



UNIVERSITÀ
DEGLI STUDI
DI BERGAMO



Summer School Nonlinear Life 2022 | 5th Edition "Digital Health Technologies"

**** Time of schedule is CEST (UTC/GMT+2) ****

Day 1 | Monday, 25 July 2022

New Electronic Devices for Health, Wearable Sensors and IoT Systems for Diagnosis and Care

Chair: Alexei Katashev

08.30-08.45	Yuri Dekhtyar, Marina Cabrini	Summer School opening and welcome
08.45-09.35	Elisa Riceputi	Embedded measurement systems
09.35-10.25	Jesus Lazaro	Biomedical signal processing for wearable cardiorespiratory monitoring
10.25-11.15	Antonio Ferramosca	Automated blood glucose regulation: the Artificial Pancreas
11.15-11.40	Coffee break	
11.40-12.30	Gianluca Traversi	Novel wearable sensor systems for cardiovascular monitoring
12.30-13.10	Maria Grazia D'Urso	Close-range imagery for reconstructing archaeological findings
13.10-14.00	Giuseppe Rosace	Development of protective and smart textiles for healthcare

Day 2 | Tuesday, 26 July 2022

New Electronic Devices for Health, Wearable Sensors and IoT systems for Diagnosis and Care

Chair: Gianluca Traversi

08.30-09.20	Ilaria Vai	Radioactivity and radioactive sources
09.20-10.10	Ilaria Vai	Health, safety, and environment applications
10.10-11.00	Yuri Dekhtyar	Nanodosimetry: necessity and experimental approaches
11.00-11.30	Coffee break	
11.30-12.20	Daniele Comotti	Smart devices for fitness and healthcare: a system design and embedded signal processing perspective
12.20-13.10	Roberto Sannino	Hardware and software development platforms for embedded IoT applications with AI at the edge
13.10-14.00	Marco Favaretto , Oliver Khon	Bosch Sensortec: MEMS sensors for consumer electronics

Day 3 | Wednesday, 27 July 2022**New Digital Solutions for 3D Acquisition, Modelling and Simulation of the Human Body to Improve Patient's Assessment and Rehabilitation***Chair: Daniele Regazzoni*

08.30-09.20	Mathias Forjan / Richard Pasteka	Simulating a human lung, but in real
09.20-10.10	Daniele Regazzoni	Digital human modelling: evolution of the models, fields of application and future challenges
10.10-11.00	Daniele Regazzoni	Motion capture: challenges and limitations of human body tracking for medical and rehabilitation purposes
11.00-11.30	Coffee break	
11.30-12.20	Dmitrijs Bliznuks	Machine learning in multispectral diagnostics of skin diseases I
12.20-13.10	Katrina Boločko	Machine learning in multispectral diagnostics of skin diseases II
13.10-14.00	Alexei Katashev	Smart textile sensors for gamification in medicine: case studies and current challenges

Day 4 | Thursday, 28 July 2022**Additive Manufacturing***Chairs: Andrea Vitali, Sergio Lorenzi*

08.30-09.20	Ulviya Bunyatova	Light-soft matter interaction as an optical tool for biomedical applications
09.20-10.10	Ulviya Bunyatova	Optical tools as accurate approaches for bio-sensing technology
10.10-11.00	Sergio Lorenzi	Additive manufacturing and new materials: technologies and standardization
11.00-11.30	Coffee break	
11.30-12.20	Chiara Pasini	Additive manufacturing for the realization of hybrid scaffolds for tissue engineering
12.20-13.10	Nicoletta Inverardi	Shape memory polymers and 4D printing for pharmaceutical applications
13.10-14.00	Andrea Vitali	3D scanning of the human body: from the acquisition of the morphology of human districts to the creation of interactive 3D models

Day 5 | Friday, 29 July 2022**New Digital Solutions for 3D Acquisition, Modelling and Simulation of the Human Body to Improve Patient's Assessment and Rehabilitation***Chairs: Marina Cabrini, Lucio De Paolis*

08.30-09.20	Lucio De Paolis	Applications of extended reality in medicine and surgery
09.20-10.10	Felix Buendía-García	Health information exchange by combining interoperable resources and digital collection tools
10.10-11.00	Mathias Forjan / Lukas Traxler	Simulating a human eye, but in real
11.00-11.30	Coffee break	
11.30-12.20	Andrea Vitali	Gamification in medical rehabilitation practices. Serious games are playing an increasing role: how to create them?
12.20-13.00	Lunch break	

13.00-13.45	Daniel Lanzoni	VR serious games for neurological rehabilitation
13.45-14.30	Anna Ghidotti	3D modeling of human districts
14.30-15.30	Yuri Dekhtyar, Marina Cabrini	Summer School closing ceremony