






PERSONAL INFORMATION

Roberto Sassi



-  Dipartimento di Informatica, Università degli Studi di Milano, via Celoria 18, 20133 Milano, Italy
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Sex Male | Date of birth 16/10/1971 | Nationality Italy

POSITION

Professor in Computer Science

WORK EXPERIENCE

From 11/2019

**Professor (“Professore Ordinario”) in Computer Science (INF/01)**

Dipartimento di Informatica, Università degli Studi di Milano, Via Celoria 18, 20133, Milano, Italy

- Taught graduate and undergraduate classes on: digital signal processing, digital image and video processing, advanced programming.
- Research interests include:
  - Signal Processing of biological signals, with particular regard to ECG (atrial fibrillation, T-Wave alternans and repolarization heterogeneity).
  - Time series analysis, with focus on non-linear methods and long range dependences in heart rate variability
  - Biometrics and techniques which might help ensuring privacy when adopting identification procedures employing biometrics
  - Assisted living / healthy aging facilitating technologies

**Business or sector** Higher Education and Research

From 3/2015 to 10/2019

**Associate Professor (“Professore Associato”) in Computer Science (INF/01)**

Dipartimento di Informatica, Università degli Studi di Milano, Via Celoria 18, 20133, Milano, Italy

**Business or sector** Higher Education and Research

From 1/2004 to 2/2015

**Assistant Professor (“Ricercatore Confermato”) in Computer Science (INF/01)**

Dipartimento di Informatica, Università degli Studi di Milano, Via Celoria 18, 20133, Milano, Italy

**Business or sector** Higher Education and Research

From 3/2015 to 10/2019

**Associate Professor (“Professore Associato”) in Computer Science (INF/01)**

Dipartimento di Informatica, Università degli Studi di Milano, Via Celoria 18, 20133, Milano, Italy

**Business or sector** Higher Education and Research

From 1/2008 to 4/2010

**Scientific advisor (part time) and co-owner**

Sensure s.r.l., Crema, Italy

- Sensure s.r.l. is a successful hi tech industrial spin off of the University of Milan active in the field of quality control through machine vision and state of the art neural classifiers. Prof. Sassi, with endorsement of the University, acted as part time scientific advisor in the starting phase up to the point in which the company started being profitable.

**Business or sector** Machine vision for manufacturing quality control

From 4/2003 to 12/2003

**Postdoctoral Researcher**

Dipartimento di Bioingegneria [Biomedical Engineering], Politecnico di Milano, Milano, Italy

- Supervisor: Prof. S. Cerutti
- Conducted research on ECG signals of patients undergoing atrial fibrillation in collaboration with prof. Pierre Maison-Blanche (Lariboisiere University Hospital, Paris, France) and Ela Medical (Paris, France). Replace with main activities and responsibilities

**Business or sector** Research

From 10/2003 to 11/2003

**Visitor (Applied Mathematics division)**

Department of Mathematics, Imperial College, London, UK

- Supervisor: Prof. Richard V. Craster
- Conducted research on spectral algorithms for reaction-diffusion equations.

**Business or sector** Research

From 9/2001 to 6/2002

**Postdoctoral Researcher**

Department of Applied Mathematics and Statistics, Baskin School of Engineer, University of California at Santa Cruz (UCSC), Santa Cruz (CA), USA

- Supervisor: Prof. Neil J. Balmforth
- Conducted research on non-Newtonian fluids (common in biology), in particular when one dimension of the fluid is in first approximation negligible with respect to the others (lubrication approximation).

**Business or sector** Research

From 3/1997 to 6/1997

**Stage within the Medical Division**

Hewlett-Packard Italiana s.p.a., Cernusco s. N., Italy

- Supervisors: Piero Brambilla e Alberto Oggioni
- Integration of a clinical data management system with intensive care instrumentations; developed a C prototypal version of a synchronous network driver and client.

**Business or sector** Medical Devices**EDUCATION AND TRAINING**

From 11/2017 to 10/2000

**Dottorato di Ricerca in Bioingegneria (Ph.D. in Biomedical Engineering)**

Dipartimento di Bioingegneria [Biomedical Engineering], Politecnico di Milano, Milano, Italy

Ph.D. dissertation (defended on March 5, 2001): "Analysis of heart rate variability complexity through fractal and multivariate approaches". Supervisor: Prof. Sergio Cerutti

Research activities during the Ph.D.:

*University of California at Santa Cruz, (CA, USA) & ISAC-CNR, Torino (Italy)*

Supervisors: Prof. Neil J. Balmforth and Dr. Antonello Provenzale

Conducted research on hierarchically coupled maps. A large number of logistic maps were coupled together as a mathematical metaphor for complex natural systems with hierarchical organization. (3/2000–6/2000, 11/2000)

*ISAC-CNR, Torino & Politecnico di Milano, (Italy)*

Supervisors: Dr. Antonello Provenzale and prof. Maria Gabriella Signorini

Conducted research on the possible multifractal structure of heart rate variability with application to 24-hours inter-beats series. (10/1999–4/2000)

*Università degli Studi di Pavia (Italy) & Politecnico di Milano (Italy)*

Supervisors: prof. Maria Gabriella Signorini and prof. Giovanni Magenes

Conducted research on fetal monitoring. (3/1999–6/2000)

*Woods Hole Oceanographic Institution (MA) & University of California at Santa Cruz (CA), USA*  
 Supervisor: Prof. Neil J. Balmforth  
 As GFD fellow, conducted research on phase-coupled nonlinear oscillators (continuous and discrete Kuramoto models). The transition to synchronization in the continuum model was analyzed. Numerical methods and perturbation theory were used to study the patterns of synchronization that form beyond transition. (6/1999–8/1999, 12/1999)

*Columbia University, New York (NY), USA*  
 Supervisor: Prof. Edward A. Spiegel  
 Conducted research on chaotic nonlinear dynamical system displaying riddled basins of attraction. (10/1998–12/1998).

From 10/1990 to 12/1996

**Laurea (equivalent to a Master & Bachelor degrees) in Electronic Engineering (*summa cum laude*)**

Politecnico di Milano, Milano, Italy

Master's Thesis (defended on December 20, 1996, in Italian): "Studio dell'entropia approssimata per la classificazione di serie temporali: applicazioni al segnale di variabilità cardiaca" (Heart Rate Variability signals classification through Approximate Entropy).  
 Supervisors: Prof. Sergio Cerutti and prof. Maria Gabriella Signorini

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Proficient user	Proficient user	Proficient user	Proficient user	Proficient user
Spanish	Basic user	Basic user	Basic user	Basic user	Basic user

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user  
[Common European Framework of Reference for Languages](#)

Communication skills Good communication skills gained through my experience as university professor (see below for additional details).

