



## XXVI AINI Congress and 16<sup>th</sup> ESNI Course

Program

San Servolo, Venice, Italy

June 26-30, 2017

### MONDAY, JUNE 26

#### MORNING

Arrival and registration

#### AFTERNOON

**Chairs:** Antonio Uccelli and Giovanna Borsellino

14.00-14.15 **Welcome Address**

14.15-15.00 **Therapeutic plasticity of neural stem cells**

Gianvito Martino (*San Raffaele Hospital, Italy*)

#### Oral Communications

15.00-15.15 **72 - FoxA1 counteracts FoxP3 transcription factor to secure the FoxA1+ Treg cell fate**

Louise Munk Rasmussen (*University of Copenhagen, Denmark*)

15.15-15.30 **83 - Protection against EAE by mannan-conjugated myelin peptides involves T cell anergy characterized by reduced antigen-specific proliferation and but not altered migration of T cells to the CNS**

Anastasia Dagkonaki (*Hellenic Pasteur Institute, Greece*)

15.30-15.45 **100 - Inhibition of protein arginine deiminases reduces neuroinflammation and improves cognition in mouse models of Alzheimer's disease**

Enrica Pietronigro (*University of Verona, Italy*)

15.45-16.00 **97 - Understanding the role of age induced immune alterations in determining the worse outcome of stroke in the elderly**

Giorgia Serena Gullotta (*San Raffaele Scientific Institute, Italy*)

16.00-16.30 Coffee Break

16.30-17.15 **The extracellular matrix as regulators of neuroinflammation**

Lydia Sorokin (*University of Münster, Germany*)

#### Oral Communications

17.15-17.30 **45 - Identification of RGS8 as an autoantibody target in paraneoplastic cerebellar syndrome**

Ramona Miske (*EUROIMMUN AG, Germany*)



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- 17.30-17.45    **8 – Screening for novel autoantigens in anti-GAD positive individuals**  
Iswariya Venktaraman (*EUROIMMUN AG, Germany*)
- 17.45-18.00    **34 – Molecular characterization of intrathecal antibody responses in anti-LGI1 encephalitis**  
Sumanta Barman (*Universitätsklinikum Düsseldorf, Germany*)
- 18.00-18.15    **114 - CHROMOSOMALLY-INTEGRATED HHV-6 (ci HHV-6) POSSIBLE TRIGGER OF RELAPSING-REMITTING MULTIPLE SCLEROSIS?**  
Maria Teresa Ferrò (*ASST Crema, Italy*)
- 18.15-19.00    **The extracellular matrix as regulators of myelin repair**  
V. Wee Yong (*University of Calgary, Canada*)



**TUESDAY, JUNE 27**

**MORNING**

**Chairs:** Cinthia Farina and Clara Ballerini

09.00-09.45 **Brain repair and inflammation**  
Veronique Miron (*University of Edinburgh, UK*)

**Oral Communications**

09.45-10.00 **16 - Protection against relapses of disease in a mouse model of multiple sclerosis by a parasite-derived 68-mer peptide**  
Aakanksha Dixit (*University of Queensland, Australia*)

10.00-10.15 **81 - High dose Vitamin D promotes experimental CNS autoimmune disease by raising T cell-excitatory calcium**  
Darius Häusler (*University Medical Center Goettingen, Germany*)

10.15-10.30 **23 - Effects of intermittent fasting in experimental autoimmune encephalomyelitis and multiple sclerosis**  
Francesca Cignarella (*Washington University in St. Louis, USA*)

10.30-10.45 **96 - Orally administered propionic acid modulates immune cell balance and function in Multiple Sclerosis patients - a proof of concept study**  
Alexander Duscha (*Ruhr-Universität Bochum, Germany*)

10.45-11.15 Coffee break

11.15-12.00 **Emerging roles for circulating immune cells in Alzheimer's disease**  
Gabriela Constantin (*University of Verona, Italy*)

**Oral Communications**

12.00-12.15 **88 - Transcriptome profiling of brain lesion evolution in MS**  
ML Elkjaer (*OUH/SDU, Denmark*)

12.15-12.30 **128 - The potassium channel KCNK2 is a regulator of immune cell trafficking and inflammatory responses in idiopathic inflammatory myopathies**  
Thomas Müntefering (*University of Münster, Germany*)

12.30-12.45 **84 - Dissecting the cellular and molecular requirements for TNF-mediated neuroprotection against glutamate excitotoxicity**  
Irina Papazian (*Hellenic Pasteur Institute, Greece*)

12.45-13.00 **17 - Brain immune response triggered by early developmental chronic consumption of methylphenidate: control vs attention-deficit/hyperactivity disorder rat model**  
Vanessa Coelho-Santos (*University of Coimbra, Portugal*)

