

XXIX AINI Congress

VERONA Hotel Leon d'Oro

15-19 September 2021



Scientific Programme

THURSDAY | September 16

Sponsor Seminars

Chairs: Diego Centonze & Roberto Furlan

11:00-12:00 **Merck heritage and commitment in the new MS era: past, present and future**
Andrea Paolillo (Merck)

AINI meets Novartis

12:00-12:45 **Novartis research in Neuroimmunology (zoom)**
Marc Bigaud (Novartis)

13:00-13:45 *Lunch*

14:00-14:45 **Next generation research: creating value through pioneering science (zoom)**
Chris Henderson (Head of Research, Biogen)

14:45-15:45 **Complement Inhibition in rare neurological immune-mediated diseases – Alexion's research programs (zoom)**
Gianluca Pirozzi (Alexion Pharmaceuticals Inc)

15:45-16:45 **L'impegno di Roche nelle neuroscienze: dagli anticorpi monoclonali alle piattaforme digitali**
Anna Maria Porrini (Direttore medico di Roche Italia)

16:45-17:00 **Welcome address**
Gabriela Constantin & Roberta Magliozzi & Bruno Bonetti (University of Verona)

Opening session New immune and inflammatory mechanisms in brain diseases I

Chairs: Gabriela Constantin & Bruno Bonetti

Lecture 1

17:00-17:45 **Innate immunity and inflammation: double-edge swords**
Alberto Mantovani (Humanitas University, Milan, Italy)

Lecture 2

17:45-18:30 **β -Synuclein-reactive T cells in autoimmune CNS grey matter degeneration**
Alexander Flügel (University Medical Center Göttingen, Germany)

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Oral Presentation

- 17:45-18:05 **Role of SLC7A11 in the control of Treg cell homeostasis in autoimmunity**
Claudio Procaccini (Tor Vergata University, Rome, Italy/IRCCS Fondazione Santa Lucia, Rome, Italy)
- 18:05-18:25 **Macrophage dynamics at the borders of the central nervous system**
Giuseppe Locatelli (Theodor Kocher Institute, University Bern, Bern, Switzerland)
- 18:25-18:45 **$\gamma\delta$ T cells play a role in the pathogenesis of Alzheimer's Disease**
Anna Slanzi (University of Verona, Verona, Italy)
- 19:00 *Welcome cocktail*

FRIDAY | September 17

Adaptive immunity mechanisms in brain neuroinflammation

Chairs: Clara Ballerini & Matteo Gastaldi

Lecture 3

- 09:00-09:45 **Autoimmune humoral immunological memory: the bad and the good**
Elisabetta Traggiai (Novartis Institute for Biomedical Research)

Oral Presentations

- 09:45-10:05 **Treatment with Ocrevus does not inhibit antiviral T-cell responses in persons with MS after SARS-COV-2 infection**
Roberto Furlan (San Raffaele Hospital Milan, Italy)
- 10:05-10:25 **AgRP neurons control lymphoid hematopoiesis and Treg generation through beta-3 adrenergic receptor-expressing stromal cells.**
Tiziana Vigo (IRCCS Ospedale Policlinico San Martino, Genoa, Italy)
- 10:25-10:45 **Significance of MOG antibodies in CSF: a retrospective multicenter study (zoom)**
Sara Carta (University of Verona, Verona, Italy)
- 10:45-11:15 *Coffee break*

The interplay between Neurodegeneration and Neuroinflammation

Moderators: Nicole Kerlero de Rosbo & Diego Centonze

Lecture 4

- 11:15-12:00 **Neuronal vulnerability and multilineage diversity in multiple sclerosis (zoom)**
Lucas Schirmer (University of Heidelberg, Germany)

Oral Presentations

- 12:00-12:20 **The role of meningeal stromal cells in brain auto-reactive immune cell regulation**
Ilaria Decimo (University of Verona, Italy)
- 12:20-12:40 **The role of the meningeal layers in CNS autoimmunity**
Francesca Odoardi (University Medical Center Göttingen)