Organisational / managerial skills I am currently in charge of the direction of a research laboratory and of the supervision of Ph.D. and master students. (see below for additional details).

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user  
[Digital competences - Self-assessment grid](#)

I have professional programming experience with C/C++, Fortran, Matlab and their interaction. For academic purposes I programmed in Java, Fortran, PHP, Basic and Pascal/Modula 2. I have longstanding experience with the Office suite, LaTeX, Maple and Mathematica. Since 1986, I effectively used computer running Windows, MacOS and several dialects of Unix/Linux.

Driving licence B

## ADDITIONAL INFORMATION

## Research projects and grants

- 7/2021 – 12/2021 **Scientific Coordinator** of the project: “COVIDSQUARED - automatic COmputation of cardioVascular arrhythmic risk from ECG data of COVID-19 patients”, call FISR 2020 COVID - Fase I. Project # FISR2020IP\_01990. Budget: € 70.471,38 of which € 44.066,69 for the local unit.
- 5/2019 – on **Scientific Coordinator** of the project “Identification of robust features for remote monitoring and healthy ageing in e-health systems”, “Piano di Sostegno alla Ricerca (PSR) – anno 2019 – Piano strategico di investimento LINEA 2” of the University of Milan (budget: € 4500).
- 11/2017 – 4/2022 **Scientific Coordinator** for the Università degli Studi di Milano unit in the project: “MY-ATRIA - Multidisciplinary training network for ATRial fibrillation monitoring, treatment and progression”, call Horizon 2020 H2020-MSCA-ITN-2017 (Marie Skłodowska-Curie Innovative Training Networks). Grant agreement number: 766082 (budget of the unit: € 258,061.32 for one Early Stage Researcher).
- 9/2017 – 2/2020 **Scientific Coordinator** for the Università degli Studi di Milano unit, as Third Party of Flextronics S.p.A (Milano, Italia), in the project: “NESTORE - Novel Empowering Solutions and Technologies for Older people to Retain Everyday life activities”, call EU Horizon 2020 H2020-SC1-2016-2017 (Personalised Medicine). Grant agreement number: 769643 (budget of the Third Party: € 40,000).
- 2017 **Beneficiary** of the “Fondo per il Finanziamento delle Attività Base di Ricerca (FFABR) 2017, Italian MIUR. Amount of the grant: € 3,000.
- 11/2016 – 7/2019 **Beneficiary** of the Transition Grant 2015-2017 - Linea 1A. Progetto “Unimi Partenariati H2020”, Università degli Studi di Milano. Amount of the grant: € 5,000.
- 3/2014 – 10/2015 **Scientific Coordinator** for the Università degli Studi di Milano unit in project: “SMARTA - Sistema di Monitoraggio Ambientale con Rete di sensori e Telemonitoraggio indossabile a supporto di servizi di salute, prevenzione e sicurezza per l' Active Aging” funded by Regione Lombardia through the call “Smart Cities” (budget of the unit: € 500,000).
- 2013 **Principal investigator** for the IS CRA class C project “Multiscale Investigation of Myocytes' Repolarization Heterogeneity”. (6 months duration). Super-computing hours granted by CINECA: 402,000.

 Direction of research activities:  
organization activity

- Director** of the Biomedical Signal Processing (BiSP) laboratory, in the Computer Science department of the University of Milan (from July 2008 to June 2015 and from February 2018 to today).
- Since October 2022, **Coordinator** of the **Board of the Ph.D. in Computer Science** at the University of Milan.
- Director** of the Biomedical Signal Processing (BiSP) group, in the Computer Science department of the University of Milan (from July 2008).
- Supervisor** of the post-doc (Italian type A) Dr Arman Kheirati Roonizi, for the research: “Cardiac Abnormalities Identification in Multi-channel ECG Recording”. From 01-10-2021 on.
- Supervisor** of the post-doc (Italian type B) Dr Massimo Walter Rivolta, for the research: “Development of algorithms for automatic feature extraction from biomedical signals”. From 01-06-2019 to 30-06-2020.
- Supervisor** of the post-doc (Italian type B) Dr Davide Coluzzi, for the research: “Algorithms development for remote monitoring and quantification of physical activity with wearable sensors to support healthy aging”. From 01-12-2018 to 31-11-2019.
- Supervisor** of the post-doc (Italian type A) Dr Massimo Walter Rivolta, for the research: “Study of a new ECG-based parameter, the V-index, for risk stratification of cardiac events”. From 01-06-2015 to 31-05-2019.
- Supervisor** of the post-doc (Italian type B) Dr Md. Aktaruzzaman, for the research: “Sviluppo di algoritmi per il monitoraggio con sensori wearable dell'attività fisica e del ritmo veglia/sonno a supporto dell'active aging” (Development of algorithms for monitoring, using wearable sensors, physical activity and sleep to support active ageing). From 01-03-2015 to 29-02-2016.

Direction of research activities:  
organization activity

**Supervisor** of the post-doc (Italian type B) Dr Massimo Walter Rivolta, for the research: "Telemonitoraggio con sensori wearable a supporto dell'active aging: sviluppo di algoritmi di analisi dei dati rilevati" (Telemonitoring using wearable sensors to support active ageing: developments of algorithms for the analysis of data collected"). From 01-12-2014 to 31-05-2015.

Since 2022, Prof. Sassi is **advisor** of Md Moklesur Rahman, Ph.D. degree in computer science (Dottore di Ricerca in Informatica, 37° ciclo), Università degli Studi di Milano. The research will focus on the use of AI to electrocardiographical signals.

From 2019 to 2021, Prof. Sassi was **advisor** of Matteo Bodini, Ph.D. degree in computer science (Dottore di Ricerca in Informatica, 33° ciclo), Università degli Studi di Milano. The research focused on the use of AI and its explainability on large datasets of electrocardiographical signals.

