

**LOOKING INSIDE NEURONS FOR A BETTER PHARMACOLOGICAL INTERVENTION:  
THE CONTRIBUTION OF IMAGING TO THE STUDY OF  
NEURODEGENERATIVE DISEASES**



Catania June 20, 2014

*Scuola Superiore Università di Catania  
Villa San Saverio, Via Valdisavoia 9, Catania*



photo: Giuseppe Distefano/Etna Walk

**Scientific program**

**8.30 - 9.00** Registration

**9.00 - 9.30** Opening

**SESSION I**

Keynote Lecture introduced by Agata Copani (Catania)

**9.30-10.15 Eleonora Aronica (Amsterdam, NL)**

*Neuropathology: a bridge between clinical and basic neuroscience*

**ORAL COMMUNICATIONS**

Chairman: Mariagrazia Grilli (Novara)

**10.15 – 10.35 Giovanni Nardo (Milano)**

*Induction of immunoproteasome and major histocompatibility complex I (MHCI) in motor neurons of a familial amyotrophic lateral sclerosis (ALS) mouse model*

**10.35 – 10.55 Caterina Scuderi (Roma)**

*Neuron-astrocyte interplay in neurodegenerative disorders: evidence and implications*

**10.55 – 11.15 Vanessa Porrini (Brescia)**

*Late-onset Parkinsonism in NF- $\kappa$ B/c-Rel-deficient mice: insights into novel drugable targets*

**11.15-11.45** Coffee Break

**Scientific committee**

Maria Angela Sortino  
Agata Copani  
Monica Di Luca  
Fabrizio Gardoni



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**Organizing committee**

Mariangela Chisari  
Maria Laura Giuffrida  
Sara Merlo

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**SESSION II**

Keynote Lecture introduced by Fabrizio Gardoni (Milano)

**11.45 -12.30 Anna Karpova (Magdeburg, DE)**

*Encoding and transducing NMDAR signals to the nucleus: communication over distance via Jacob*

**ORAL COMMUNICATIONS**

Chairman: Marina Pizzi (Brescia)

**12.30 – 12.50 Francesca Guzzetti (Milano)**

*Encoding synaptic GluN2A-containing NMDA receptor activation: the role of Ring Finger Protein 10*

**12.50 – 13.10 Virginia Ronco (Novara)**

*Differential deregulation of astrocytic calcium signalling by amyloid- $\beta$ , TNF $\alpha$ , IL-1 $\beta$  and LPS*

**13.10 – 13.30 Marco Milanese (Genova)**

*Investigating the role of group I metabotropic glutamate receptors in amyotrophic lateral sclerosis*

**13.30-15.00** Lunch and posters



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**SESSION III**

Technical corner

**15.00 -15.30 Alessandro Cometta (Carl Zeiss Italia)**

*A close up view on super-resolution*

ORAL COMMUNICATIONS

Chairman: Anna Pittaluga (Genova)

**15.30 – 15.45 Irene Paterniti (Messina)**

*The association of palmitoyl ethanolamide and luteolin decreases neuroinflammation and stimulates autophagy in an in vitro and in vivo model of Parkinson's disease*

**15.45 – 16.00 Roberta Felici (Firenze)**

*Effects of PARP inhibition in a mouse model of Mitochondrial Encephalopathy*

**16.00 – 16.15 Marco Feligioni (Roma)**

*Age-related changes of protein SUMOylation balance in the AbPP Tg2576 mouse model of Alzheimer's disease*

**16.15 – 16.30 Carla Busceti (Pozzilli)**

*Characterization of the glycoprotein dickkopf-3 in cerebral blood vessels of spontaneously hypertensive rats*

**16.30** Conclusions



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**POSTER PRESENTATIONS**

**Aricò Giuseppina (Catania)**

Involvement of sigma 2 receptor on motor disorder

**Bortolotto Valeria (Novara)**

Every cloud has a silver lining: A $\beta$ (1-42) oligomers and HMGB-1 can promote adult hippocampal neurogenesis via RAGE/NF- $\kappa$ B axis activation

**Chisari Mariangela (Catania)**

Discerning the role of G protein  $\gamma$  subunits in astrocyte function

**Cordaro Marika (Messina)**

Neuroprotection by association of palmitoylethanolamide with luteolin in experimental alzheimer's disease models: the control of neuroinflammation

**Costa Giulia (Cagliari)**

MDMA administration during adolescence exacerbates MPTP-induced cognitive impairment, neurodegeneration and neuroinflammation in motor, limbic and cortical areas

**Crupi Rosalia (Messina)**

Liver x receptors activation, through to901317 binding, decreases neuroinflammation in parkinson's disease

**D'Antoni Simona (Catania)**

Endothelin-1 induced degeneration of Motor Neurons: a new potential pharmacological target for Amyotrophic Lateral Sclerosis

**Deidda Irene (Palermo)**

Iron accumulation and retinal pathology: neuroprotection by diketopiperazines

**Di Prisco Silvia (Genova)**

Presynaptic defects in EAE mice at different stages of disease

**Galizzi Giacomina (Palermo)**

Autophagic dysfunction: a clue in neurodegenerative diseases and lysosomal storage disorders



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**Giuffrida Maria Laura (Catania)**

A novel fully water-soluble Cu(I) probe for detection in live cell imaging

**Grossi Cristina (Firenze)**

Mediterranean diet and Alzheimer's disease: oleuropein aglycone counteracts A $\beta$  toxicity in vivo

**Gulisano Walter (Catania)**

The cell adhesion molecule F3/contactin improves synaptic plasticity and memory in aged mice

**Impellizzieri Agata (Catania)**

Flavopiridol, an inhibitor of cyclin-dependent kinase 4, reverses memory impairment induced by  $\beta$ -amyloid peptide 1-42

**L'Episcopo Francesca (Catania)**

Using transgenic mice with transcriptionally active Wnt/ $\beta$ -catenin signaling for visualization of midbrain dopaminergic (mDA) neurons in the MPTP mouse model of Parkinson's disease unveils endogenous  $\beta$ -catenin signaling activation promoting mDA neurorestoration

**Lim Dmitry (Novara)**

Ca<sup>2+</sup>-Calcineurin deregulation in A $\beta$ -exposed astrocytes: is it linked to neuronal dysfunction in Alzheimer's disease?

**Marinelli Carla (Padova)**

Toll-like receptors as transducer of inflammatory signals in astrocytes

**Merega Elisa (Genova)**

Complement selectively evokes glutamate release from nerve terminals in mammal central nervous system

**Merlo Sara (Catania)**

17 $\beta$ -estradiol affects early synaptic changes induced by chronic exposure to  $\beta$ -amyloid in organotypic hippocampal slices

**Muzzi Mirko (Firenze)**

Ischemic neuroprotection by Dexpramipexole

**Tomasello Flora (Catania)**

Confocal imaging of neuronal response to  $\beta$ -amyloid monomers

