

10th

**INTERNATIONAL
MEETING ON
METABOTROPIC
GLUTAMATE
RECEPTORS**



Taormina, Sicily-Italy
October 1st - 6th, 2021

Patronized by



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INTERNATIONAL MEETING ON METABOTROPIC GLUTAMATE RECEPTORS

Taormina, Sicily-Italy

October 1st - 6th, 2021

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REGISTRATION INFORMATION

REGISTRATION FEES

Participants	€ 1.000,00
Undergraduate Students	€ 300,00 <i>verification of student status required</i>
Accompanying person	€ 500,00

REGISTRATION FEES INCLUDES

Participants fee: Access to all scientific session, meeting material, certificate of attendance, coffee breaks, working lunches, social program, local Shuttle service, transfer from and to Catania airport (only in these days: Transfer arrival 30 Sept.-1 Oct. Transfer back Oct.6-7).

Accompanying persons fee: Lunches, social program, local Shuttle service, transfer from and to Catania airport (only in these days: Transfer arrival 30 Sept.-1 Oct. Transfer back Oct.6-7).

The registration fee does not include the insurance of participants against personal accidents, sickness, theft or property damage.

AIRPORT SHUTTLE SERVICE

A free transportation service from UNA Hotel Capotaormina will be provided by the Organizing secretariat in these days. Please note that we will not be able to transfer people who have not booked.

6th and 7th October 2021

All registered participants are anyhow kindly requested to communicate departure details at the Registration Desk within October 4th

Pick-up time will be confirmed by our staff the day before the departure date.

ORAL COMMUNICATION

- Oral presentations must be prepared in Power Point format;
- Speakers are strongly recommended to save their presentations on a pen drive;
- Speakers with their presentations on personal laptop (unreccomanded) are kindly requested to go to the Multimedia Slide centre;
- We kindly recommended speakers to contact the Multimedia Slide centre the day before their presentation.

POSTER SESSION

Poster session will take place on October 2nd from 8.00 pm to 11.00 pm. in Etna room. Posters can be positioned from 4.00 pm to 8.00 pm and must be removed immediately after the end of the Poster session. After that the Organizing Secretariat has no responsibility for your poster.

The presenters are required to be present at their board during all time of the session. The area (portrait) on poster boards is 100 cm H x 70 cm H.

Posters will be numbered and listed in the program, you will find at the top of your poster space, a label indicating your poster number.

Material for mounting posters (Scotch paper tape) will be available at the poster area.

CONTINUING MEDICAL EDUCATION (Italian accreditation)

Request for ECM accreditation has been submitted to the Ministry of Health
Categories involved:

- Neurology
- Psychiatry
- Clinical Biochemistry
- Pharmacology and Toxicology
- Neurophysiopathology.

The Meeting has been accredited for Italian CME: event n. 325774 • 6 credits for Italian participants only.

Provider ECM: Centro Organizzazione Congressi No. 2263

BADGE

Each participant and accompanying person registered will receive a name badge upon arrival at the registration desk. You are kindly requested to wear your name badge during all Scientific Session and all Meeting activities.

There will be no admittance to the Scientific Sessions without the badge.

SCIENTIFIC PROGRAM

Friday, October 1st

Afternoon session

5.00-5.10 p.m. *Welcome*

Molecular determinants of mGluRs

Chair: **J. P. Pin** (France)

- 5.10-5.35 p.m. Allosteric regulation of mGluR2 fast structural dynamics and activation
E. Margeat (France)
- 5.35-6.00 p.m. Mechanisms of transactivation in metabotropic glutamate receptor heteromers
J. Javitch on line (USA)
- 6.00-6.25 p.m. Nanobodies to investigate the endogenous mGlu receptors
P. Rondard (France)
- 6.25-6.50 p.m. Structure basis of homo and hetero metabotropic glutamate receptors
J. Liu (China), **J. P. Pin** (France)
- 6.50-7.15 p.m. Mechanisms of Regulation of Metabotropic Glutamate Receptors
J. Levitz on line (USA)
- 7.15-7.40 p.m. Structural insights into mGluR activation
B. Kobilka on line (USA)
- 7.40-8.05 p.m. Tango for three at the membrane: G protein pre-coupling and activation by a metabotropic glutamate receptor
G. Skiniotis on line (USA)