From 2018 to 2022, Prof. Sassi was **advisor** of Muhamed Vila, Ph.D. degree in computer science (Dottore di Ricerca in Informatica, 33° ciclo), Università degli Studi di Milano for the research entitled: "Atrial complex networks in endocavitary recordings during AF". Mr Vila was hired as Early Stage Researcher in the context of the project EU H2020-MSCA-ITN-2017 MY-ATRIA – "Multidisciplinary training network for Atrial fibrillation monitoring, treatment and progression"

From 2015 to 2018, Prof. Sassi was **advisor** of Tewodros Mulugeta Dagnew, Ph.D. degree in computer science (Dottore di Ricerca in Informatica, 31° ciclo), Università degli Studi di Milano for the research entitled: "Machine-Learning based analysis and computer aided classification of neuropsychiatric-disorders using neuro-imaging".

From 2014 to 2017, Prof. Sassi was **advisor** of Ebadollah Kheirati Roonizi, Ph.D. degree in computer science (Dottore di Ricerca in Informatica, 29° ciclo), Università degli Studi di Milano for the research entitled "Adaptive Model-Based Cardiac Signals Analysis and Feature Extraction".

From 2012 to 2015, Prof. Sassi was **advisor** of Md Aktaruzzaman, Ph.D. degree in computer science (Dottore di Ricerca in Informatica, 27° ciclo), Università degli Studi di Milano for the research entitled "Feature Extraction and Classification Through Entropy Measures"

From 2012 to 2015, Prof. Sassi was **advisor** of Massimo Walter Rivolta, Ph.D. degree in computer science (Dottore di Ricerca in Informatica, 27° ciclo), Università degli Studi di Milano for the research entitled "Non-Blind Source Separation and Feature Extraction: Theory, Approach and Studies in Cardiac Signals".

From 2009 and 2012, Prof. Sassi was **co-advisor** of Che-Wei Lin, Joint Ph.D. degree in computer science (Dottore di Ricerca in Informatica, 24° ciclo), Università degli Studi di Milano and National Cheng Kung University (Tainan, Taiwan) for the research entitled: "Development of a Wearable Sensor System in Health Promotion and Open Research Objectives on Parkinson's Disease Severity Recognition and Fall Risk Prediction".

From March 2019, he is **member** of the Thesis Supervision Committee for the Ph.D. student Corrado Ameli, Université de Luxembourg (Luxembourg), for the research entitled: "Machine learning approaches for neurodegeneration".

**Promoter** and **coordinator** of a research cooperation agreement between the University of Milan and Benefattori Cremaschi ONLUS foundation to test and validate new algorithms, based on wearable sensors and machine learning, to estimate the fall risk. The agreement was signed in 2017.

**Promoter** and **coordinator** of a research cooperation agreement between the University of Milan and Cooperativa Sociale Nikolajewka ONLUS (a large Italian no-profit rehabilitation center, offering residential and rehabilitation programs for persons with mid- to very severe motor disabilities). The agreement was signed in 2010.

Direction of research activities:  
supervision of bachelor and  
master students

At the Computer Science department of the University of Milan, Dr. Sassi supervised more than 54 bachelor ("Laurea triennale") or master degree ("Laurea Magistrale") theses, of which one in cooperation with the Université de Nice-Sophia Antipolis (Prof. Olivier Meste, Laboratorio I3S). Other 11 theses were jointly supervised. The main topics covered were: biomedical and biometrics applications, web applications, signal processing, image processing, artificial vision, embedded applications.

- Invited talks** He was invited to give the following talks during international conferences:
- “PDF-ECG and proposed tools: A framework to preserve and present the digital ECG – two birds, one stone?”, at the 2017 annual conference of the International Society for Computerized Electrocardiology (ISCE), St. Simons Island, GA, USA, 19-23 April 2017.
  - “Electrocardiographic Data Exchanges” at the 3rd e-Cardiology & e-Health Conference, 2016, Berlin, Germany.
  - “Present use of ambulatory Holter recordings” at the 2nd e-Cardiology & e-Health Conference, 2014, Bern, CH.
  - “Assessing spatial repolarization heterogeneity from electrocardiographic recordings: numerical simulations and clinical applications” at the STAFF 2014 meeting, MIT Endicott House, Dedham, MA, USA
  - “Nonlinear analysis of heart rate variability: does it provide new information?”, at the 2011 annual conference of the International Society for Computerized Electrocardiology (ISCE), San José, CA, USA.

**Editorial activities** Since February 2020, he is an **associate editor** of the international scientific journal Medical and Biological Engineering and Computing

Since March 2015, he is a **member** of the International Advisory Board, now Editorial Board, of Physiological Measurement.

He acted as **reviewer** for many international journals, among which:

- IEEE Transactions on Biomedical Engineering
- IEEE Transactions on Information Forensics & Security
- IEEE Transactions on Instrumentation & Measurement
- Computer Methods and Programs in Biomedicine
- Computers in Biology and Medicine
- Medical & Biological Engineering & Computing
- Annals of Biomedical Engineering
- Methods of Information in Medicine
- Medical Engineering and Physics
- Biomedical Signal Processing and Control
- IEEE Systems Journal
- Signal Image and Video Processing
- Journal of Electronic Imaging
- Journal of Engineering Mathematics
- Chaos: An Interdisciplinary Journal of Nonlinear Science
- Chaos, Solitons & Fractals Journal of Non-Newtonian Fluid Mechanics
- Journal of Electrocardiology
- Physiological Measurement
- European Journal of Applied Physiology
- Engineering in Medicine and Biology Magazine
- Frontiers in Computational Physiology and Medicine
- Physica A: Statistical Mechanics and its Applications
- Journal on Computational Intelligence in Bioinformatics and Systems Biology
- Journal of Systems Architecture



## Organization of scientific conferences

He was **general Co-Chair** of the 6th EAI International Conference on Wireless Mobile Communication and Healthcare - MOBIHEALTH 2016, Milan (Italy) November 14-16, 2016

He was a **member** of the Local Organizing Committee for IEEE EMBC 2015 (International Conference of the IEEE Engineering in Medicine and Biology Society), which was held in Milan in August 2015

He was **organizer** and **track chair** of the following international workshops:

- Fifth International Workshop on Computational Intelligence Techniques for Industrial and Medical Applications, CITIMA, within the "Signal Image Technology & Internet Based Systems conference", SITIS, Las Palmas de Gran Canaria, Spain, November 26-29, 2018.
- Fourth International Workshop on Computational Intelligence Techniques for Industrial and Medical Applications, CITIMA, within the Signal Image Technology & Internet Based Systems conference, SITIS, Jaipur, India, December 4-7, 2017.
- Third International Workshop on Computational Intelligence Techniques for Industrial and Medical Applications, CITIMA, within the Signal Image Technology & Internet Based Systems conference, SITIS, November 28-December 1, 2016 - Naples, Italy.
- Second International Workshop on Computational Intelligence Techniques for Industrial and Medical Applications, CITIMA, within the Signal Image Technology & Internet Based Systems conference, SITIS, November 23-27, 2015 - Bangkok, Thailand.
- First International Workshop on Computational Intelligence Techniques for Industrial and Medical Applications, CITIMA, within the Signal Image Technology & Internet Based Systems conference, SITIS, November 23-27, 2014, Marrakech, Morocco

## Programme committee memberships

He was a member of the Programme Committee of the following international conferences:

- Euromicro Conference on Digital System Design (DSD), Special Session On Advanced Systems For Health, Wellness And Personal Assistance (ASHWPA), (from 2015 to 2022)
- IEEE Workshop on Biometric Measurements and Systems for Security and Medical Applications, BioMS (from 2010 to 2014)
- IEEE International Conference on Computational Intelligence and Virtual Environments for Measurements Systems and Applications, CIVEMSA (from 2013 to 2021).
- IEEE International Conference on Computational Intelligence for Measurement Systems and Applications, CIMSA (from 2006 to 2012)
- IEEE International Conference on Virtual Environments, Human-Computer Interfaces, and Measurement Systems, VECIMS (years: 2011 and 2012)
- IEEE International Conference on Information Technology and Applications, ITAB (in 2010)
- Conference of the European Study Group on Cardiovascular Oscillations, ESGCO (in 2014 and 2020)
- IEEE International Symposium on INnovations in Intelligent SysTems and Applications, INISTA (years: from 2014 to 2022)
- International Conference on Bio-inspired Systems and Signal Processing - BIOSIGNALS (years: from 2016 to 2021).
- IEEE International Symposium on Biomedical Imaging – ISBI (in 2016).
- Computing in Cardiology (CinC) (from 2017 to 2021).
- 2nd Healthcare Interoperability and Pervasive Intelligent System workshop (HiPIS@ICTH 2018), held with the 8th International Conference on Current and Future Trends of Information and Communication Technologies in Healthcare (ICTH 2018), November 5-8, 2018, Leuven, Belgium.

**Evaluation activities** Since July 2021 is member of the national habilitation board in Computer Science (**Commissione per l'Abilitazione Scientifica Nazionale**, ASN 2021, settore concorsuale 01/B1-Informatica).

In 2011 he participated as a Panel Member (Biomedical Engineering subarea) in the evaluation process to select the funded research projects for the Health Sciences 2010 call of the Portuguese Foundation for Science and Technology (Fundação para a Ciência e a Tecnologia, FCT).

He is a panel member of the commission which assess the applications and grants the AEIT (Associazione Elettrotecnica ed Elettronica Italiana) «Isabella Sassi Bonadonna» research fellowship (\$16.000 - \$25.000).

He is a panel member of the commission which assess the applications and grants the «Francesco Rodella» research fellowship (Associazione Rodella onlus, Montichiari, BS, €10.000).

**Doctoral Commissions** **Member** of the Dissertation Defence Jury for the Ph.D. candidate Corrado Ameli at the Université du Luxembourg, Luxembourg. Title of the thesis: "Dissecting complex microglia heterogeneity in neurodegeneration". Date: 24-2-2022.

**Korreferent** in commission for the exam of Doktors der Ingenieurwissenschaften (Dr.-Ing.) at the Karlsruher Instituts für Technologie (KIT), Karlsruhe (Germany) for the candidate Giogio Luongo. Title of the thesis: "Atrial Arrhythmia Diagnosis Using the 12-Lead ECG - Machine learning leveraging in silico and clinical signals". Date: 16-11-2021.

**Member** of the reviewers' panel for the Ph.D. thesis of the University of Bologna (XXX ciclo), Italy, from October 2017 to January 2019.

**President** of the "Commissione giudicatrice per il conferimento del titolo di dottore di ricerca del Corso di Dottorato in Bioingegneria - XXIX ciclo", Politecnico di Milano and **member** of the joint Doctorate Commission (Comisión de Doctorado) for the degree "Ph.D. in Biomedical Engineering", University of Zaragoza (Spain), (joint doctorate), for the candidate Alba Pilar Martin Yebra. Title of the thesis: "Assessment of ventricular repolarization instability and cardiac risk stratification in different pathological and abnormal conditions". Date: 17-11-2017.

**Member** of the "Commissione giudicatrice per il conferimento del titolo di dottore di ricerca del Corso di Dottorato in Ingegneria dell'Informazione - XXIX ciclo e della Scuola di dottorato in Scienze dell'Ingegneria - Curricula "E-learning" e "Ingegneria biomedica, elettronica e delle telecomunicazioni" - XXVIII ciclo, Università Politecnica delle Marche, Ancona (Ph.D. in Computer Engineering and in Biomedical Engineering). 18 candidates. Dates: 23 and 24 March 2017.

**Member** of the Doctorate Commission (Comisión de Doctorado) for the title "Ph.D. in Biomedical Engineering" of Julia Ramírez García at the Instituto Universitario de Investigación en Ingeniería de Aragón, University of Zaragoza (Spain). Title of the thesis: "Prediction of Cardiac Death Risk by Analysis of Ventricular Repolarization Restitution from the Electrocardiogram Signal". Date: 20-03-2017.

**Member** of the Doctorate Commission for the title "Doctor Internacional en Ingeniería Informática" (PhD) of José Carlos Calvo al CITIC-UGR Department of Computer Architecture and Computer Technology, University of Granada (Spain). Title of the thesis: "A parallel multi-objective optimization procedure for protein structure prediction". Date: 15-10-2012.



Teaching  
 Undergraduate and graduate  
 courses

**“Digital Signal Processing”** (“Elaborazione dei Segnali”), for Bachelor Degree (“Laurea Triennale”) students at Università degli Studi di Milano, degree in Informatica per la Comunicazione Digitale. Taught in Italian, during the academic years: 2017/2018, 2018/2019 (48 hours) and 2019/2020, 2020/2021, 2021/2022 (60 hours).

