

Webinars

## **NeuroSpine** - V International Meeting

**Regeneration & Rehabilitation in Brain and Spinal Cord Injuries**

November 16, 2020

## **NeuroInformatica** - IX Workshop Nazionale

**Intelligenza Artificiale, NeuroRobotica, BCI, Teleneurologia**

17 Novembre, 2020

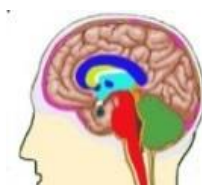


FROM CELLS TO BIOENGINEERING AND NEUROREHABILITATION APPLICATIONS

Molecular mechanisms, stem cells, Glial response, magnetic and laser therapy, Electro-stimulation Molecular and genomic data banks, Bioinformatics, NeuroInformatics, Brain Computer Interfaces, Neural Networks, Neural computation, Artificial Intelligence, Virtual brain and Augmented Reality, Machine Learning, Neurorehabilitation, robotics, neuro-bioengineering, sensors, devices, IoT, Telemedicine and telerehabilitation, Big Data, statistical data analysis & mining in observational studies & clinical trials

### TOPICS

- Neuro Immagini, Data Base e Sistemi Informativi in Neurologia
- Segnali fisiologici e Modellistica neuronale
- Intelligenza artificiale e DSS in medicina
- Neural computing e Reti Neurali artificiali
- modelli computazionali e Sistemi Cognitivi
- Web semantici e neuro-Ontologie
- Virtual Brain, realtà virtuale
- Esoscheletri per il cammino
- Biosensori, Telemonitoraggio, Telerabilitazione
- Data Analysis, trial clinici in neurologia
- Neuroriabilitazione, robotica
- Brain Computer Interfaces, Neuro elettrostimolazione, ecc.
- Big data in neuroinformatica
- Bioinformatica e banche dati genomiche



Polo Neurologico Brianteo



Chair: **Francesco Sicurello** (President IITM/@ITIM, Universit. Milano Bicocca)

Co-Chairs: **Donatella Bonaiuti** (Consigl. Presiden. SIMFeR, Società Italiana di Medicina Fisica e Riabilitativa); **Angela Colantonio** (Director of Rehabilitation Institute, University of Toronto); **Wojciech Glinkowski** (President of Polish Telemedicine Society, CoE "TeleOrto", MUW; Gabinet Lekarski, Poland); **Antonio Oliviero** (Laboratory Head of Servicio de Salud de Castilla-La Mancha Albacete (SESCAN), Hospital Nacional de Paraplégicos, Toledo)

**Program**

**Lunedì/Monday 16 november** (european bruxelles time)

NeuroInformatics-NeuroSpine (II International Meeting)

**H. 9.00** Registration

**H. 9.05** Welcome Address and introduction

**Francesco Sicurello** (IITM/@ITIM & University of Milano Bicocca)

**Donatella Bonaiuti** (SIMFeR-Società Italiana di Medicina Fisica e Riabilitativa)

**Wojciech Glinkowski** (Telemedicine Society, Poland)

**H. 9.30 Big Data, Artificial Intelligence and Machine Learning in Medicine** (Chair. Francesco Sicurello)

- **Informatics in Biomedicine; Giancarlo Mauri** (University of Milan - Bicocca)
- **Intelligent application of Informatics in Covid lab tests analysis; Federico Cabitza** (University of Milan - Bicocca)
- **Big Data in Bio&Neuro-informatics, e-Health; Luciano Milanese** (CNR-ITB Milan)
- **Automata and intelligent agents; Nicoletta Sabadini** (University of Insubria, Como)
- **AI and Ontology; Domenico Pisanelli** (ISTC - CNR, Roma)
- **AI and mind-brain interaction; Madan Thangavelu** (Transdisciplinary University, Bangalore India, Cavendish Laboratory Univ. of Cambridge, UK), **Vincenzo Valenzi** (Dip Med. Integr. e Biofisica U. Florence)
- **Cognitive aspects and Neural networks; Gianluca Castelnuovo...** (Catholic Univ. Milan & Inst. Auxologico)

**H. 11.05 NeuroInformatics: Neurosciences and Computer Science methods and applications** (Chair. Wojciech Glinkowski)

- **Neuromodulation in Brain and neuro-spinal injuries; Ivano Dones** (National Institute of Neurology C. Besta, Milan)
- **ICT and Neurosciences; Gianni Pellicanò** (Neuroradiologist at Careggi Hospital, Firenze, @ITIM Scientific Coord)
- **Big Data in Neurosciences; Bashiru Aremu** (Crown University International)
- **Neuroimaging and Radiomics; Marco Grimaldi** (Humanitas Hospital Milan)
- **3D techniques for neurosurgery; Fabrizio Clemente, Mario Formisano, Luigi Iuppariello** (IC-CNR ed AURN Santobono Pausilipon, Naples)
- **Neurosignals; Asma Sbeih** (Computational Neuroscience, Master in Engineering of Information Technology, Bethlehem, Palestine)