Saturday, October 2nd

Morning session

Regulation of neural circuit development and synaptic plasticity through mGluR signaling

Chair: **M. Kano** *on line* (Japan) and **M. Watanabe** *on line* (Japan)

- 8.00-8.25 a.m.** Regulation of hippocampal synaptic plasticity by mGluRs
J. R. Mellor *on line* (UK)
- 8.25-8.50 a.m.** mGluR1-dependent neural circuit refinement in the developing cerebellum
M. Kano *on line* (Japan)
- 8.50-9.15 a.m.** mGluR1 is required for strengthening of “winner” and elimination of “loser” climbing fiber synapses in the cerebellum
M. Yamasaki *on line* (Japan)
- 9.15-9.40 a.m.** Regulation of mGluR1 trafficking and synaptic plasticity in cerebellar Purkinje cells
Y. Shen *on line* (China)
- 9.40-10.05 a.m.** *Coffee break*
- 10.05-10.30 a.m.** PF synapse elimination mediated by Ca²⁺-rising mechanisms in cerebellar Purkinje cells
M. Watanabe *on line* (Japan)
- 10.30-10.55 a.m.** Regulation of perineuronal nets by mGluRs
V. Bruno, G. Mascio (Italy)
- 10.55-11.55 a.m.** Educational “Publishing workshop”
J. Lerma (Spain), *Editor-in-Chief, Neuroscience*:
How to prepare a scientific manuscript
Y. Smith (USA) *Senior Editor, European Journal of Neuroscience*:
Peer-review and ethics of scientific publishing

Saturday, October 2nd

Afternoon session

mGluRs and synaptic plasticity

Chair: **R. Nisticò** *on line* (Italy) and **Z. Bashir** *on line* (UK)

- 2.00-2.25 p.m.** Role of kainate receptors in psychiatric comorbidities
J. Lerma (Spain)
- 2.25- 2.50 p.m.** Progressive alterations in glutamate receptor expression and hippocampal function in congenital forms of sensory deficits
D. Manahan Vaughan (Germany)
- 2.50-3.15 p.m.** mGluRs in the CA2 region of the hippocampus
Z. Bashir *on line* (UK)
- 3.15-3.40 p.m.** Pre and postsynaptic expression mechanisms in mGluR-LTD
T. Sanderson *on line* (Canada)
- 3.40-4.05 p.m.** Metabotropic and non-metabotropic roles of kainate receptors in regulating AMPAR surface expression and synaptic plasticity
J. Henley *on line* (UK)
- 4.05-4.30 p.m.** Using the ARCKR mouse to explore the roles of Arc in plasticity
M. Wall (UK)
- 4.30-4.45 p.m.** *Coffee break*

Therapeutic implications of mGlu regulation of limbic and forebrain function

Chair: **J. Conn** (USA) and **A. Guidotti** *on line* (USA)

- 4.45-5.05 p.m.** Modulation of hippocampal network oscillation by PICK1-dependent cell surface expression of mGlu3 receptors
J. Ster (France)

- 5.05-5.30 p.m.** Evaluating mGlu1 PAMs for the treatment of schizophrenia
D. Luessen *on line* (USA)
- 5.30-5.55 p.m.** mGlu3 receptor as an emerging target for the treatment of schizophrenia
S. Dogra *on line* (USA)
- 5.55-6.20 p.m.** Probing mGlu receptor heteromerization with photoactivable cross-linkers
J. Gonzalez Maeso *on line* (USA)
- 6.20-6.45 p.m.** Genomics of glutamate signaling: damaging variant discovery using. Whole Exome Sequencing and its application in psychiatry and neurology
A. Baskys (USA)
- 6.45-7.10 p.m.** Regulation of glutamatergic activity by bidirectional activation of two selected receptors as a novel approach in antipsychotic drug discovery
J. Wieronska (Poland)
- 7.10-7.35 p.m.** Autistic traits induced by postnatal subconvulsive activity are associated with loss of NeuN antigenicity and polyphosphoinositide hydrolysis within selective limbic structures of juvenile rats.
J.Friedman, L.K. Kahen, B.A. Di Menna, L. Nicoletti, F. Veliskova, (USA)