13.00-14.30 Lunch



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## AFTERNOON

**Chairs:** Diego Centonze and Marco Salvetti

14.30-15.15 **TAM receptors mediated regulation of microglia**  
Greg Lemke (*The Salk Institute, USA*)

### Oral Communications

15.15-15.30 **35 - IL-1beta mediates CNS autoimmunity by regulating the entry of inflammatory monocytes into the CNS and autoreactive T cell activation.**  
Alexandre Paré (*Laval University, Canada*)

15.30-15.45 **71 - Human Induced Pluripotent Stem Cells derived microglia-like cells**  
Rosa Bonaccorso (*University Vita-Salute San Raffaele, Italy*)

15.45-16.00 **55 - Extracellular Vesicles released by IL4-expressing cells as therapeutic tool in neuroinflammation**  
Giacomo Casella (*Università Vita E Salute, Italy*)

16.00-16.15 **90 - Calcium dobesilate blocks integrin-dependent neutrophil adhesion and improves memory in a mouse model of Alzheimer's disease**  
Elena Zenaro (*University of Verona, Italy*)

16.15-16.45 Coffee Break

16.45-17.15 Scientific Quiz  
**Chairs:** Cinthia Farina and Nicola Woodrooffe  
Teams of AINI-ESNI students from different countries will compete on the reviews provided by us before the course and dealing with the topics of the course

17.15-18.45 **Poster Session**  
Interaction between reviewing teams and presenters

### Information from Peripheral Blood

**5 - Anti VLA4 integrin therapy shapes T cell repertoire in Multiple Sclerosis: a 24 months study.**  
Roberta Amoriello (*Department of Neurofarba, University of Florence, Firenze, Italy*)

**9 - T cell subsets in the cerebrospinal fluid of multiple sclerosis patients**  
Amalia Tejada Velarde (*Immunology Department, Hospital Universitario Ramón y Cajal, Madrid, Spain*)

**10 - Relationship between microvesicles and free radicals in multiple sclerosis patients**  
Maira Gironi (*Ospedale San Raffaele, Unita' di Neuroimmunologia Clinica, Milano, Italy*)

**21 - Serum cytokine profile correlates with cognitive performance in Bulgarian patients with relapsing-remitting multiple sclerosis**  
Anastasiya Trenova (*Medical University of Plovdiv, Department of Neurology, Plovdiv, Bulgaria*)



- 25 - Expression profile of pro-inflammatory cytokines in memory T cells of pediatric demyelinating patients**  
Shrishti Saxena (*Ann Romney Centre for Neurologic Diseases, Brigham and Women's Hospital, Boston, MA*)
- 26 - Phenotypic and functional characterization of cytotoxic CD4+ T cells**  
Cindy Hoeks (*Biomedical Research Institute, Hasselt University and Transnational University Limburg, Diepenbeek, Belgium*)
- 30 - INTERFEROME-based transcriptome analysis of paired B cells and monocytes identifies dysregulation in Interferon-regulated pathways in Relapsing-Remitting Multiple Sclerosis patients**  
Martina Severa (*Istituto Superiore di Sanità, Department of Infectious Diseases, Rome, Italy*)
- 37 - JCPyV microRNA in plasma inversely correlates with JCPyV seropositivity among long-term natalizumab-treated relapsing-remitting multiple sclerosis patients**  
Pabitra Basnyat (*University of Tampere, Neuroimmunology Unit, School of Medicine, Tampere, Finland*)
- 46 - MiR-191-5p, miR-24-3p and miR-128-3p as potential biomarkers in multiple sclerosis.**  
Julia Vistbakka (*Neuroimmunology Unit, Faculty of Medicine and Life Science, University of Tampere, Finland*)
- 54 - Role of tissue plasminogen activator in T cell response**  
Pauline Hélie (*Inserm U1237 Physiopathology and Imaging of Neurological Disorders (PHIND), University of Caen Normandy, Caen, France*)
- 57 - Neuro-immune communication in Alzheimer's disease: where does the periphery come into play?**  
Lynn van Olst (*VUmc, Molecular Cell Biology and Immunology, Amsterdam, Netherlands*)
- 59 - Dysregulated IRF-1 pathway in peripheral B cells of MS patients**  
Roberta Renie (*Center for Experimental Neurological Therapies, Sant'Andrea Hospital, Department of Neurosciences, Mental Health and Sensory Organs (NESMOS), Faculty of Medicine and Psychology, Sapienza University of Rome, Rome, Italy., rome, Italy*)
- 64 - Long-term effects of alemtuzumab on CD4+ lymphocytes: a 48 months follow-up study**  
Marinella Clerico (*University of Turin, Department of Clinical and Biological Sciences, Torino, Italy*)
- 69 - A role for in vivo occurring Tr1-cells in progressive multiple sclerosis?**  
J. Geginat (*INGM, Istituto Nazionale Genetica Molecolare "Romeo ed Enrica Invernizzi"*)
- 73 - FoxA1 in synergy with IFN-beta controls PDL1 expression in T cells via binding to a 60-nucleotide region in the Pdl1 promoter**  
Mahdiah Hadi (*Neuroinflammation Unit, Biotech Research & Innovation Centre (BRIC), Health Science Faculty, University of Copenhagen, Copenhagen Biocentre, Ole Maaløes Vej 5, DK-2200 Copenhagen N, Denmark*)
- 86 - Research plan: Natalizumab (Tysabri) for the treatment of anti-Hu associated paraneoplastic neurological syndromes.**  
A.E.M Bastiaansen (*Erasmus University Medical Center, department of neurology, Rotterdam, Netherlands*)
- 87 - Evaluation of the predictive value of three serum and CSF Biomarkers for the development of clinically definite multiple sclerosis following an initial clinically isolated demyelinating event**  
Nour Eddine Yaghmour (*Hadassah Medical Centre, Multiple Sclerosis Center and Unit of Neuroimmunology and cell therapies, Neurology Department, Jerusalem, Israel*)



