



4th ISN Special Neurochemistry Conference

“Membrane Domains in CNS physiology and pathology”

May 22-26, 2010, Erice (Trapani), Sicily, Italy



View of [Erice](#)



[International Society for Neurochemistry](#)

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Cell membranes are characterized by two properties crucial to its functions: an inhomogeneous lateral composition and a highly dynamic organization. Basic to both properties are the lateral interactions among the membrane molecular components, that lead to the creation of macro- and microdomains acting as functionally specialized membrane compartments, coupled both spatially and functionally. These functional units ensure the high efficiency of various processes, including the sorting of membrane components (with the consequent morphological and functional cell polarization), the regulation of membrane turnover, and the modulation of membrane-associated signaling complexes involved in several aspects of “outside-in” signal transduction and cell-cell interactions. These roles reflect a particular relevance to the physiology and pathology of the CNS. Key events in the CNS such as neurite- and dendritogenesis, neuronal pathfinding, neuronal survival, myelination and neuron-glia interactions, neurodegeneration and neuroinflammation are linked to the organization of cellular membranes in membrane domains.

Organizing committee:

Chairperson: [Sandro Sonnino](#), University of Milan

Co-chairpersons: [Alessandro Prinetti](#), University of Milan
[Anthony J. Turner](#), University of Leeds
[Natalia N. Nalivaeva](#), University of Leeds
Vanna Chigorno, University of Milan
Daniele Condorelli, University of Catania
Gianfrancesco Goracci, University of Perugia
Laura Riboni, University of Milan
Paola Viani, University of Milan

Location: Erice (Trapani), Sicily, Italy.

[Erice](#) is a pre-mediaeval town located in the southernmost region of Italy, the island of Sicily, that lies in the middle of the Mediterranean Sea. Sicily is conveniently connected with airport hubs through the international airport of [Palermo](#). Near Erice is located the regional airport of [Trapani](#). Public buses, shuttles and taxis connect the Palermo airport with Erice and Trapani.

Venue: The Ettore Majorana Foundation and Centre for Scientific Culture.

[The Ettore Majorana Foundation and Centre for Scientific Culture](#) located in Erice embraces all branches of Science. Three restored monasteries provide an appropriate setting for high intellectual endeavour. These monasteries are now named after great Scientists and strong supporters of the "Ettore Majorana" Centre. The San Francesco Monastery is now the Eugene P. Wigner Institute where there is the "Enrico Fermi" Lecture Hall. The San Domenico Monastery is now the Patrick M.S. Blackett Institute where there is the "Paul A.M. Dirac" Lecture Hall. The San Rocco Monastery is now the Isidor I. Rabi Institute where there is the "Richard P. Feynman" Lecture Hall, the Directorate and the main Secretariat of the Centre. There are living quarters in all three Institutes for people attending the Courses of the Centre.

Meeting style: 10-12 sessions with 40-50 oral presentations.

Posters will remain displayed for the whole time and discussed daily.
Total participants will be up to 200.

We plan to provide full economical support for 10-20 junior scientists (graduate students, post-doctoral fellows, etc.).

May 22nd: registration, opening lecture in the late afternoon.

May 23rd to 25th: 3 to 5 sessions for each day, including an overview introduction, 3 to 5 presentations of unpublished data and a general discussion.

Daily poster session.

May 26th: breakfast and departure.

Scientific topics

We list below the key topics that will be covered during the meeting. Topics have been chosen with the aim to assemble neuroscientists coming from heterogeneous research areas, bringing together very different perspectives on membrane domains under the same roof. Any suggestion from participants is welcome.

Fundamentals of membrane structure and organization

- Biophysics of membranes
- Imaging of cell membrane heterogeneity
- Proteomics and lipidomics of membrane domains
- Techniques for studying membrane domains
- Lipid membrane domains, proteolysis and protein processing

Membrane domains in the nervous system

- Membrane domains in dendritogenesis and axon growth
- Membrane domains and synaptic function
- Membrane domains in glial cells and myelin
- Membrane domains in the biology of neural stem cells

Membrane domains and signal transduction in neural cells

- Membrane domains and the regulation of receptor function
- GPI-anchored proteins and membrane domains in the nervous system
- Non-receptor tyrosine kinases and membrane domains in the nervous system

Membrane domains in neural pathology

- Membrane domains and neurodegenerative diseases
- Antibodies against membrane-epitopes in autoimmune neuropathies

Preliminary list of confirmed speakers and discussion leaders:

Bansal R. Univ Connecticut Medical School, Farmington, USA;
Barrantes F.J., UNESCO Chair of Biophysics and Molecular Neurobiology, Argentina;
Boggs J.M., Hospital for Sick Children, Toronto, Canada;
Chattopadhyay A., Centre for Cellular and Molecular Biology, Hyderabad, India.
Dotti C.G., Catholic University of Leuven, Leuven, Belgium;
Eddin M.E., Johns Hopkins School of Medicine, Baltimore, USA;
Fujimoto T., Nagoya Univ Graduate School of Medicine, Nagoya, Japan;
Furukawa K., Nagoja University, Japan
Hartmann T., Univ Saarland, Germany.
Hirabayashi Y., RIKEN, Japan;
Honke K., Kochi Medical School, Kochi, Japan.
Hooper, N.M. Univ Leeds, Leeds, UK;
Jacobson K, Univ North Carolina, Chapel Hill, USA;
Kasahara K., The Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan.
Kinoshita T., Research Institute for Microbial Diseases, Osaka, Japan.
Klemke R. L. , University of California at San Diego, USA;
Kobayashi T., RIKEN, Japan;
Kraut R. Institute of Bioengineering and Nanotechnology, Singapore.
Kurachi Y. Grad. School of Medicine, Osaka Univ., Osaka, Japan.
Kusunoki S., Kinki Univ. School of Medicine, Osaka, Japan;
Lisanti MP, Kimmel Cancer Center, Philadelphia, USA;
London E., SUNY Stony Brook, USA;
Maxfield F., Weill-Cornell Medical College, New York, USA;
Parenti M. Univ Milano Bicocca, Milano, Italy;
Prieto M. Faculdade de Ciencias da Universidade de Lisboa, Lisboa, Portugal ;
Sandhoff K, Univ Bonn, Germany
Sargiacomo M., ISS, Rome, Italy.
Schnaar R. Johns Hopkins School of Medicine, Baltimore, USA;
Sullard C. Georgia Institute of Technology, USA;
Thinakaran G., Univ Chicago, Chicago, USA;
Turner A.J. Univ Leeds, Leeds, UK;
Veatch S.L., Univ British Columbia, Canada.
Willison H.J., Univ Glasgow, Glasgow, UK.
Yu R.K., Medical College of Georgia, Atlanta, USA.

Under the auspices of:



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