Saturday, October 2nd

ETNA ROOM

8.00-11.00 p.m. Poster Session

- 1 Discovery of 'molecular switches' within a series of mGlu₅ allosteric ligands driven by a 'magic methyl' effect affording both PAMs and NAMs with in vivo activity, derived from an M1 PAM Chemotype
Lisa Barbaro, Alice L. Rodriguez, Ashlyn N. Blevins, Jonathan W. Dickerson, Natasha Billard, Olivier Boutaud,, Jerri L. Rook, Colleen M. Niswender, P. Jeffrey Conn, Darren W. Engers, Craig W. Lindsley
- 2 6-5- and 6,6-fused heterocycles as negative allosteric modulators of metabotropic glutamate receptor subtype 5
K. Crocker
- 3 Positive allosteric modulators (PAMs) of the group II metabotropic glutamate receptors: Design, synthesis, and evaluation as ex-vivo tool compounds
Yousuke Yamada, Kristen Gilliland, Zixiu Xiang, Daniel Haymer, Katherine E. Crocker, Matthew T. Loch, Michael L. Schulte, Alice L. Rodriguez, Colleen M. Niswender, P. Jeffrey Conn, Craig W. Lindsley, Bruce J. Melancon
- 4 Agonists and allosteric modulators promote signalling from different metabotropic glutamate receptor 5 conformations.
Chady Nasrallah, Giuseppe Cannone, Julie Briot, Karine Rottier, Alice E. Berizzi, Chia-Ying Huang, Robert B. Quast, Francois Hoh, Jean-Louis Banères, Fanny Malhaire Ludovic Berto, Anaëlle Dumazer, Joan Font-Ingles, Xavier Gómez-Santacana, Juanlo Catena, Julie Kniazeff, Cyril Goudet, Amadeu Llebaria, Jean-Philippe Pin, Kutti R. Vinothkumar, Guillaume Lebon
- 5 A Combined Docking and MD Simulations Study of Positive Allosteric Modulators Binding to mGlu₅ receptor 7-TM Domain
Karen C. Weber, Richard T. Ngomba, Oliver Mundell, Danilo Roccatano
- 6 A nanobody activating metabotropic glutamate receptor 4 discriminates between homo and heterodimers
Jordi Haubrich, Joan Font, Anne Goupil-Lamy, Pauline Scholler, Damien Nevoltris, Francine Acher, Patrick Chames, Philippe Rondard, Laurent Prézeau & Jean-Philippe Pin