**92 - Effect of dimethyl fumarate (DMF) on immune tolerance, systemic immunological asset and regulatory T cell functions in Multiple Sclerosis patients**

Fortunata Carbone (*Istituto di Endocrinologia e Oncologia Sperimentale, Consiglio Nazionale delle Ricerche (IEOS-CNR), Napoli, Italy*)

**101 - Differential effects on lymphocyte subsets and transcriptome sequencing after treatment with fingolimod in relapsing-remitting multiple sclerosis patients. Prognostic implications.**

Irene Moreno Torres (*Institute for biomedical research of Puerta de Hierro University Hospital, Puerta de Hierro University Hospital, Madrid, Spain*)

**103 - Coenzyme A synthase controls pathogenic features in myelin-specific T cells by linking metabolic reprogramming to alteration of intracellular signaling pathways**

Tommaso Carlucci (*University of Verona, Medicine, Verona, Italy*)

**113 - Profiling of canonical and non-traditional cytokine levels in IFNbeta-treated RR-MS patients**

Marcella Reale (*University "G.d'Annunzio" Chieti-Pescara, Department of Medical, Oral and Biotechnological Sciences, Chieti, Italy*)

**121 - CXCL10 and CXCL13 chemokines as biomarkers of neuroinflammation?**

Hana Nohejlova (*University Hospital Motol, Department of Neurology, 2nd Faculty of Medicine, Charles University in Prague and Motol University Hospital, Prague, Czech Republic - University Hospital Motol, Department of Paediatric Neurology, 2nd Faculty of Medicine, Charles University in Prague and Motol University Hospital, Prague, Czech Republic*)

**126 - Impact of teriflunomide on innate and adaptive immunity: A pilot study in multiple sclerosis**

Ilaria Gandoglia (*University of Genoa, Department of Neurosciences, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health Unit, Genoa, Italy*)

**129 - Rituximab down regulates antigen-specific T cell repertoire in Myasthenia Gravis patients**

Francesco Ria (*Institute of General Pathology, Università Cattolica Del Sacro Cuore, Rome, Italy*)

**132 - HIPPOCAMPAL VOLUME DECLINE IN EARLY RELAPSING-REMITTING MULTIPLE SCLEROSIS- THE IMPACT OF CIRCULATING LEVELS OF BRAIN-DERIVED NEUROTROPHIC FACTOR AND Treg LYMPHOCITES**

Vasilena Petrova (*Military Medical Academy, Department of nerve diseases, Sofia, Bulgaria*)

**135 - Neutrophil to lymphocyte ratio and leukocyte counts in acute stroke are predictive of outcome independently of infections.**

Marco Bacigaluppi (*San Raffaele Scientific Institute, Neurology, Milano, Italy*)

**Tissue function and pathology-in vivo modelling I**

**18 - Characterization of immature NK cells during EAE by the co-expression of the chemokine receptor CXCR3 and the activating receptor DNAM-1**

Silvina Romero Suarez (*Institute for Medical Immunology, Department of Experimental Neuroimmunology, Berlin, Germany*)