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12:40-13:00 **The effect of exosomes derived from adipose mesenchymal stem cells in microglial model of ALS**
Sylvia Dabrowska (University of Verona, Verona, Italy/Mossakowski Medical Research Centre, PAS, Warsaw, Poland)

13:00-14:30 *Lunch*

Focus on innate immunity

Chairs: Elena Zenaro & Giuseppe Locatelli

Lecture 5

14:30- 15:15 **Spatial and temporal heterogeneity of microglial cells during homeostasis and demyelination**
Roman Sankowski (University of Freiburg, Germany)

Oral Presentations

15:15-15:35 **LFA-1 integrin controls microglia-neutrophil interaction in the central nervous system during experimental autoimmune encephalomyelitis**
Gabriele Angelini (University of Verona, Verona, Italy)

15:35-15:55 **CSF levels of CXCL12 and Osteopontin as early markers of primary progressive multiple sclerosis**
Damiano Marastoni (University of Verona, Verona, Italy)

15:55-16:15 **Detection of neuroinflammation using iron-sensitive magnetic resonance imaging**
Simon Hametner (Medical University of Vienna, Vienna, Austria)

16:15-16:45 *Coffee break*

Demyelinating Diseases I

Chairs: Giovanna Borsellino & Gianvito Martino

Lecture 6

16:45-17:30 **Lymphocyte trafficking to the CNS – does provenance matter?**
Thomas Korn (Technical University of Munich, Germany)

Oral Presentation

17:30-17:45 **CD28 and associated-class-1A-PI3K regulates the cellular metabolic programs correlate/associated to pro-inflammatory T cell responses in MS**
Manolo Sambucci (IRCCS Santa Lucia Foundation, Rome, Italy)

17:45-18:00 **Cladribine modifies the expression of deoxycytidine kinase and its phosphorylated isoforms in in-vitro activated T cells**
Federico Carlini (Ospedale Policlinico San Martino- Sistema Sanitario Regione Liguria-IRCCS, Genova, Italy)

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- 18:00-18:15 **The MS-associated EBNA2 alleles show functional relevance in virus-host interaction in a cellular model of infection**
Rosella Mechelli (IRCCS San Raffaele Roma, Rome, Italy/San Raffaele Roma Open University, Rome, Italy)
- 18:15-18:30 **GWAS associated Variants, Non-genetic Factors, and Transient Transcriptome in Multiple Sclerosis Etiopathogenesis: a Colocalization Analysis**
Gianmarco Bellucci (Sapienza University of Rome, Italy)
- 18:30 *AINI Annual General Assembly*
- 19:30 *AINI annual football match & Dinner*

SATURDAY | September 18

Neuroimmunology of cognition and behavioral disorders

Chairs: Martina Severa & Roberto Furlan

Lecture 7

- 09:00-09:45 **Peripheral and central processes in MS**
Cinthia Farina (San Raffaele, Milan)

Oral Presentations

- 09:45-10:05 **TrkB signalling in astrocytes may promote demyelination by altering copper transport**
Emanuela Colombo (IRCCS San Raffaele Hospital, Milan, Italy)
- 10:05-10:25 **Brain correlates of depression, post-traumatic distress, and inflammatory biomarkers in COVID-19 survivors: a multimodal magnetic resonance imaging study**
Francesco Benedetti (Vita-Salute San Raffaele University, Milano, Italy/IRCCS Scientific Institute Ospedale San Raffaele, Milano)
- 10:25-10:45 **Reconstruction and analysis of amyloid beta and microglia interaction networks in experimental models of Alzheimer's disease**
Aferdita Suli (University of Verona, Verona, Italy)

10:45 -11:15 *Coffee Break*

Demyelinating Diseases II

Chairs: Roberta Magliozzi

Lecture 8

- 11:15-12:00 **Regulation of phagocyte phenotypes in neuroinflammatory lesions**
Martin Kerschensteiner (University of Munich, Germany)