- 7 Investigating Inter-TMD Rearrangement and Allosteric Modulation of mGluRs
Alexa Strauss, Jordana Thibado, Vanessa Gutzeit, Jean-Yves Tano, Joon Lee, Martin Lohse, Josh Levitz
- 8 DT095435: a pan group III mGluR PAM candidate ready to enter pre-IND studies
M. Frauli, A. Barré, S. Mayer, L. Deshons, M. Heyer, C. Franchet, M. Bourque, T. Di Paolo, P. Zerr and S. Schann
- 9 Chronic sodium bromide treatment relieves autistic-like behavioral deficits in three mouse models of autism
Cécile Derieux, Audrey Léauté, Agathe Brugoux, Déborah Jacaz, Jean-Philippe Pin, Julie Kniazeff, Julie Le Merrer, Jerome AJ Becker
- 10 Facilitating mGlu4 receptor activity relieves autistic-like behaviors in a mouse model of Fragile X Syndrome
Claire Terrier, Fani Pantouli, Audrey Léauté, Fanny Malhaire, Dumazer A, Jorge Gandía, Isabelle McCort, Déborah Jaccaz, Alexis Bailey, Jean-Philippe Pin, Francine Acher, Cyril Goudet, Jérôme Becker, Julie Le Merrer
- 11 Postweaning social isolation and autism-like phenotype: a biochemical and behavioral comparative analysis.
Alessandra Gaetano, Alessandra Caruso, Laura Ricceri, Angela Caruso, Ferdinando Nicoletti, and Sergio Scaccianoce
- 12 Reduced mGlu5-Receptor mediated polyphosphoinositide hydrolysis in mouse models of monogenic autism
L. Di Menna, G. D'Errico, R. Orlando, R. Celli, M. Scioli, E. Ciocca, M. Spatuzza, A. Arena, C. M. Bonaccorso, J. A. Monn, M. V. Catania, V. Bruno, G. Battaglia, F. Nicoletti.
- 13 Targeting metabotropic glutamate receptor 5 (mGluR5) for the treatment of cognitive impairment associated with schizophrenia
J. Brown, L. Iacovelli, J.C. Neill, B. Grayson, R. Ngomba, M. Harte
- 14 Enhancement of procognitive activity of mGluR2 PAM by muscarinic ligands in an animal model of schizophrenia
P. Cieslik, J. M. Wieronska

- 15 Development up-regulation of NMDA receptors in the prefrontal cortex and hippocampus of mGlu5 receptor knock-out mice
T. Imbriglio, R. Verhaeghe, N. Antenucci, M. Scioli, S. Maccari, G. Battaglia, F. Nicoletti, M. Cannella
- 16 Metabotropic glutamate 5 (mGlu5) receptors in somatostatin neurons control emotional behaviors
Arnau Ramos-Prats, Pawel Matulewicz, Marie Edenhofer, Federico Castaldi, Kay-Yi Wang, Chia-Wei Yeh, Michaela Kress, Cheng-Chang Lien, Kai Kummer and Francesco Ferraguti
- 17 Projection-targeted photopharmacology reveals anxiolytic effects of mGluR2-mediated presynaptic inhibition of cortical inputs to the basolateral amygdala
Vanessa Gutzeit, Hermany Munguba, Joseph Stujenske, Melanie Kristt, Ashna Singh, Sonal Thukral, Johannes Broichhagen, Francis Lee, Conor Liston, Joshua Levitz
- 18 Ventral hippocampal mGlu5 receptors modulate neural ensemble dynamics underlying anxiety and social behaviors
Arnau Ramos-Prats, Sol Fustiñana Gueler, Paola Chietera, Claudia Schmuckermair, Yael Bitterman, Mark Schnitzer, Andreas Lüthi, Francesco Ferraguti
- 19 Role of mGluR5 receptors in D1 neurons in cocaine addiction
Hussein Ghareh, Luca Zangrandi, Claudia Schmuckermair, Federico Castaldi, Regine Heilbronn, Gerald Zernig, Francesco Ferraguti and Arnau Ramos-Prats
- 20 mGlu2 and mGlu3 metabotropic glutamate receptors differentially regulate Behavioural and biochemical responses to methamphetamine in mice
C.L. Busceti, R.P. Ginerete, L. Di Menna, G. D'Errico, M Scioli, F. Cisani, P. Di Pietro, T. Imbriglio, V. Bruno, G. Battaglia, F. Fornai, J.A. Monn, A. Pittaluga, F. Nicoletti.
- 21 Targetin mGlu3 receptors in absence epilepsy part one -preclinical studies in wag/rij rats
R. Celli, P. Striano, R. Citraro, L. Di Menna, M. Cannella, T. Imbriglio, J.A. Monn, EuroEPINOMICS-CoGIE Consortium, M. Scioli, G. De Sarro, E. Russo, G. Battaglia, G. van Luijtelaar, F. Nicoletti, A. Leo.