**“Statistics and Data Analysis”** (“Statistica e Analisi dei Dati, Modulo I”), for Bachelor Degree (“Laurea Triennale”) students at Università degli Studi di Milano, Crema Campus, degree in Sicurezza dei Sistemi e delle Reti Informatiche. Taught in Italian, during the academic years: 2017/2018 and 2018/2019 (3 ECTS, 24 hours).

**“Biomedical Signal Processing”**, for Master Degree (“Laurea Magistrale”) students at Università degli Studi di Milano, master degree in Computer Science. Teaching activity: 48 hours of classes (6 ECTS). Taught in English in the academic years: 2019/2020, 2020/2021, 2021/2022.

**“Biomedical and Industrial Signal Processing”**, for Master Degree (“Laurea Magistrale”) students at Università degli Studi di Milano, master degree in Computer Science. Teaching activity: 48 hours of classes (6 ECTS). Taught in English in the academic years: 2018/2019.

**“Bioengineering Informatics”** (“Bioingegneria Informatica”), for Master Degree (“Laurea Magistrale”) students at Università degli Studi di Milano, Crema campus, master degree in Computer Science. Teaching activity: 48 hours of classes (6 ECTS). Taught in English in the academic years: 2015/2016, 2017/2018.

**“Methods for Signal Processing” / “Digital Signal Processing”** (“Elaborazione di Segnali”), for Master Degree (“Laurea Magistrale”) students at Università degli Studi di Milano, Crema campus, master degree in Computer Science. Teaching activity: 48 hours of classes (6 ECTS). Taught in English in the academic years: 2016/2017, 2014/2015, 2013/2014, 2012/2013, 2011/2012. Taught in Italian in the academic years: 2010/2011, 2009/2008.

**“Intelligent Systems”**, for Master Degree (“Laurea Magistrale”) students at Università degli Studi di Milano, Crema campus, master degree in Computer Science. Teaching activity: 48 hours of classes (6 ECTS). Taught in English in the academic year: 2015/2016.

**“Digital Image Processing”** (“Elaborazione di Immagini”), for Bachelor Degree (“Laurea Triennale”) students at Università degli Studi di Milano, Crema campus, degree in Computer Science. Dr Sassi was the coordinator of the course (5 ECTS). Taught in Italian, during the academic years: i) 2008/2009 (40 hours), ii) 2007/2008 (20 hours), iii) 2006/2007 (20 hours), iv) 2005/2006 (4 hours).

**“Elements of Digital Image and Video Processing”** (“Elementi di Elaborazione di Immagini e Video”), for Bachelor Degree (“Laurea Triennale”) students at Università degli Studi di Milano, degree in Informatica per la Comunicazione Digitale. Taught in Italian, during the academic years: 2016/2017, 2015/2016 (48 hours).

**“Object-Oriented Programming Laboratory”** (“Laboratorio di programmazione ad oggetti”) for Bachelor Degree (“Laurea Triennale”) students at Università degli Studi di Milano, Crema campus, on-line degree in Computer Security. Teaching activity: pre-recorded on-line classes (3 ECTS), in Italian. Academic years in which the course was offered: i) 2010/2011, ii) 2009/2010, iii) 2008/2009, iv) 2007/2008, v) 2006/2007

**“Programming Laboratory”** (“Laboratorio di Informatica applicata”) for Bachelor Degree (“Laurea Triennale”) students at Università degli Studi di Milano, Crema campus, degree in Computer Science. Teaching activity: 24 hours of classes and 24 of active laboratory (6 ECTS), in Italian. Academic years in which the course was taught: i) 2008/2009, ii) 2007/2008, iii) 2006/2007, iv) 2005/2006, v) 2004/2005, vi) 2003/2004.

**“Web technologies: server-side programming”** (“Tecnologie Web, modulo II”), for Bachelor Degree (“Laurea Triennale”) students at Università degli Studi di Milano, Crema campus, degree in Computer Science. Teaching activity: 20 hours of classes (2.5 ECTS), in Italian, during the academic year 2005/2006.

**“Electronics”**, laboratory sessions for Bachelor Degree (“Laurea Triennale”) students at Università degli Studi di Milano, Crema campus, degree in Computer Science, 2004.

Teaching: M.S. programs ("Master di II livello") **"Statistical Methods in Medical Research"** ("Metodi statistici per la medicina") for Specialization Master ("Master di II livello", 2nd level Master under the Bologna agreement) students at Politecnico di Milano, "Master Innovazione in Chirurgia". Teaching activity: 10 hours of classes, in Italian during the academic year: 2007/2008.

**"Soft Computing for Medical Application"**, for Specialization Master ("Master di II livello", 2nd level Master under the Bologna agreement) students at Università degli Studi di Milano, degree: "Soft Computing for Industrial Applications – IMSCIA". Teaching activity: online lessons, in English during the academic year: 2003/2004

Teaching: Ph.D. courses **"Advanced Topics in Signal Processing"** for Ph.D. students at Università degli Studi di Milano, Ph.D. degree in computer science. Teaching activity: 10 hours, in English, during the academic years: 2021/2022.

**"Advanced Topics in Signal Processing"** for Ph.D. students at Università degli Studi di Milano, Ph.D. degree in computer science. Teaching activity: 10 hours, in English, during the academic years: 2018/2019.

**"Advanced Topics in Signal Processing"** for Ph.D. students at Università degli Studi di Milano, Ph.D. degree in computer science. Teaching activity: 12 hours, in English, during the academic years: 2015/2016.

**"Advanced Intelligent Systems"** (module) for Ph.D. students at Università degli Studi di Milano, Ph.D. degree in computer science. Teaching activity: 6 hours (out of 12 for the full course), in English, during the academic years: 2015/2016.

**"Fundamentals of digital image processing"** (module) ("Fondamenti di elaborazione del segnale multi-dimensionale") for Ph.D. ("Dottorato di Ricerca") students at Università degli Studi di Milano, Ph.D. degree in computer science. Teaching activity: 6 hours (out of 24 for the full course), in English, during the academic years: 2014/2016, 2011/2012.

**"Fundamentals of digital signal processing"** (module) ("Fondamenti di elaborazione del segnale mono-dimensionale"), for Ph.D. ("Dottorato di Ricerca") students at Università degli Studi di Milano, Ph.D. degree in computer science. Teaching activity: 6 hours (out of 24 for the full course), in English, during the academic year 2009/2010.

