University of Milan
Autonomic mechanisms of cardiovascular variability in sleep-disordered breathing

THOMAS PENZEL, Ph.D. - Phillips University Marburg
Monitoring peripheral arterial tone during sleep: methods and physiology

PHYLLIS K. STEIN, Ph.D. - Washington University
Diurnal rhythmicity of heart rate variability

JOHN S. TRINDER, Ph.D. - University of Melbourne
Effects of sleep-wake transitions on variability in respiratory and autonomic activity

WORKSHOP REGISTRATION

<http://www.ucsfresno.edu/embs2004/workshops.htm>

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Michael C.K. Khoo, Ph.D. (*Organizer*)
University of Southern California

9:00–9:10	Introduction	Michael C.K. Khoo University of Southern California
9:10– 9:50	<i>The Role of the Sympathetic Nervous System in Generating and Regulating Oscillations in Blood Pressure; Pitfalls and Possibilities</i>	Simon C. Malpas University of Auckland
9:50–10:30	<i>Diurnal Rhythmicity of Heart Rate Variability</i>	Phyllis K. Stein Washington University
10:30– 10:50	Break	
10:50–11:30	<i>Effects of Sleep-Wake Transitions on Variability in Respiratory and Autonomic Activity</i>	John Trinder University of Melbourne
11:30– 12:10	<i>Autonomic Mechanisms of Cardiovascular Variability in Sleep-Disordered Breathing</i>	Nicola Montano University of Milan
12:10-1:30	Lunch	
1:40– 2:20	<i>Monitoring Peripheral Arterial Tone During Sleep: Methods and Physiology</i>	Thomas Penzel Hospital of Phillips-University
2:20–3:00	<i>Modeling Cardiovascular Variability: A Signal Processing Perspective</i>	Sergio Cerutti & Giuseppe Baselli Politecnico di Milano
3:00– 3:20	Break	
3:20–4:00	<i>Mathematical Modeling of Cardiovascular Variability and Short-Term Pressure Regulation</i>	Elisa Magosso & Mauro Ursino University of Bologna
4:00–4:40	<i>Closed-Loop Minimal Modeling of Cardiorespiratory Variability in Sleep-Disordered Breathing</i>	Michael C.K. Khoo University of Southern California
4:40– 5:00	General Discussion	



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