**22 - The lack of the anti-inflammatory interleukin 10 (IL-10) leads to cognitive impairment**

Cláudia Serre-Miranda (*Life and Health Sciences Research Institute (ICVS); ICVS/3B's PT Government Associate Laboratory, University of Minho, Braga, Portugal*)



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**28 - Extracellular Matrix molecule Fibronectin participates in brain viscoelastic properties alteration in experimental autoimmune encephalomyelitis (EAE)**

Shuangqing Wang (*Institute for Medical Immunology, Charité - Universitätsmedizin Berlin, Berlin, Germany*)

📄 **48 - Reduced neuroinflammation induced by treatment with mesenchymal stem cell secretome is associated with recovered memory in APP/PS1 Alzheimer's disease mice**

Nicole Kerlero de Rosbo (*University of Genoa, DINOEMI, Genoa, Italy*)

📄 **53 - The absence of endogenous neural stem cells alters the striatum morphology and connections.**

Erica Butti (*Neuroimmunology Unit, San Raffaele Hospital- Division of Neuroscience, Milan, Italy*)

📄 **56 - IL-27, but not IL-35, inhibits neuroinflammation through modulating GM-CSF expression**

Giacomo Casella (*Università Vita e Salute, Neuroscience, Milan, Italy*)

📄 **74 Exploring the role of BTK inhibition in induced and spontaneous EAE models**

Sebastian Torke (*University Medical Center Goettingen, Neuropathology, Göttingen, Germany*)



WEDNESDAY, JUNE 28

**MORNING**

**MICROBIOTA, BRAIN AND IMMUNITY**

**Chairs:** Gianvito Martino, Hugh Willison and Nicola Woodroffe

- 09.00-09.45 **Microbiota and the immune system**  
Duccio Cavalieri (*University of Florence, Italy*)
- 09.45-10.30 **Microbiota and brain development and function**  
Kieran Rea (*University College Cork, Ireland*)
- 10.30-11.00 Coffee Break
- 11.00-11.45 Students' Debate  
**Chairs:** Luca Battistini and Duccio Cavalieri  
Topic: Microbiota
- 11.45-12.30 **Neuroimmune interactions of the developing brain**  
Luca Muzio (*San Raffaele Scientific Institute, Italy*)
- 12.30-14.30 Lunch with the Experts  
**Table 1 – Microbiota:**  
Kieran Rea and Duccio Cavalieri  
**Table 2 – Tissue Repair:**  
Veronique Miron and Gianvito Martino  
**Table 3 – Extracellular matrix and immune cell transmigration**  
Lydia Sorokin and Gabriela Constantin

**AFTERNOON**

**GENETICS AND CNS AUTOIMMUNITY**

**Chairs:** Gianvito Martino, Hugh Willison and Nicola Woodroffe

- 14.30-15.15 **Genetic and non-genetic factors in CNS autoimmune diseases (other than multiple sclerosis)**  
Roland Liblau (*Université Toulouse III, France*)
- 15.15-16.00 **High-throughput sequencing of immune repertoires in multiple sclerosis**  
Trygve Holmoy (*Akershus University Hospital, University of Oslo, Norway*)
- 16.00-16.30 Coffee Break
- 16.30-17.15 **Metabolic regulation of the immune response in autoimmunity**  
Giuseppe Matarese (*Università di Napoli "Federico II", Italy*)





17.15-17.45 Progress Quiz

**Chairs:** Cinthia Farina and Nicola Woodroffe

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17.45-19.00 **Poster Session**

Interaction between reviewing teams and presenters

### Environment

**19 - Expansion of a unique CD57+NKG2Chi Natural killer cell subset in MS patients during EBV infection.**

Daria Bortolotti (*University of Ferrara, Department of Medical Sciences, Ferrara, Italy*)

**20 - The controlling role of Vitamin D3 treatment on the inflammatory responses of Multiple sclerosis patients: Evidence from HOTAIR and ANRIL Long non-Coding RNAs**

Majid Pahlevan Kakhki (*Tarbiat Modares University, Department of Biological Sciences, Tehran, Iran*)

**50 - Vitamin D, cigarette smoke and immune cell activation**

Nicole Sarno (*San Raffaele Hospital, Institute of Sperimetal Neurology (INSPE), Milan, Italy*)

**67 - A "candidate-interactome" approach to refine the role of environmental stimuli in multiple sclerosis**

Rosella Mechelli (*Centre for Experimental Neurological Therapies (CENTERS), Department of Neurosciences, Mental Health and Sensory Organs, Sapienza University, Rome*)

### Gut-Brain axis

**31 - Targeting the microbiome to reverse age-related deficits in learning and stress-induced immune priming**

Marcus Boehme (*University College Cork, APC Microbiome Institute, Lab of Neurogastroenterology, Cork, Ireland*)