- 22 Targeting mGlu3 receptors in absence epilepsy part two - human genetic
R. Celli, P. Striano, R. Citraro, L. Di Menna, M. Cannella, T. Imbriglio, J.A. Monn, EuroEPINOMICS-CoGIE Consortium, M. Scioli, G. De Sarro, E. Russo, G. Battaglia, G. van Luijckelaar, F. Nicoletti, A. Leo
- 23 Rescuing epileptic phenotype and behavioral alterations in a Dravet syndrome mouse model by inhibiting eukaryotic elongation factor 2 kinase.
Stefania Beretta, Luisa Ponzoni, Laura Gritti, Paolo Scalmani, Massimo Mantegazza, Mariaelvina Sala, Chiara Verpelli and Carlo Sala
- 24 Deletion of mGlu3 receptors amplifies ischemic brain damage and neuroinflammation in experimental mice
F. Mastroiacovo, M. Zinni, G. Mascio, M. Scioli, V. Bruno, G. Battaglia, J. Pansiot, T. Imbriglio, J. Mairesse, O. Baud, F. Nicoletti
- 25 Pharmacological activation of mGlu1 metabotropic glutamate receptors improves early cognitive dysfunction in mice modeling type-1 spinocerebellar ataxia
Liberatore F., Antenucci N., Mascio G., Notartomaso S., Di Menna L., D'Errico G., Tortolani D., Scioli M., Maccarrone M., Bruno V., Battaglia G., Nicoletti F.
- 26 Targeting mGlu3 receptor in Parkinson's disease: preclinical studies and human genetics
Marika Alborghetti, Luisa di Menna, Giovanna D'Errico, Valeria Bruno, James Monn, Ferdinando Nicoletti, Francesco Ernesto Pontieri, Edoardo Bianchini, Jerome Mairesse, Manuela Zinni, Olivier Baud, Maria A. Sortino, Simona F. Spampinato, Maurizio Simmaco, Marina Borro, Giuseppe Battaglia
- 27 Expression of mGlu1 Metabotropic Glutamate1 receptor in acute myeloid leukemia cells
Boccadamo Pompili S.V, Caridi M., Battaglia G., Mirabilli S., Ricciardi M.R., Piedimonte M., Pepe G., Maglione V., Cannella M., Imbriglio T., Di Menna L., Orlando R., Nicoletti F., Tafuri A.
- 28 mGluR5 selective blockade reduces oxidative stress and lipid accumulation in obese-high fat diet mice
Clarissa Berardo, Marta Cagna, Laura Giuseppina Di Pasqua, Anna Clea Croce, Ferdinando Nicoletti, Mariapia Vairetti, Andrea Ferrigno

Sunday, October 3rd

Morning session

mGlu 5 Receptor in ASD, autoimmune encephalopathy

Chair: **A. Aiba** (Japan) *on line* and **B.K. Kaang** *on line* (Korea)

- 7.30-7.55 a.m.** Sex specific, mGluR5-dependent hyperexcitability of sensory neocortical circuits in a mouse model of PTEN deficiency
G. Molinaro *on line* (USA)
- 7.55-8.20 a.m.** Altered expression and function of mGlu5 metabotropic glutamate receptors in striatum of a mouse model for autism spectrum disorder
F. Matrisciano *on line* (USA)
- 8.20-8.45 a.m.** Atypical molecular dynamics at synapses in autism spectrum disorder
J. Perroy (France)
- 8.45-9.10 a.m.** Cognitive dysfunctions in Phelan McDermid syndrome: the contribution of mGlu5 dependent protein translation
C. Verpelli (Italy)
- 9.10-9.30 a.m.** *Coffee break*
- 9.30-9.55 a.m.** The activation of mGlu4 receptors rescues parallel fiber LTP and motor deficits in a mouse model of fragile X syndrome
J. Sanchez-Prieto (Spain)
- 9.55-10.20 a.m.** Generation of a non-human primate model for fragile X syndrome
A. Aiba *on line* (Japan)

Functional anatomy

Chair: **F. Ferraguti** (Austria) and **J. Bockaert** (France)