He gave the following lectures at the Ph.D. school of Politecnico di Milano, Italy:

- **"Nonlinear dynamics in biological systems and signals"** ("Studio delle dinamiche non lineari nei sistemi e nei segnali biologici"), 3 hours, in Italian, within the Ph.D. course "Advanced topics in biomedical signal processing" ("Complementi di Elaborazione di Segnali e Dati Biomedici"), Ph.D. degree in Biomedical Engineering, Politecnico di Milano. The lecture was offered in the years: v) 2010, iv) 2007, iii) 2005, ii) 2004, i) 2003.
- **"Long time correlations and fractals signals"** and **"Entropy and regularity"**, 3 hours, in English, within the Ph.D. course "Advanced Methods of Biomedical Signal and Data Processing", Ph.D. degree in Biomedical Engineering, Politecnico di Milano. The lecture was offered in the years: vi) 2022, v) 2020, iv) 2018, iii) 2016, ii) 2014, i) 2012.
- **"Who are you? Biometric human identification through biosignals"** (3 hours) within the Ph.D. course "Biosignal Processing 4 All: Applications in Affective-Computing, Biometric and Neuromarketing". Ph.D. degree in Biomedical Engineering, Politecnico di Milano. The lecture was offered in 2017.

Teaching: Lectures and seminars Invited lecture: "Computer and Information Ethics" ("Forme della responsabilità nell'ambito dell'informatica"), 6 hours within the course in applied ethics (prof. Frediano Sessi), degree in Computer Engineering, University of Pavia. The lecture was offered in the years: i) 2011, ii) 2010, iii) 2009.

Seminar: "Communication Networks: Error Control, Flow Control", 6 hours within the course Sistemi di Elaborazione dell'informazione (prof. Ernesto Damiani), bachelor degree in Computer science, Università degli Studi di Milano, 2005.

Seminar: "Batch shell programming", 4 hours within the course Sistemi Operativi (prof. Vincenzo Piuri), bachelor degree in Computer science, Università degli Studi di Milano, 2004.

**Memberships** **IEEE** senior member since 2012 (member since 2006).  
**AEIT** member (IEEE Italian sister society) since 1998.  
**ESC** (European Society of Cardiology) active member of the e-Cardiology working group.  
Member of the Gruppo Nazionale di Bioingegneria (**GNB**) and treasurer from 2018 to 2021.

**Fellowships** 2003, «SNIA S.p.A. - dott. Ennio Denti» postdoctoral fellowship, Politecnico di Milano, Italy.  
1999; «GFD Fellow», Geophysical Fluid Dynamics Program, Woods Hole Oceanographic Institution, MA, USA.  
1998, «Isabella Sassi Bonadonna» fellowship, Associazione Elettrotecnica ed Elettronica Italiana (AEI), Italy.

**National scientific habilitations  
(Abilitazioni Scientifiche Nazionali)**

He was granted the following Italian National Scientific Habilitation (Abilitazione Scientifica Nazionale - ASN):

- full professor in Biomedical Engineering (09/G2, ING-INF/06) on 04-04-2018 (ASN 2016);
- full professor in Computer Science (01/B1, INF/01) on 28-03-2018 (ASN 2016);
- associate professor in Biomedical Engineering (09/G2, ING-INF/06) on 10-12-2014 (ASN 2013);
- associate professor in Computer Science (01/B1, INF/01) on 29-01-2014 (ASN 2012).

**Certifications** **Licenced** in Italy to the profession of **engineer** (Mantova, #1426).

**Patents** S. Cimato, M. Gamassi, V. Piuti, D. Sana, R. Sassi, F. Scotti, Publication number WO/2007/113888: "**Method for generating and verifying security information obtained by means of biometric readings**". Deposited: 29 March 2007. Property: Università degli Studi di Milano. [PCT extension of the MI2006A000641 patent: PCT/IT2007/000235]

[D1] S. Cimato, M. Gamassi, V. Piuri, D. Sana, R. Sassi, and F. Scotti, Patent number MI2006A000641: "**Metodo di generazione e di verifica di una informazione di sicurezza ottenuta mediante letture biometriche**". Deposited: 31 March 2006. Property: Università degli Studi di Milano

**Publications** Please refer to Annex A for a complete list of the publications. A summary is as follows:

- 60 **papers** in international scientific **journals**;
- 6 **chapters** of books;
- 82 **papers** in **proceedings** of international conferences.

On February 12, 2022 he had the following publication metrics:

- Google Scholar: h-index = 30; citations = 3462.
- Scopus: h-index = 24; citations = 2161;
- Web of Science/ISI: h-index = 22; citations = 1714.

**ANNEXES**

- Annex A: Publications.

## Annex A

### PUBLICATIONS

#### A. Published papers

[A60] M. Vila, M.W. Rivolta, G. Luongo, L.A. Unger, A. Luik, L. Gigli, F. Lombardi, A. Loewe, **R. Sassi**, “Atrial Flutter Mechanism Detection Using Directed Network Mapping”, *Frontiers in Physiology*, vol. 12 (art. no. 749635), pp. 1-14, 2022. ISSN: 1664-042X.

[A59] G. Manis, M. Bodini, M.W. Rivolta, **R. Sassi**, “A two-steps-ahead estimator for bubble entropy”, *Entropy*, vol. 23(6), art. no. 761, pp. 1-13, 2021. ISSN: 1099-4300.

[A58] M. Bodini, M.W. Rivolta, **R. Sassi**, “Opening the black box: Interpretability of machine learning algorithms in electrocardiography”, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, vol. 379(2212), art. no. 20200253, pp. 1-13, 2021. ISSN: 1364-503X.

[A57] G. Luongo, L. Azzolin, S. Schuler, M.W. Rivolta, T.P. Almeida, J.P. Martínez, D.C. Soriano, L. Armin, B. Müller-Edenborn, A. Jadidi, O. Dössel, **R. Sassi**, P. Laguna, A. Loewe, “Machine learning enables noninvasive prediction of atrial fibrillation driver location and acute pulmonary vein ablation success using the 12-lead ECG”, *Cardiovascular Digital Health Journal*, vol. 2(2), pp. 126-136, 2021. ISSN: 2666-6936.

[A56] M.W. Rivolta, M. Barbieri, T. Stampalija, **R. Sassi**, M.G. Frasnich, “Relationship Between Deceleration Morphology and Phase Rectified Signal Averaging-Based Parameters During Labor”, *Frontiers in Medicine*, vol. 8 (art. no. 626450), pp. 1-10, 2021. ISSN: 2296-858X.