**39 - Smad7 in T cells shapes the intestinal immune system to induce optico-spinal encephalomyelitis**

Steffen Hapelshofer (*Institute of Neuroimmunology, St. Josef-Hospital, Ruhr-University Bochum, Bochum, Germany*)

**63 - Gut microbiota in the development of MS: a pilot study**

Simona Rolla (*University of Turin, Department of Clinical and Biological Sciences, Torino, Italy*)

### B-cells

**13 - Localization of antibody deposition by sterile injury in the brain**

Marlene Thorsen Mørch (*Department of Neurobiology Research, Institute of Molecular Medicine, University of Southern Denmark, Odense, Denmark*)

**14 - Shedding light on the importance of autoantigen conformation through a MOG autoantibody flow cytometry cell-based assay**

Fabienne Brilot (*Brain Autoimmunity Laboratory, Institute for Neuroscience and Muscle Research, Kids Research Institute, The Children's Hospital at Westmead, University of Sydney, Sydney, Australia*)

**29 - The Effect of Schizophrenia Related Antigens on B Cells.**

Ruth Whelan (*University of Highlands & Islands, Division of Health Research, Inverness, United Kingdom*)



**36 - Anti-MOG-IgG associated syndromes: report of 20 cases**

Sara Mariotto (*Department of Neuroscience, Biomedicine and Movement, University of Verona, Italy*)

**61 - NMO IgG and AQP4 peptide can induce aggravation of EAMG and immune mediated muscle weakness.**

Livnat Brill (*Hadassah Medical Center, Neurology, Jerusalem, Israel*)

**62 - Long-term outcome including neuropsychological and behavioral functioning in children with anti-NMDA receptor encephalitis**

M.A.A.M. de Bruijn (*Erasmus Medical Center, Neurology, Rotterdam, Netherlands*)

**68 - Characterization of the onconeural protein CDR1**

Cecilie Totland (*Department of Neurology, Haukeland University Hospital, Bergen, Norway*)

**95 - IMMUNOHISTOCHEMISTRY IN THE DIAGNOSIS OF AUTOIMMUNE ENCEPHALITIS: WHEN A TECHNIQUE MAKES THE DIFFERENCE**

Matteo Gastaldi (*Laboratory of Neuroimmunology, IRCCS, C. Mondino National Neurological Institute, Pavia, Italy, University of Pavia, Pavia, Italy - Neurology and Stroke Unit, Circolo Hospital/Macchi Foundation, Varese, Italy*)

**105 - Quantitative EEG Findings are a Potential Prognostic Biomarker in Anti-NMDA Encephalitis**

Graham Blackman (*Institute of Psychiatry, Psychology and Neuroscience, Kings College London, London, United Kingdom*)

**106 - LABORATORY STRATEGIES FOR THE DETECTION OF MYELIN OLIGODENDROCYTE GLYCOPROTEIN ANTIBODIES (MOG-Abs): COMPARISON OF DIFFERENT METHODS AND SUBCLASS ANALYSIS**

Matteo Gastaldi (*Laboratory of Neuroimmunology, IRCCS C Mondino, Pavia, Italy*)

**107 - Intrathecal IgM synthesis: a modifiable prognostic factor?**

Jessica Frau (*Centro Sclerosi Multipla, Università di Cagliari-ATS Sardegna, Cagliari, Italy*)

**112 - Paraneoplastic anti-Neuronal Antibodies in Amyotrophic Lateral Sclerosis**

Dmitriy Labunskiy (*University of Northern California, Santa Rosa, CA U.S.A.*)

**117 - Novel findings in the encephalitis associated with antibodies against the metabotropic glutamate receptor 5 (mGluR5)**

Marianna Spatola (*Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Barcelona (Spain) – University of Lausanne (UNIL), Lausanne (Switzerland)*)

**122 - ATP synthase subunit alpha is specifically recognized by serum antibodies of a patient with selective loss of thick filaments**

Valeria Guglielmi (*University of Verona, Neuroscience, Biomedicine and Movement Science, Verona, Italy*)

**131 - MOG-IgG cause complement mediated demyelination of Optic Nerve**

Maddalena Ruggieri (*Department of Basic Medical Sciences, Neurosciences and Sense Organs, University of Bari Aldo Moro, Bari, Italy*)

**133 - Frequency of antineuronal antibodies in patients with acute and chronic epilepsy due to suspected limbic encephalitis**

Fatme Seval Ismail (*Ruhr-Epileptology, Department of Neurology, University Hospital Knappschafts Krankenhaus Bochum, Bochum, Germany*)