- 10.20-10.45 a.m.** Neural circuits mediating the influence of mGlu5 receptors on anxiety-like behaviour
F. Ferraguti (Austria)
- 10.45-11.10 a.m.** Life outside of the cell: transsynaptic regulation of group III mGluRs
K. Martemyanov (USA)
- 11.10-11.35 a.m.** Metabotropic glutamate receptors at ribbon synapses in retina and cochlea
R. Enz (Germany)
- 11.35-12.00 a.m.** Nanoscale co-organization and co-activation of AMPAR, NMDAR and mGluR at excitatory synapses
E. Hosy (France)

Sunday, October 3rd

Afternoon session

Optopharmacology of mGluRs

Chair: **A. Llebaria** (Spain) and **E. Isacoff on line** (USA)

- 2.00-2.25 p.m.** Light operated ligands for a precise spatiotemporal control of mGlu activity
A. Llebaria (Spain)
- 2.25-2.50 p.m.** Optical analysis of mGluR activation in intact cells
M. Lohse (Germany)
- 2.50-3.15 p.m.** smFRET reveals subunit interactions that regulate mGluR conformational dynamics and ligand potency
E. Isacoff on line (USA)
- 3.15-3.40 p.m.** Photopharmacological manipulation of pain
C. Goudet (France)
- 3.40-3.55 p.m.** *Coffee break*

mGlu and drug addiction

Chair: **A. Badiani** (Italy)

- 3.55-4.20 p.m.** The role of mGluRs in the tetrapartite synaptic plasticity underpinning cued-induced heroin seeking
P. Kalivas on line (USA)
- 4.20-4.45 p.m.** AFQ056/Mavoglurant: A receptor occupancy study and its impact on early clinical development.
F. Gasparini on line (Switzerland)
- 4.45-5.10 p.m.** Effect of social choice-induced voluntary abstinence on incubation of methamphetamine craving and AMPAR receptor expression in nucleus accumbent core
D. Caprioli (Italy)

Monday, October 4th

Morning session

Drug discovery

Chair: **B. Melancom** (USA)

- 8.00-8.25 a.m.** New Advances with Group III mGlu PAMs and NAMs
B. Melancom (USA)
- 8.25-8.50 a.m.** SAR and structural insight for a novel series of mGlu2 PAMs
J.P. Rocher (Switzerland)
- 8.50-9.15 a.m.** ADX71149 - From Discovery to Clinical Testing
R. Lutjens (Switzerland)
- 9.15-9.40 a.m.** Photocatalysis in Central Nervous System Drug Discovery: Direct Access to 1-Alkyl Isoquinolines as Potent mGluR4 PAMs
AM Bender (USA)
- 9.40-10.05 a.m.** *Coffee break*

Cortico-thalamic network and sleep regulation

Chair: **T. Salt** (UK) and **R. Ngomba** (UK)

- 10.05-10.30 a.m.** Modulation of Cortical Neuronal Circuit Oscillations by mGlu Receptors
T. Salt (UK)
- 10.30-10.55 a.m.** REM sleep disorders
L Ferini Strambi on line (Italy)
- 10.55-11.20 a.m.** Group II mGluRs in sleep-wake architecture and network oscillations
C. Wood (UK)
- 11.20-11.45 a.m.** The role of mGlu5R in thalamo-cortical oscillations governing sleep and wake
G. van Luijtelaar (The Netherlands)

Monday, October 4th

Afternoon session

2.00-2.25 p.m. Metabotropic glutamate receptor 2 regulates thalamically-driven dopamine release and reinforcement learning
K. Johnson on line (USA)

2.25-2.50 p.m. Stress reorganizes prefrontal cortex circuits by hijacking mGlu receptor plasticity
M. Joffe on line (USA)

mGluRs and pain

Chair: **V. Neugebauer (USA)**

2.50-3.15 p.m. Calcium-dependent synaptic plasticity in the cortex and their roles in chronic pain and emotion
M. Zhuo on line (Canada)

2.15-3.40 p.m. Differential roles of mGluR2 and mGluR3 in the amygdala in pain modulation
V. Neugebauer (USA)

3.40-4.05 p.m. Optopharmacology to disclose the role of mGlu5 receptors in neuropathic pain
S. Notartomaso (Italy)