Oral Presentations

- 12:00-12:15 **CovaxiMS: a prospective study for the evaluation of immunogenicity of anti-SARS-CoV2 vaccines in patients with MS**
Matilde Inglese (University of Genoa, Genoa, Italy)

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- 12:15-12:30 **Analysis of Eomes+Tr1-like cells in multiple sclerosis**
Jens Geginat (Fondazione Istituto Nazionale di Genetica Molecolare, Milano, Italy)
- 12:30-12:45 **Clinical relevance of longitudinal antibody titres in patients with MOGAD**
Giacomo Greco (IRCCS National Neurological Institute C. Mondino Foundation, Pavia, Italy)
- 12:45-13:00 **Multifaceted activities of dimethylfumarate on systemic immune asset of multiple sclerosis patients**
Fortunata Carbone (Consiglio Nazionale delle Ricerche (IEOS-CNR), Napoli, Italy/IRCCS Fondazione Santa Lucia, Roma, Italy)

13:00-14:30 *Lunch*

Brain regeneration during neuroinflammatory diseases

Chairs: Georgia Mandolesi & Antonio Uccelli

Lecture 9

- 14:30- 15:15 **Remyelination mechanisms and therapies: new directions and challenges multiple sclerosis. (zoom)**
Wee Yong (University of Calgary, Canada)

Oral Presentations

- 15:15 - 15:35 **Involvement of a non-canonical Smoothed receptor signaling in mouse CNS remyelination**
Antonella Ragnini-Wilson (University of Rome Tor Vergata, Rome, Italy)
- 15:35-15:55 **Mesenchymal stem cells for multiple sclerosis: effect of treatment on peripheral immune cells**
Alice Laroni (University of Genova and IRCCS Ospedale Policlinico San Martino, Genova, Italy)
- 15:55-16:15 **Labelled nanovesicles from adipose mesenchymal stem cells target inflamed lymph nodes in chronic experimental autoimmune encephalomyelitis.**
Ermanna Turano (University of Verona, Italy)
- 16:15-16:35 **Choroid plexus as source of chronic stimulation of intrathecal inflammation in progressive multiple sclerosis**
Roberta Magliozzi (University of Verona, Italy/Imperial College London, UK)

16:35-17:00 *Coffee break*

17:00-18:30 **Poster session**

Chairs: Ermanna Turano & Jens Geginat

Exploring by protein microarray the autoantibodies repertoire in Multiple Sclerosis Patients

Alberto Carnasciali (Università degli Studi di Firenze, Italy)

T-cell receptor repertoire architecture in cerebrospinal fluid: insights on a Primary-Progressive Multiple Sclerosis patient

Roberta Amoriello (University of Florence, Florence, Italy)

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Effects of MAGL inhibitor on striatal synaptic dysfunction in a mouse model of multiple sclerosis

Krizia Sanna (Università Tor Vergata, Rome, Italy)

Efgartigimod: A Novel FcRn Antagonist in the Treatment of Autoimmune Diseases

Alessandro Pinna (argenx, Ghent, Belgium)

MOGAD vs NMOSD DIAGNOSIS: THE ROLE OF LIVE CELL BASED ASSAY IN MOG ANTIBODY DETECTION

Maria Teresa Ferrò (ASST Crema, Italy, Crema, Italy)

Usefulness of cholinergic receptor subtypes mRNA levels in PBMCs as a marker for neuroinflammatory diseases

Marcella Reale (University G.D. Annunzio, Italy)

Intratechal and peripheral protein inflammatory profiles only partially correlate in MS patients at time of diagnosis

Francesco Pezzini (University of Verona, Italy)

Persistent psychopathology in COVID-19 survivors at one-year follow-up

Mario G. Mazza (IRCCS Scientific Institute Ospedale San Raffaele, Milano, Vita-Salute San Raffaele University, Milano, Italy)

Toward a new tolerogenic strategy: dendritic cells educated upon resolvins as possible therapeutic agents in neuroinflammation

Giovanni Ferrara (IRCCS Ospedale Policlinico San Martino, Genoa, Italy)

Immunometabolic reprogramming by tetramerization of pyruvate kinase M2 reduces dendritic cell activation.