### **134 - Refractory Myasthenia gravis and HLA**

Ernestina Santos (*Centro Hospitalar do Porto, Hospital Santo Antonio, Neurosciences Department, Neurology, Porto, Portugal*)

## **Myeloid cells**

### **7 - Environmental stimuli via Interleukin-15 drive interplay between NK cell and microglia reducing glioma growth in vivo**

Stefano Garofalo (*Department of Physiology and Pharmacology, Sapienza University, 00185 Rome Italy*)

### **40 - Engineering microglia cells for the delivery of therapeutic molecules in the CNS of EAE mice**

Alessia Capotondo (*San Raffaele Scientific Institute, Division of Neuroscience, INSPE - Institute of Experimental Neurology, Milan, Italy*)

### **41 - Macrophage depletion ameliorates peripheral neuropathy in aging mice**

Xidi Yuan (*Department of Neurology, Developmental Neurobiology, University Hospital Würzburg, Würzburg, Germany*)

### **49 - HCAR2 pathways triggered by monomethyl fumarate are cell biased**

Benedetta Parodi (*Neuroimmunology Unit - Department of Neuroscience (DINOEMI), University of Genoa, Genoa, Italy*)

### **98 - Microvesicles display the polarization of releasing-macrophage by altering CD80/CD209 surface exposure**

Mattia Bastoni (*Ospedale San Raffaele, San Raffaele, Milano, Italy*)

### **99 - Identification and characterization of two distinct subpopulations of microvesicles isolated from a human microglia cell line.**

Annamaria Nigro (*San Raffaele Scientific Institute, Division of Neuroscience, Institute of Experimental Neurology, Milan, Italy*)

### **116 - Monocyte-derived microvesicles as possible Fingolimod targets and Multiple Sclerosis biomarkers**

Antonella Amoroso (*Università degli studi di Foggia, Dipartimento di Scienze Mediche e Chirurgiche, Foggia, Italy*)

### **130 - Microglia depletion does not affect acute experimental stroke**

Hélène Descamps (*San Raffaele Scientific Institute, Neuroimmunology unit, Milan, Italy*)



THURSDAY, JUNE 29

MORNING

### **PATHOGENIC MECHANISMS OF NEUROINFLAMMATORY DISORDERS**

**Chairs:** Antonio Uccelli, Giovanna Borsellino and Sandra Amor

- 09.00-09.45 **Inflammation and skeletal muscle**  
Benedicte Chazaud (*University Claude Bernard Lyon 1, France*)
- 09.45-10.30 **Autophagy in health and disease**  
Francesco Cecconi (*Università di Roma Tor Vergata, Italy*)
- 10.30-11.00 Coffee Break
- 11.00-11.45 **In or out – what triggers MS?**  
Jack van Horssen (*VU University Medical Center, the Netherlands*)
- 11.45-12.30 Students' Debate  
**Chairs:** Sandra Amor and Hans van Noort  
Topic: Inside out vs. outside in
- 12.30-14.30 Lunch with the Experts  
**Table 1 – T cells in neuroimmunology:**  
Luca Battistini and Trygve Holmøy  
**Table 2 – Microglia:**  
Luca Muzio and Sandra Amor  
**Table 3 – Protective Immunity**  
Michal Schwartz and Antonio Uccelli

AFTERNOON

### **PATHOGENIC MECHANISMS OF NEURODEGENERATIVE DISORDERS**

**Chairs:** Antonio Uccelli, Giovanna Borsellino and Sandra Amor

- 14.30-15.15 **The link between age and neurodegenerative diseases**  
Erik Boddeke (*University of Groningen, the Netherlands*)
- 15.15-16.00 **Innate immunity in neurodegenerative diseases**  
Michal Schwartz (*the Weizmann Institute of Science, Israel*)
- 16.00-16.30 Coffee Break
- 16.30-17.15 **Microvesicles in neuroimmunology**  
Roberto Furlan (*San Raffaele Hospital, Italy*)



17.15-17.45 Progress Quiz

**Chairs:** Cinthia Farina and Nicola Woodroffe

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17.45-19.00 Poster Session

Interactions between reviewing teams and presenters.

