



Giorgio Brunelli Foundation



University of Brescia

9<sup>TH</sup> INTERNATIONAL SYMPOSIUM ON  
EXPERIMENTAL SPINAL CORD REPAIR AND REGENERATION

# SCIENTIFIC PROGRAM

3<sup>RD</sup> – 4<sup>TH</sup> – 5<sup>TH</sup> DECEMBER 2015

THURSDAY 3<sup>RD</sup> DECEMBER 2015

Brescia Town Hall - Salone Vanvitelliano, Palazzo della Loggia -  
Piazza della Loggia, 1 Brescia - Italy

13.00 - 14.00      **Registration**

14.00 - 14.30      **Welcome remarks**

**Emilio Del Bono** (Brescia, Italy)  
(Mayor of Brescia)

**Sergio Pecorelli** (Brescia, Italy)  
(Chancellor of the University of Brescia)

**Giorgio Brunelli** (Brescia, Italy)  
(President of the Symposium)

**Opening Lectures**

14.30 - 15.00      *Music and mind*

K. Von Wild (Münster, Germany)  
(Co-President of the Symposium)

15.00 - 15.30      *The conducting and processing capabilities of the human  
lumbar cord network and "spinal brain"*

M.R. Dimitrijevic (Houston, Texas, USA)

15.30 - 16.00      *Neurodegeneration and neuroregeneration in the central  
nervous system and nanomedicine*

H.S. Sharma (Uppsala, Sweden)

16.00 - 16.30      *Spinal stabilization and tissue engineering for spinal cord injury:  
opportunities & challenges*

P.N. Soukagos (Athens, Greece)

16.30 - 17.00      *Connecting minds in networks for knowledge and action*

A. Rovetta (Milan, Italy)



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17.15 - 18.00

**Honorary Lecture**

*"Curiosity and its Fruits: From Basic Science to Advanced Medicine"*

A.E. Yonath (Rehovot, Israel)

Nobel Laureate in Chemistry 2009

*Introduced by*

S. Pecorelli (Brescia, Italy)

18.00 - 18.20

*Biotechnology and Collaborative Research: the challenge for the pharmaceutical sector*

Sergio Dompé (Milan, Italy)

18.20-19.20

**Welcome cocktail**





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**FRIDAY 4<sup>th</sup> DECEMBER 2015**

**University of Brescia - Viale Europa, 11 Brescia - Italy**

**AULA MAGNA**

**Morning Session**

**Neurorestoration and Neuroregeneration: from basic research to clinical application**

Chaired by D.F. Muresanu (Cluj-Napoca, Rumania), H.S. Sharma (Uppsala, Sweden), K. Von Wild (Münster, Germany)

8.00 - 11.00 (15 Free communications 10' - 12')

*Experimental spinal cord repair and regeneration: from the bench to the bedside*  
G. Brunelli (Italy)

*Neuromodulation after grafting the spinal cord by peripheral nerve fascicles in rats*  
K. Von Wild (Germany)

*Traumatic spinal cord injury & neuroprotection*  
H.S. Sharma (Sweden)

*Nanodelivery of growth hormone in spinal cord injury and Neuroprotection*  
D.F. Muresanu (Rumania)

*Neuroplasticity and cortical remapping: basic concepts & clinical implications*  
E. Johnson (Greece)

*Surgical excision of spinal cord injury scar: functional return can result*  
H.S. Goldsmith (U.S.)

*Microsurgical by-pass with peripheral nerve in the traumatic spinal cord injuries*  
G.G. Cirera (Spain)

*The study of the "bands of Fontana" hints at a model of nerve structure which can be concurrent with brain plasticity in functional recovery*  
A. Merolli (Italy)

*Detailed interpretation of consensus of clinical neurorestorative progresses in patients with complete chronic spinal cord injury*  
H. Hongyun (China)



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*Bridging defects in chronic spinal cord injury using peripheral nerve grafts: nerve grafting techniques and overcoming the gliosis: from basic science to clinical experience.*