**H. 13.00 Break**

**H. 14.00 NeuroSpine: ICT, Robotics and Info-Assistive Technology** (Chair. Antonio Oliviero)

- **Robot-assisted gait rehabilitation and FES for persons with complete spinal cord injury: an observational study; Stefano Mazzoleni** (Polytechnic of Bari)
- **Cycling Functional Electric Stimulation and Robot let paraplegic walk; Giulia Stampacchia** (UO Mielolesi, Dipartimento Specialità Mediche, Azienda Ospedaliero Universitaria Pisa)
- **Exoskeletons for walking rehabilitation; Paolo Milia** (Prosperius Institute, Umbertide and University of Perugia)
- **A wearable video-based system for quantifying hand use in people with cervical spinal cord injury living in the community; Andrea Bandini** (KITE - Toronto Rehab, University Health Network, Toronto, ON, Canada)
- **Continuous decoding of hand motor intent by a fully implanted brain computer interface for restoration of volitional hand grasp in cervical quadriplegia; Iahn Cajigas** (NeuroSurgery, University of Miami Miller School of Medicine, Jackson Memorial Hospital)

- ..... **Angela Colantonio**... (Rehabilitation Sciences Institute, University of Toronto)

## **H 15.45 NeuroSpine: neuromodulation, neurostimulation, neuroregeneration** (Chair. Angela Colantonio)

- .....**Antonio Oliviero** (SESCAM, Hospital Nacional de Paraplégicos, Toledo)
- **Artificial Intelligence and Brain Stimulation in Rehabilitation; Felipe Fregni, Pacheco Barrios** (Physical Medicine Rehabilitation Harvard Medical School, Neuromodulation Center, Spaulding Rehabilitation Hospital and Massachusetts General Hospital, Boston)
- **Electrostimulation applications; Andrea Crema** (Lausanne)
- **Refining Outcome Measurements in Humans with Spinal Cord Injury; Monica Perez** (Shirley Ryan AbilityLab Chicago, Northwestern University and Edward Jr. Hines VA Hospital)
- **Potential of Mesenchymal Stromal Cells to Repair the Damaged Spinal Cord; Martin Oudega** (PTHMS&Physiology, Northwestern University, Shirley Ryan AbilityLab, Hines VA Hospital Chicago, USA)
- **Innovative nanovector mediated drug delivery for spinal cord injury; Pietro Veglianesi** (IRCCS - Pharmacological Research Institute Mario Negri, Milan)
- **Omics in neurospinal diseases; Alessandra Mezzelani** (Institute of Biomedical Technologies, CNR Milan)

**Martedì 17 novembre**

NeuroInformatica (IX workshop nazionale)

### **14.05 Indirizzi di salute ed introduzione al Workshop**

**Francesco Sicurello** (IITM/@ITIM & University of Milano Bicocca)

**ore 14.15 Cervello, neuropatologie, IoT e Telemedicina** (Moder. **Fausto Crapanzano**, Medicina Fisica e Riabilitazione ASP Agrigento)

- **Cervello, cognitivà e neuroinformatica; Angela Morreale**
- **Ricadute neurologiche da Covid19; Antonio Colombo** (Polo Neurologico Brianteo, Seregno)
- **Patologie neurologiche e differenze di genere; Marina Rizzo** (Ospedale Villa Sofia, Palermo)
- **Visione; Elias Premi, Claudio Azzolini** (Clinica oculistica Università Insubria, Ospedale di Varese)
- **Neurourologia; Mirco Castiglioni** (Riabilitazione Mielolesi Asst Pini-CTO, Milano)
- **Sistemi intelligenti per il monitoraggio neurologico; Lorenzo Rossano** (Elettronica biomedica, Università di Palermo)
- **TeleMediCare: Monitorare e riabilitare a casa; Alessandro Orro** (ITB- CNR Milan), **Francesco Sicurello** (IITM/@ITIM & University of Milano Bicocca)
- **Progetto Esco: didattica a distanza per bambini pazienti; Mario Bochicchio** (Università del Salento)

**ore 16.00 Tecnologie info-assistive, robotica e Telerabilitazione** (Moder. **Donatella Bonaiuti**, SIMFeR-Società Italiana di Medicina Fisica e Riabilitativa)