### **Tissue function and pathology-ex vivo/invitro studies**

**24 - High-dimensional Mass Cytometry Characterization of the Brain's Immune Compartment**

Ben Korin (*Technion - Israel Institute of Technology, Immunology, Haifa, Israel*)

**27 - Oncostatin M (OSM) and the inflamed blood brain barrier: good, bad or both?**

Evelien Houben (*BIOMED, Hasselt University, Diepenbeek, Belgium*)

**32 - Revealing underlying differences in NAWM from primary and secondary progressive MS by Raman spectroscopy**

Ines Ramos (*Sheffield Hallam University, Biomolecular Sciences Research Centre, Sheffield, United Kingdom*)

**38 - The involvement of the melanocortin system in Multiple Sclerosis**

Merel Rijnsburger (*Department of Molecular Cell Biology and Immunology, Amsterdam Neuroscience, VU University Medical Center, Amsterdam, Netherlands*)

**42 - The functional outcome of GM-CSF in the central nervous system**

Diana Arseni (*University of Glasgow, Institute of Infection, Immunity and Inflammation, Glasgow, United Kingdom*)

**51 - Regenerative potential of fumarate treatment and its impact on Nrf2-downstream signaling in mouse dorsal root ganglia**

Alina Blusch (*Ruhr-Universität Bochum, International Graduate School of Neuroscience, Bochum, Germany*)

**75 - Studying the mechanism of action of the remyelinating drug Clobetasol in immortalised oligodendrocyte cellular models**

Emanuela Nocita (*University of Rome Tor Vergata, Department of Biology, Rome, Italy*)

**89 - The synaptic role of human T cells in Multiple Sclerosis**

Silvia Bullitta (*Università Tor Vergata, Dipartimento di Medicina dei Sistemi, ROME, Italy*)

**102 - Cellular localization and function of cerebellar degeneration-related proteins: From cancer cells to Purkinje neurons**

Torbjørn Kråkenes (*University of Bergen, Clinical institute 1, Bergen, Norway*)

**109 - Increased Expression of Translocator Protein (TSPO) in Spinal Cord Lesions of Multiple Sclerosis**

Jodie Stephenson (*Centre for Neuroscience and Trauma, Blizard Institute, Barts and the London School of Medicine & Dentistry, Queen Mary University of London, London, United Kingdom*)



- 110 - Increased expression of Translocator Protein (TSPO) during lesion formation in Multiple Sclerosis brain**  
Erik Nutma (*VU University Medical Centre, Neuropathology, Amsterdam, Netherlands*)
- 111 - Beyond the Brain: Differential Expression of HSPB5 in Multiple Sclerosis Spinal Cord**  
Rianne Gorter (*VU University Medical Centre, Pathology, Amsterdam, Netherlands*)
- 120 - NEURONAL-GLIA CROSS TALK IN ORGANOTIPIC SPINAL SLICES: THE ROLE OF NEUROINFLAMMATION AND GABAergic SYNAPTIC NETWORK**  
Vincenzo Giacco (*International School for Advanced Studies (SISSA/ISAS), Neurobiology sector, Trieste, Italy*)
- 123 - Functional characterization on human iPSC-derived motor neurons. Focus on SOD1, TARDBP-43 patients.**  
Linda Ottoboni (*San Raffaele Scientific Institute, Division of Neuroscience, Institute of Experimental Neurology, Neuroimmunology Unit, Milan, Italy*)

#### **Tissue function and pathology-in vivo modelling II**

- 43 - Exploring the effect of monomethyl fumarate on inflammation-driven synaptopathy in a MS experimental model**  
Francesca De Vito (*Tor Vergata University of Rome, Department of Systems Medicine, Rome, Italy*)
- 44 - Influence of sex and age on immune system intrinsic noradrenaline–beta-adrenoceptor network in experimental autoimmune encephalomyelitis**  
Ivana Vujnovic (*Institute of Virology, Vaccines and Sera “Torlak”, Immunology Research Centre “Branislav Janković”, Belgrade, Serbia*)
- 52 - Emerging roles of Specialized Pro-resolving lipid mediators in adaptive immunity and neuroinflammation**  
Alessandro Leuti (*European Center for Brain Research, IRCCS Santa Lucia Foundation/ Campus Bio-Medico University of Rome, Laboratory of Neurochemistry of Lipids, Rome, Italy*)
- 58 - Long-term immune-modulatory and neurotrophic effects of transplanted neural precursor cells in a clinical-relevant model of relapsing-progressive Multiple Sclerosis**  
Yossi Nishri (*Hadassah - Hebrew University Medical Center, Neurology, Jerusalem, Israel*)
- 60 - Human embryonic stem cell -derived oligodendrocyte progenitor cells provide long-term immune-regulation and protection in a chronic-relapsing model of multiple sclerosis**  
Yossi Nishri (*Hadassah - Hebrew University Medical Center, Neurology, Jerusalem, Israel*)
- 65 - Cannabinoid receptors CB1 and CB2 expression in Experimental Autoimmune Encephalomyelitis.**  
Nikolaos Grigoriadis (*Aristotle University of Thessaloniki, 2nd Department of Neurology, AHEPA University Hospital, Thessaloniki, Greece*)



