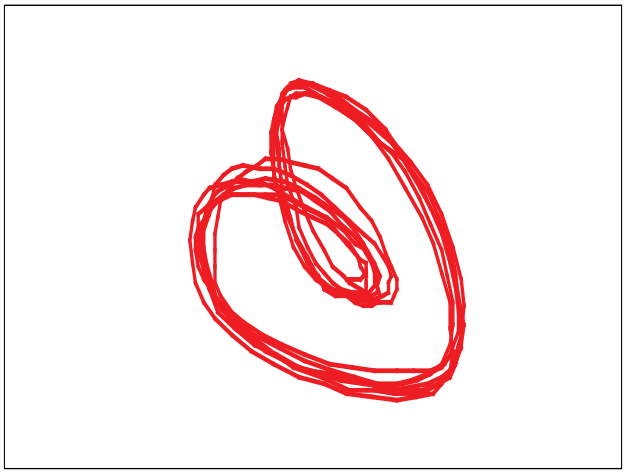
2nd meeting of the European Study Group of Cardiovascular Oscillations



April 19-22, 2002
Certosa di Pontignano, Siena, Italy

Organisers: A. Porta, A. Malliani, S. Cerutti

Supported by:

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Programme

Friday 19 April

19:30	Welcome reception and buffet	

Saturday 20 April

S1. Non linear coupling and synchronization in cardiovascular system		**Chairpersons:** A. Malliani and S. Cerutti
8:30-8:35	Welcome	Alberto Malliani
8:35-8:40	Welcome	Sergio Cerutti
8:40-9:40 (invited lecture)	Dynamics of reentrant tachycardia	Leon Glass
9:40-10:10	Synchronization approach to analysis of cardiorespiratory interaction	Michael Rosenblum
10:10-10:40	A comparison of different methods to detect cardiorespiratory coordination	Dirk Cysarz
10:40-11:00	Coffee break	
S2. Complexity analysis of heart rate variability		**Chairpersons:** P. van Leeuwen and N. Wessel
11:00-11:30	Clinical applicability of fractal analysis of heart rate dynamics	Heikki Huikuri
11:30-12:00	Typifying complexity in heart period variability series using entropy, entropy rate and pattern classification	Alberto Porta
12:00-12:30	Cardiac interbeat dynamics during atrial and ventricular fibrillation	Timo Makikallio
13:00	Lunch	
S3. Cardio-respiratory coordination analysis		**Chairpersons:** H. Huikuri and G. Gebber
14:00-14:30	Mutual information analysis: fundamentals, applications and interpretations with regard to cardiovascular coordination	Dirk Hoyer
14:30-15:00	Investigation of fetal-maternal heart rate coordination	Peter van Leeuwen
15:00-15:30	Changes in cardiovascular complexity and coordination: new clinical results and experimental modeling	Ulrich Zwiener
15:30-16:00	Abnormal respiratory activity and cardiorespiratory variability in chronic heart failure patients	Gian Domenico Pinna
16:00-16:30	Time-variability and frequency modulation of cardiovascular oscillations	Aneta Stefanovska

16:30-17:00	Coffee break	
S4. Poster Session		
17:00-19:00		
19:30	Dinner	

Sunday 21 April

S5. Modeling of cardiovascular system		**Chairpersons:** S. Akselrod and H. Salgado
8:30-9:30 (invited lecture)	Monitoring the cardiovascular system using nonlinear dynamics	Daniel Kaplan
9:30-10:00	Detection of compensatory mechanisms in impaired cardiovascular control	Solange Akselrod
10:00-10:30	Modeling approaches to the analysis of cardiovascular interactions	Giuseppe Baselli
10:30-11:00	Coffee break	
S6. Sympathetic activity analysis		**Chairpersons:** T. Griffith and A. Trzebski
11:00-11:30	Synchrony coding in sympathetic control	Michael Gilbey
11:30-12:00	The sympathetic vasoconstrictor response depends on adrenergic and purinergic signal transduction	Harald Stauss
12:00-12:30	Fractal firing patterns of single brain stem presympathetic neurons and postganglionic sympathetic nerve bundles	Gerard Gebber
13:00	Lunch	
S7. Vasomotion		**Chairpersons:** M. Pagani and H. Stauss
14:00-14:30	Analysis of arterial vasomotion by 1-dimensional return maps	Tudor Griffith
14:30-15:00	Morphometry of hamster skeletal muscle microcirculation and regulation of capillary perfusion	Antonio Colantuoni
15:00-15:30	Nonlinear modeling of vasomotion: roles of calcium and nitric oxide	Dimitri Parthimos
15:30-16:00	Coffee break	
S8. Rapid Communications		**Chairpersons:** P. Goncalves and G. Baselli
16:00-16:15	An up-date of heart-rate turbulence	Axel Bauer
16:15-16:30	Acute heart rate response to weightlessness conditions during parabolic flight.	André Aubert
16:30-16:45	Nonlinear dynamics of heart rate in human	Andrzej Trzebski

	sleep	
16:45-17.00	Nonlinear dynamics in the analysis of cardiovascular rhythms	Maria Grazia Signorini
17:00-17:15	Arterial pressure and heart rate variability in conscious sinoaortic denervated mice	Helio Salgado
17:15-17:30	Complexity in short heart period variability series before life-threatening arrhythmia	Stefano Guzzetti
19:30	Dinner	