- **Stimolazione Elettrica Funzionale e robotica applicati alla riabilitazione del cammino di persone con paraplegia; Giulia Stampacchia** (UO Mielolesi, Dipartimento Specialità Mediche, Azienda Ospedaliero Universitaria Pisana)
- .....**Sara Lanza** (Medicina Fisica e Riabilitazione ASP Ragusa)
- **Sensori, device biomedicali e Internet of Things in Telerabilitazione; Andrea Capra** (Caspo consulting)
- **Telerabilitazione per neuropatie disimmuni, in particolare per la sindrome Guillain Barrè; Angelo Schenone** (IRCCS AOU San Martino, Università di Genova)
- **Teleneuroriabilitazione; Paolo Cristiani, Stefania Pazzi, Andrea Stoppini** (CBIM Pavia)
- **Movimento, sport, riabilitazione; Pasqualino Maietta Latessa**, (Università di Bologna)

## International Scientific Committee

**M. Salem Abdel-Badeeh**, Ain Shams University Cairo Egypt  
**Mohamed B. Abou-Donia**, Duke University - North Carolina  
**Ridvan Alimehmeti**, Medical University Hospital, Tirana  
**Andrea Bandini**, Toronto Rehab, Canada  
**Iahn Cajigas**, NeuroSurgery University of Miami Miller School of Medicine, Jackson Memorial Hospital  
**Marco Capogrosso**, University of Friburg  
**Bouchra Chaouni**, Univ Mohamed V Rabat, CNRST Morocco  
**Grégoire Courtine**, Swiss Federal Institute of Technology Lausanne  
**Andrea Crema**, Univ. & Hospital HUG of Geneva  
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**Bassant M. Elbagoury**, Humboldt University in Berlin, Germany and Ain Shams University, Egypt  
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**Felipe Fregni**, Physical Medicine Rehabilitation Harvard Medical School, Dir. Neuromodulation Center, Spaulding Rehabilitation Hospital and Massachusetts General Hospital, Boston  
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**Hassan Ghazal**, Telemedicine & eHealth Society, Morocco  
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**Silvestro Micera**, Institute of BioRobotics, Pisa & École Polytechnique Fédérale, Lausanne  
**Sandro Mussa-Ivaldi**, Northwestern University, Shirley Ryan AbilityLab Chicago  
**Martin Oudega**, PTHMS&Physiology, Northwestern University, Shirley Ryan AbilityLab, Hines VA Hospital. Chicago, IL  
**Monica A. Perez**, Scientific Chair of Arms + Hands Lab at Shirley Ryan AbilityLab Chicago, Northwestern University and Research Scientist at Edward Jr. Hines VA Hospital  
**Elvira Pironcini**, École Polytechnique Fédérale, Lausanne  
**José Abad Rodríguez**, Hospital Nacional Paraplégicos, Toledo  
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**Mateja de Leonni Stanonik**, Global\_Neurology, Tucson  
**Martin Tabakow**, Dept. Computational Intelligence, Wroclaw University of Science and Technology  
**Peter Tonellato**, Harvard Medical School, Boston  
**Yukako Yagi**, Memorial Sloan Kettering Cancer Center, NY  
**George W. Yip**, National University of Singapore, Singapore

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**Andrea Capra**, Caspo consultino  
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**Giuseppina Di Lauro**, Dedalo Solutions Pisa  
**Ivano Dones**, Istituto Neurologico C. Besta, Milano  
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**Marco Grimaldi**, IRCCS Humanitas Milano  
**Luigi Ippariello**, AORN Santobono Pausilipon, Napoli  
**Sara Lanza**, ASP Ragusa  
**Alberto Lazzèro**, Univ. di Torino E-Health Open Zone  
**Leonardo Longo**, Laser Institute, Firenze  
**Pasqualino Maietta Latessa**, Università di Bologna  
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**Stefano Mazzoleni**, Politecnico di Bari  
**Corrado Melegari**, Elias neuroriabilitazione, Un. Parma  
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**Domenico Pisanelli**, CNR Roma  
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**Lorenzo Rossano**, Università di Palermo  
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**Elisa R. Zanier**, Istituto Farmacologico Mario Negri Milano  
**Italo Zoppis**, Università Milano – Bicocca  
**Ileana Zucchi**, ITB-CNR Milano

## Comitato Tecnico Organizzativo – Technical Organizing Committee

**Fausto Crapanzano, Paolo Cristiani, Angela Morreale, Alessandro Orro, Marina Rizzo, Andrea Bandini, Bouchra Chaouni, Andrea Crema, Alessandra Mezzelani, Asma Hasan Sbaih**

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