**76 - The endocannabinoid system through the cannabinoid receptor agonist WIN55212.2 potentiates remyelination in an animal model of multiple sclerosis**

J Tomas Roig (*Girona Neuroimmunology and Multiple Sclerosis Unit (UNIEMTG), Dr. Josep Trueta University Hospital, Neuroinflammation research group, Girona Biomedical Research Institute (IDIBGI), Girona, Spain*)

**80 - Evaluation of cannabidiol in adoptively transferred experimental autoimmune encephalomyelitis.**

Coral Gonzalez Garcia (*Instituto Investigación Sanitaria Puerta de Hierro, Neuroimmunology, Majadahonda, Spain*)

**82 - Inhibition of soluble TNF promotes remyelination by increasing myelin phagocytosis by CNS macrophages**

Athina Boutou (*HELLENIC PASTEUR INSTITUTE, DEPARTMENT OF MICROBIOLOGY, LABORATORY OF MOLECULAR GENETICS, ATHENS, Greece*)

**85 - Calcium dobesilate blocks integrin-dependent neutrophil adhesion and improves memory in a mouse model of Alzheimer's disease**

Elena Zenaro (*University of Verona, Department of Medicine, Verona, Italy*)

**91 - LFA-1 integrin controls neutrophil trafficking and contacts with microglial cells during experimental autoimmune encephalomyelitis**

Silvia Dusi (*University of Verona, Department of Medicine, Verona, Italy*)

**93 - Implication of innate lymphoid cells in experimental autoimmune encephalomyelitis**

Daniel Brunotte-Strecker (*Institute of medical immunology, Charité - Universitätsmedizin Berlin, Berlin, Germany*)

**104 - MHCI deficiency accelerates muscle denervation in mouse models of Amyotrophic Lateral Sclerosis**

Maria Chiara Trolese (*IRCCS - Istituto di Ricerche Farmacologiche Mario Negri, Neuroscience, Milano, Italy*)

**118 - Beneficial Role of Systemic Interleukin-4 Administration in Spinal Cord Injury**

Susana Monteiro (*Life and Health Sciences Research Institute (ICVS), School of Medicine, University of Minho, Campus Gualtar, 4710-057 Braga, Portugal, ICVS/3B's – PT Government Associate Laboratory, Braga/ Guimarães, Portugal*)

**136 - MCL and Mincle C-type lectin receptors regulate experimental autoimmune encephalomyelitis susceptibility**

Marie N'diaye (*Karolinska Institutet - Department Of Clinical Neuroscience, Center for Molecular Medicine, Stockholm, Karolinska Hospital Solna, Sweden*)



FRIDAY, JUNE 30

MORNING

### COGNITIVE AND MOOD DISORDERS

**Chairs:** Roberto Furlan, Cinthia Farina and Nicola Woodrooffe

- 09.00-09.45 **Brain metabolism and cognitive impairment**  
Jens Bruening (*Max Planck Institute for Metabolism Research, Germany*)
- 09.45-10.30 **Neuroinflammation in psychiatric disorders**  
Marjolein Sneebouer (*University Medical Center Utrecht, Netherlands*)
- 10.30-11.00 Coffee Break
- 11.00-11.45 **Immuno-pathology and psychiatric disorders**  
Johann Steiner (*Otto von Guericke Universitaet Magdeburg, Germany*)
- 11.45-12.30 **Is it time for immune-therapies in psychiatric disorders?**  
David Brown (*University of New South Wales, Australia*)
- 12.30-14.30 Lunch with the expert  
**Table 1 – Immunotherapies in neurological disorders:**  
Frauke Zipp and Bruno Bonetti  
**Table 2 – Inflammation in psychiatry:**  
Johann Steiner and Roberto Furlan  
**Table 3 – Metabolism:**  
Jens Bruening

AFTERNOON

### NOVEL THERAPEUTIC STRATEGIES

**Chairs:** Roberto Furlan, Cinthia Farina and Nicola Woodrooffe

- 14.30-15.15 **Targeting macrophages/microglia for therapy in autoimmune disorders**  
Robert Harris (*Karolinska Institut, Sweden*)
- 15.15-16.00 **Drug repurposing for therapy of MS and other neurological disorders**  
Frauke Zipp (*University Medical Center for the Johannes Gutenberg University, Germany*)
- 16.00-16.30 Coffee Break
- 16.30-17.15 **From the bench to clinical trials: starting a biotech company in neurological disease**  
Hans van Noort (*Delta Crystallon, the Netherlands*)
- 17.15-18.00 **Final quiz and awards**