Marta Bottero (IRCCS Ospedale Policlinico San Martino, Genoa, Italy)

β 3-adrenergic receptor expressing stromal cells in thymus control Treg generation and release of newly generated lymphocytes

Maria Cristina Mariani (IRCCS Polyclinic Hospital San Martino, Genoa, Italy)

Differential regulation of hematopoiesis and regulatory T-cell generation in mouse models of glioma

Erika Ricci (IRCCS Polyclinic Hospital San Martino, GENOA, Italy)

Transcriptional analysis by NGS technology of lncRNAs in EVs derived from THP-1 cell line

Annamaria Finardi (IRCCS Ospedale San Raffaele, Milan, Italy)

The impact of storage on extracellular vesicles: a systematic study

Stefano Gelibter (IRCCS Ospedale San Raffaele, Milan, Italy)

Multidimensional assessment of neuroinflammatory and brain structural parameters in MS patients treated with Ocrelizumab

Gisella Guerrera (Fondazione Santa Lucia, Neuroimmunology Unit, Roma, Italy)

The purinergic receptor P2RY12 in glial inflammation and demyelination

Chiara Cordiglieri (Istituto Nazionale Genetica Molecolare (INGM), Milan, Italy)

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Clinical and immunological characteristics of neuronal intermediate filament autoimmunity

Claudia Papi (Università Cattolica del Sacro Cuore - Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy)

$\gamma\delta$ T cell-mediated neurotoxicity in in vitro models of Alzheimer's disease

Nicola Lopez (University of Verona, Verona, Italy)

Multidimensional assessment of neuroinflammatory and brain structural parameters in MS patients treated with Ocrelizumab.

Alice Verdiani (IRCSS Fondazione Santa Lucia, Neuroimmunology Unit, Rome, Italy)

SUNDAY | September 19

New immune and inflammatory mechanisms in brain diseases II

Chairs: Luca Battistini & Marco Salvetti

Lecture 10

09:00-09:45

The Inflammasome-mediated inflammatory response in Alzheimer's disease

Michael Heneka (University of Bonn, Germany)

Lecture 11

09:45-10:30

Vascular barriers and microbiota in the gut-brain axis

Sara Carloni (Humanitas University, Milan, Italy)

10:30-10:45

Coffee break

Oral Presentations

10:45-11:00

Nutritional overload worsens EAE severity by promoting synaptic damage and neuroinflammation

Sara Ballesta (University Tor Vergata Rome, Italy)

11:00-11:15

Exercise ameliorates synaptic dysfunctions and peripheral and central immune alterations in experimental Multiple Sclerosis

Antonietta Gentile (IRCCS San Raffaele Pisana, Rome, Italy)

11:15-11:30

Microglial Extracellular Vesicles as Therapeutic Vector for Neuroinflammation

Giulia Marostica (San Raffaele Scientific Institute, Milan, Italy)

11:30-11:45

30-reagent high-content cytometry panel for capillary blood phenotyping of people with MS under Disease Modifying Therapy

Mario Picozza (Santa Lucia Foundation, ROMA, Italy)

11:45-12:00

A "candidate interactomes" analysis of GWAS data supports the Multiple Sclerosis-Epstein Barr virus association

Virginia Rinaldi (Sapienza University of Rome, Rome, Italy)

12:00-12:15

A Score to Predict AQP-4 IgG Positivity in Patients with Longitudinally Extensive Transverse Myelitis

Lucia Campetella (Catholic University of the Sacred Heart, Roma, Italy)

12:30-13:00

AINI awards and Closing remarks