S. M. Amr (Egypt)

*Nerve grafting—experimental study and clinical cases*

Y. Yamano (Japan)

*Effect of intranasal Nerve Growth Factor administration in spinal cord injury*

A. De Bellis (Italy)

11.00 - 11.30      **General Discussion**

11.30 - 13.15      **Panel**

*"Stem Cells, neurotrophic factors and nanodrugs"*

Chaired by G. Brunelli (Brescia, Italy), S. Geuna (Torino, Italy), M. Memo (Brescia, Italy), P. Spano (Brescia, Italy), W. Young, (New York, USA)

*Umbilical cord blood mononuclear cell therapy of chronic complete spinal cord injury*

W. Young (U.S.)

*Nanodrug delivery and neuroprotection in the central nervous system*

G. Tosi (Italy)

*TiO<sub>2</sub> nanowired cerebrolysin enhances neuroprotective effects of mesenchymal stem cells*

H.S. Sharma (Sweden)

*iPSC disease modeling: promise and progress*

P. Spano (Italy)

*Iron-conjugated nanoparticles for the local delivery of neurotrophic factors*

S. Geuna (Italy)

13.15 - 14.00      **Snack Lunch**





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## Afternoon Session

### Progress and Prospects in Neurorehabilitation

Chaired by H. Cerrel Bazo (Treviso, Italy), M. Dimitrijevic (Houston, Texas, USA)

14.00 - 17.00 (15 Free communications 10' - 12')

*Perceptive and rehabilitative value of a new and innovative concept of lower limb orthosis with a reciprocant and dynamic system ankle joint called Neuroswing*  
M. Falso (Italy)

*Behavioural and neural correlates of arm robotic training in patients with brain damage*  
N. Smania (Italy)

*The interpretation of functional RMI signal and EEG-EMG coregistration as tools to support the daily activity of a neurorehabilitative equipe*  
P. Manganotti (Italy)

*Transcutaneous lumbar spinal cord stimulation for studies of sensory-motor integration mechanisms.*  
M. Krenn (Austria)

*External modulation of electrical stimulated spinal reflexes - a control modality for human lumbosacral networks in injury induced disconnection from brain control*  
W. Mayr (Austria)

*Traumatology, neurophysiology and neurobiology contributions to prospects in neurorehabilitation*  
M. Dimitrijevic (U.S.)

*Human adaptations for electrical-neuromodulation induce-Locomotion in complete spinal cord injury individuals*  
H.C. Bazo (Italy)

*Proposal of an observational evaluation model to describe video-surface electromyographic muscle patterns in an individualized rehabilitation treatment of patients with severe acquired brain injury.*  
M. Falso (Italy)

17.00 - 17.30 General Discussion



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17.30 - 19.00 **Round Table**

**"Robotics - Informatics - Telemedicine"**

Chaired by M. Molinari (Roma, Italy), A. Pedotti (Milano, Italy), A. Rovetta (Milano, Italy), S. Scalvini (Brescia, Italy)

*Optimization of complex movements: a challenge for biorobotics*

A. Pedotti (Italy)

*Neurology and robotics*

A. Rovetta (Italy)

*From wheelchairs to exoskeletons: embodiment and social categorization of spinal cord injury*

M. Molinari (Italy)

*Home-based telesurveillance and rehabilitation after stroke: a real-life pilot study*

S. Scalvini (Italy)

*Robotics applied to microsurgery*

G.G. Cirera (Spain)

20.00 - 22.30 **Social Dinner**





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**SATURDAY 5<sup>th</sup> DECEMBER 2015**

**University of Brescia - Viale Europa, 11 Brescia - Italy**

## AULA MAGNA

### **Morning Session Miscellanea**

Chaired by M.M. Fontanella (Brescia, Italy), G.Gili Cirera (Barcelona, Spain), L.F. Rodella (Brescia, Italy), P.N. Soukagos (Athens, Greece)

08.00 - 10.00 Free communications 10' - 12'

### *Technical advancement in brain imaging*

R. Gasparotti (Italy)

### *Adult spinal deformities: an increasing prevalence disease with invalidating consequences*

M. Fazio (Italy)

### *Common peroneal nerve palsy: nerve reconstruction VS tendon transfer*

E. Marcoccio (Italy)

### *Sensitivity: the history of mankind in the palm of a hand*

A. Landi (Italy)

10.00 - 14.00

### **AWARD CEREMONY**

**Remembering Rita with Young Neuroscientists**



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