Monday 22 April

S9. Heart rate – arterial pressure interactions		**Chairpersons:** M. Gilbey and L. Glass
8:30-9:00	Modeling arterial and cardiopulmonary baroreflex: a new tool for experimental and clinical problems	Massimo Pagani
9:00-9:30	Modeling heart rate and blood pressure relationship by nonlinear regression analysis	Niels Wessel
9:30-10:00	A statistical assessment of baroreflex contribution to linear and nonlinear BP-HR coupling	Marco di Rienzo
10:00-10:30	Quantifying non linear causal coupling between RR interval and systolic arterial pressure	Giandomenico Nollo
10:30-11:00	Coffee break	
S10. Time-frequency analysis of heart rate variability		**Chairpersons:** D. Kaplan and B. Swynghedauw
11:00-12:00	Time-frequency tools: a survey	Paulo Goncalves
12:00-12:30	Instant time-frequency-domain analysis of the continuous changes in vagal activity	Jean Luc Elghozi
12:30-12:45	Physiology in the post genomic era. A new youth or a rapid collapse?	Bernard Swynghedauw
12:45-12:50	Future directions of the ESGCO group	Bernard Swynghedauw
12:50-13:00	Final remarks	Alberto Malliani
13:00	lunch	
14:30	Departure	

S4. Poster Session

1) Inscription of the T wave in a model of ventricular myocardium	L Coletti, S Chillemi, A di Garbo
2) Symbolic dynamics of the RR-QT relationship in normals and patients with hypertrophic cardiomyopathy	R Baranowski, JJ Żebrowski, L Chojnowska

3) Intermittency – a deterministic process in human heart rate variability	JJ Żebrowski, R Baranowski
4) Entropy measures of the heart rate variability in idiopathic dilated cardiomyopathy patients	P Caminal, M Vallverdú, F Clariá, A Martínez, W Zareba, A Bayes de Luna
5) Head out of water immersion as simulation of microgravity?	B Seps, F Beckers, AE Aubert
6) Frequency analysis of heart rate variability during parabolic flights	B Seps, F Beckers, AE Aubert
7) Autonomic modulation of the native sinus node after heart transplantation	F Beckers, D Ramaekers, AE Aubert
8) Effect of autonomic blockade on non-linear heart rate dynamics	F Beckers, D Ramaekers, B Seps, AE Aubert
9) Polygraphic analysis of the heart rate variability	A Stankus
10) Pulse interval variability in mice submitted to autonomic pharmacological blockage	R Fazan Jr, M Oliveira, VJ Dias da Silva, HC Salgado
11) Effects of long term angiotensin converting enzyme inhibition on cardiovascular variability in aging rats	VJ Dias da Silva, R Fazan Jr, HC Salgado, N Montano
12) Oscillations around mean and excursion capability of the heartbeat in anesthetised rabbits before and after denervation	JM Legramante, M Varanini, C Michelassi, G Raimondi, R Balocchi
13) A modified Wigner-Ville transformation as a tool for hypertension detection	G Maor, LR Davrath, Y Goren, S Akselrod
14) Night to day variation of heart rate turbulence in healthy people	P Guzik, A Wegrzynowski, A Wykretowicz, H Wysocki
15) Cardiovascular response to sinusoidal neck suction in healthy volunteers and patients with autonomic dysfunction	L Widesott, A Diedrich, L Bernardi, R Furlan, L Diedrich, R Antolini, G Nollo
16) Evaluating the local organisation of atrial fibrillation in humans	L Faes, F Ravelli, L Sandrini, R Antolini, G Nollo
17) Effects of acute beta-blockade on sympathetic and cardiovascular oscillations	C Cogliati, S Colombo, T Gnecchi Ruscone*, N Montano, A Porta, A Malliani, R Furlan
18) Evaluating the strength of the RR-SAP causal coupling in dogs	R Furlan, A Porta, O Rimoldi, M Pagani, A Malliani, P van de Borne
20) Problem of analysis of systems acting on different time scales, with deterministically and stochastically varying characteristic frequencies	A Bandrivskyy, DG Luchinsky, PVE McClintock, A Stefanovska
21) Effect of current polarity on oscillatory components in blood flux during iontophoresis with high and low conductance vehicles	M Veber, AG Balanov, A Bandrivskyy, PBM Clarkson, PVE McClintock, A Stefanovska
22) Effect of aerobic power on heart rate variability during graded dynamic exercise.	A Horn, H Schulz, H Heck
23) Time course of changes in heart rate variability during endurance training in sedentary subjects	H Schulz, A Horn, A Plogmaker, G Linowsky, H Heck
24) Detecting cardiorespiratory coordination: Binary pattern analysis of respiratory sinus arrhythmia versus analysis of combined thermistor-ECG recordings	H Bettermann, D Cysarz, P Van Leeuwen
25) Nonlinear cardiac dynamics in human sleep apnea	M Smietanowski

26) Interactions between oscillations in brain activity and the cardio-respiratory system in anæsthesia – preliminary results

Bojan Musizza, Janko Petrovčič, Fajko F. Bajrović, Samo Ribarič and Aneta Stefanovska[3]