[A55] M. Aktaruzzaman, T. M. Dagneu, M. W. Rivolta, **R. Sassi**, “Improved low-cost recognition system for handwritten Bengali numerals”, *International Journal of Computer Applications in Technology*, vol. 62(4), pp. 375-383, 2020. ISSN: 0952-8091.

[A54] Davide Coluzzi, Massimo W. Rivolta, Alfonso Mastropietro, Simone Porcelli, Marco L. Mauri, Marta T. L. Civiello, Enrico Denna, Giovanna Rizzo, **Roberto Sassi**, “Design and Validation of a Minimal Complexity Algorithm for Stair Step Counting”, *Computers*, vol. 9(2), pp. 31 (15 pages), 2020. ISSN: 2073-431X.

[A53] Valentina D.A. Corino, Massimo W. Rivolta, Luca T. Mainardi, **Roberto Sassi**, “Assessment of spatial heterogeneity of ventricular repolarization after multi-channel blocker drugs in healthy subjects, *Computer Methods and Programs in Biomedicine*”, vol. 189, pp. 105291 (9 pages), 2020. ISSN: 0169-2607.

[A52] Massimo Walter Rivolta, Tamara Stampalija, Martin G. Frasnich, **Roberto Sassi**, “Theoretical Value of Deceleration Capacity Points to Deceleration Reserve of Fetal Heart Rate”, *IEEE Transactions on Biomedical Engineering*, vol. 67(4), pp. 1176-1185, 2020. ISSN: 0018-9294.

[A51] Md. Moklesur Rahman, Md. Shafiqul Islam, **Roberto Sassi**, Md. Aktaruzzaman, “Convolutional neural networks performance comparison for handwritten Bengali numerals recognition”, *SN Applied Sciences*, vol. 1:1660 (11 pages), 2019. ISSN: 2523-3963.

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[A49] Letizia Squarcina, Tewodros Dagneu, Massimo W. Rivolta, Marcella Bellani, **Roberto Sassi**, Paolo Brambilla, “Automated cortical thickness and skewness feature selection in Bipolar Disorder using a Semi-Supervised Learning method”, *Journal of Affective Disorders*, vol. 256, pp. 416-423, 2019. ISSN: 0165-0327.

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- [A45] M. Aktaruzzaman, M.W. Rivolta, R. Karmacharya, N. Scarabottolo, L. Pugnetti, M. Garegnani, G. Bovi, G. Scalera, M. Ferrarin, **R. Sassi**, Performance comparison between wrist and chest actigraphy in combination with heart rate variability for sleep classification, *Computers in Biology and Medicine*, vol. 89, pp. 212-221, 2017. ISSN: 0010-4825.
- [A44] **Roberto Sassi**, Raymond R. Bond, Andrew Cairns, Dewar D. Finlay, Daniel Guldenring, Guido Libretti, Lamberto Isola, Martino Vaglio, Roberto Poeta, Marco Campana, Claudio Cuccia, Fabio Badilini PDF-ECG in clinical practice: A model for long-term preservation of digital 12-lead ECG data, *Journal of Electrocardiology*, vol. 50(6), pp. 776-780, 2017. ISSN: 0022-0736.
- [A43] George Manis, Md Aktaruzzaman and **Roberto Sassi**, Bubble Entropy: an Entropy Almost Free of Parameters, *IEEE Transactions on Biomedical Engineering*, vol. 64(11), pp. 2711-2718, 2017. ISSN: 0018-9294.
- [A42] E. Kheirati Roonizi and **R. Sassi**, An Extended Bayesian Framework for Atrial and Ventricular Activity Separation in Atrial Fibrillation, *IEEE Journal of Biomedical and Health Informatics*, vol. 21(6), pp. 1573-1580, 2017. ISSN: 2168-2194.
- [A41] R. Abächerli, R. Twerenbold, J. Boeddinghaus, T. Nestelberger, P. Maechler, **R. Sassi**, M. W. Rivolta, E. Kheirati Roonizi, L. T. Mainardi, N. Kozhuharov, M. R. Giménez, K. Wildi, K. Grimm, Z. Sabti, P. Hillinger, C. Puelacher, I. Strebler, J. Cupa, P. Badertscher, I. Roux, R. Schmid, R. Leber, S. Osswald, C. Mueller, T. Reichlin, Diagnostic and Prognostic Value of the V-index, a novel ECG marker quantifying Spatial Heterogeneity of Ventricular Repolarization, in Patients with Symptoms suggestive of Non-ST-Elevation Myocardial Infarction, *International Journal of Cardiology*, vol. 236, pp. 23-29, 2017. ISSN: 0167-5273.
- [A40] Pigni L., Bovi G., Panzarino C., Gower V., Ferratini M., Andreoni G., **Sassi R.**, Rivolta M.W., Ferrarin M., “Pilot Test of a New Personal Health System Integrating Environmental and Wearable Sensors for Telemonitoring and Care of Elderly People at Home (SMARTA Project)”, *Gerontology*, vol. 63(3), pp. 281-286, 2017. ISSN: 0304-324X.
- [A39] A. Bauer, A.J. Camm, S. Cerutti, P. Guzik, H. Huikuri, F. Lombardi, M. Malik, C. Peng, A. Porta, **R. Sassi**, G. Schmidt, P.J. Schwartz, P.K. Stein, Y. Yamamoto, Reference values of heart rate variability, *Heart Rhythm*, vol. 14(2), pp. 302-303, 2017. ISSN: 1547-5271.
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- [A36] E. Kheirati Roonizi and **R. Sassi**, A Signal Decomposition Model-Based Bayesian Framework for ECG Components Separation, *IEEE Transactions on Signal Processing*, vol. 64(3), pp. 665-674, 2016. ISSN: 1053-587X.
- [A35] T. Stampalija, D. Casati, L. Monasta, **R. Sassi**, M.W. Rivolta, M.L. Muggiasca, A. Bauer, E. Ferrazzi, Brain sparing effect in growth-restricted fetuses is associated with decreased cardiac acceleration and deceleration capacities: a case-control study, *BJOG: An International Journal of Obstetrics & Gynaecology*, vol. 123, pp. 1947-1954, 2016. ISSN: 1471-0528.
- [A34] **R. Sassi**, S. Cerutti, F. Lombardi, M. Malik, H.V. Huikuri, C.-K. Peng, G. Schmidt, Y. Yamamoto, Advances in heart rate variability signal analysis: Joint position statement by the e-Cardiology ESC Working Group and the European Heart

Rhythm Association co-endorsed by the Asia Pacific Heart Rhythm Society, Europace, vol. 17, pp. 1341-1353, 2015. ISSN: 1099-5129.

[A33] G.S. Roi, M. Monticone, M. Salvoni, **R. Sassi**, G. Alberti, Self-reported knee symptoms assessed by KOOS questionnaire in downhill runners (skyrunners), PLoS One, vol. 10, pp. e0126382, 2015. ISSN: 1932-6203.

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[A31] M. Aktaruzzaman, M. Migliorini, M. Tenhunen, S. L. Himanen, A. M. Bianchi, **R. Sassi**, The addition of entropy-based regularity parameters improves sleep stage classification based on heart rate variability, Medical & Biological Engineering & Computing, vol. 53(5), pp. 415-425, 2015. ISSN: 0140-0118.

[A30] M. W. Rivolta, L. T. Mainardi and **R. Sassi**, Quantification of ventricular repolarization heterogeneity during moxifloxacin or sotalol administration using V-index, Physiological Measurement, vol. 36, pp. 803-811, 2015. ISSN: 0967-3334.

[A29] S. Cerutti, V. D. A. Corino, L. T. Mainardi, F. Lombardi, M. Aktaruzzaman, **R. Sassi**, Non-linear regularity of arterial blood pressure variability in patient with atrial fibrillation in tilt-test procedure, Europace, vol. 16, Issue suppl. 4, pp. iv141-iv147, 2014. ISSN: 1099-5129. The research was presented in preliminary form at the 7th TRM Forum on computer simulation and experimental assessment of cardiac function, Lugano (CH) 2013 and then extended for publication.

[A28] M. W. Rivolta, T. Stampalija, D. Casati, B. S. Richardson, M. G. Ross, M. G. Frasch, A. Bauer, E. Ferrazzi, **R. Sassi**, "Acceleration and deceleration capacity of fetal heart rate in an in-vivo sheep model", PLoS One, vol. 9, pp. e104193 (2014). ISSN: 1932-6203.

[A27] M. Aktaruzzaman and **R. Sassi**, "Parametric estimation of sample entropy in heart rate variability analysis", Biomedical Signal Processing and Control, vol. 14, pp. 141-147 (2014). ISSN: 1746-8094.

[A26] **R. Sassi**, M. W. Rivolta, L. T. Mainardi, R. C. Reis, M. O. C. Rocha, A. L. P. Ribeiro and F. Lombardi, "Spatial Repolarization Heterogeneity and Survival in Chagas Disease", Methods of Information in Medicine, vol. 53, published on line ahead of print, (2014). ISSN: 0026-1270.

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[A24] V. D. A. Corino, M. W. Rivolta, **R. Sassi**, F. Lombardi and L. T. Mainardi, "Ventricular activity cancellation in electrograms during atrial fibrillation with constraints on residuals' power", Medical Engineering and Physics, vol. 35(12), pp. 1770-1777 (2013). ISSN: 1350-4533.

[A23] L. T. Mainardi and **R. Sassi**, "Some theoretical results on the observability of repolarization heterogeneity on surface ECG", Journal of Electrocardiology, vol. 46(3), pp. 270-275, 2013. ISSN: 0022-0736.

[A22] **R. Sassi** and L.T. Mainardi, "Theoretical comments on reproducibility and normalization of TWA measures. Journal of Electrocardiology, vol. 46(2), pp. 132-135, 2013. ISSN: 0022-0736.

[A21] M. Bezzi, S. De Capitani di Vimercati, S. Foresti, G. Livraga, P. Samarati, and **R. Sassi**, "Modeling and preventing inferences from sensitive value distributions in data release", Journal of Computer Security, vol. 20(4), pp. 393-436, 2012. ISSN: 0926-227X.

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- [A14] S. Cimato, **R. Sassi**, and F. Scotti, "Biometrics and privacy", *Recent Patents on Computer Science*, vol. 1, pp. 98-109, June 2008. ISSN: 1874-4796. IF JCR 2008: N.A.
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- [A12] Roberto Maestri, Gian Domenico Pinna, Alberto Porta, Rita Balocchi, **Roberto Sassi**, Maria Gabriella Signorini, Maria Dudziak, Grzegorz Raczak. "Assessing nonlinear properties of heart rate variability from short-term recordings: are these measurements reliable?". *Physiological Measurement* **28**, 1067-1077 (2007). ISSN: 0967-3334. IF JCR 2007: 1.412
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- [A9] Valentina D.A. Corino, **Roberto Sassi**, Luca T. Mainardi, Sergio Cerutti. "Signal processing methods for information enhancement in atrial fibrillation: spectral analysis and non-linear parameters". *Biomedical signal processing and control*, **1**, 271-281 (2006). ISSN: 1746-8094. IF JCR 2006: N.A.
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- [A7] R. Maestri, G. D. Pinna, R. Balocchi, G. d'Addio, M. Ferrario, A. Porta, **R. Sassi**, M. G. Signorini, M. T. La Rovere, "Clinical correlates of non-linear indices of heart rate variability in chronic heart failure patients". *Biomedizinische Technik*, **51**, 220-223, (2006). ISSN: 0013-5585. IF JCR 2006: 0.835
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## B. Book's chapters

[B6] S. Cimato, **R. Sassi** and F. Scotti, Biometric privacy, in S. Jajodia, P. Samarati, M. Yung (eds), *Encyclopedia of Cryptography, Security and Privacy*, (5 pages), Springer, 2021. ISBN: 978-3-642-27739-9.

[B5] M. W. Rivolta and **R. Sassi**, "Big Data and Signal Processing in mHealth", in G. Andreoni, P. Perego and Frumento E. (eds), "m\_Health Current and Future Applications", pp. 101-113, EAI/Springer Innovations in Communication and Computing, Springer, Cham, 2019.

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[B1] Maria G. Signorini, **Roberto Sassi**, Sergio Cerutti, "Assessment of nonlinear dynamics in heart rate variability signals" in *Nonlinear biomedical signal processing, Volume II: Dynamic Analysis and Modelling*, Metin Akay eds, pp 263-281 (IEEE Press, New York, 2000). ISBN: 978-0-7803-6012-9.

## C. Conference proceedings

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