4.05-4.30 p.m. Potential role of the cinnabaric acid in neuropathic pain
L. Luongo (Italy)

4.30-4.55 p.m. *Coffee break*

4.55-5.20 p.m. Peripheral mechanisms of neuropathic pain.
R. Liguori (Italy)

- 5.20-5.45 p.m.** mGlu2/3-5HT2A receptor-receptor interaction: a new therapeutic target for neuropathic pain
A. Pittaluga (*Italy*)
- 5.45-6.10 p.m.** Emerging trends in pain from central and peripheral neuroinflammation
S. Cuzzocrea (*Italy*)

mGlu receptors and Melanoma

Chair: **R. W. Gereau IV** (*USA*) and **V. Neugebauer** (*USA*)

- 6.10-6.35 p.m.** Translational application of mouse models of melanoma.
S. Chen *on line* (*USA*)

Tuesday, October 5th

Morning session

mGluR7 in physiology and pathology

Chair: **P. Flor** (Germany)

- 8.00-8.25 a.m.** Phenotypic characterization of GRM7 related disease: a clinical perspective.
A. Al-Hashim (KSA)
- 8.25-8.50 a.m.** Latest news on the mGlu7 receptor in epilepsy
F. Bertaso (France)
- 8.50-9.15 a.m.** Constitutive activation of mGluR7 by Eln1 regulates synaptic properties onto interneurons
T. Stachniak (Switzerland)
- 9.15-9.40 a.m.** *Coffee break*
- 9.40-10.05 a.m.** mGlu7 ligands binding to the extracellular domain
F. Acher (France)
- 10.05-10.30 a.m.** The dual role of mGluR7 in controlling pain and beyond
E. Palazzo (Italy)
- 10.30-10.55 a.m.** Metabotropic glutamate receptor subtype 7, a target for the treatment of anxiety and stress disorders
P. Flor (Germany)

Tuesday, October 5th

Afternoon session

- 2.30-2.55 p.m.** mGlu7 in neurodevelopmental disorders
C. Niswender (USA) R. Gogliotti *on line* (USA)
- New targets for the treatment of Alzheimer's disease and Parkinson's disease and how to improve the management of chronicities**
- Chair: **F. Ciruela (Spain) and Y. Smith (USA)**
- 2.55-3.20 p.m.** Neuroprotective Role of mGluRs in Parkinson's Disease
Y. Smith (USA)
- 3.20-3.45 p.m.** Multiscale 3D method for detection and quantification of neurodegeneration in mouse models of Alzheimer's disease
G. Battaglia (Italy)
- 3.45-4.10 p.m.** Should we target mGluR5 or NMDA receptors for treating L-DOPA-induced dyskinesia?
M. A. Cenci, K. SKovgård (Sweden)
- 4.10-4.30 p.m.** mGluR in neuroinflammation in animal model of Parkinson's disease and levodopa-induced dyskinesias
T. Di Paolo *on line* (Canada)
- 4.30-4.55 p.m.** *Coffee break*
- 4.55-5.20 p.m.** The mGluR₅-D₂R-A_{2A}R heteromeric complex: considerations for Parkinson's disease treatment
F. Ciruela (Spain)
- 5.20-5.45 p.m.** Novel insights in Methamphetamine toxicity
F. Fornai (Italy)
- 5.45-6.10 p.m.** Sex-specific beta-amyloid mGluR5 signalling in AD mice
S. Ferguson *on line* (Canada)

Targeting mGluRs in neuroinflammation associated with developmental disorders, autoimmune disorders (multiple sclerosis, NMOSD), and brain trauma

Chair: **J. Mairesse** (France)

- 6.10-6.35 p.m.** mGlu3 receptor regulates microglial cell reactivity in neonatal rats
J. Mairesse (France)
- 6.35-7.00 p.m.** Role of mGluRs in posttraumatic neuroinflammation and neurodegeneration after traumatic brain injury
A. Faden on line (USA)

Wednesday, October 6th

Morning session

Molecular targets for stroke recovery

Chair: **A. Copani** (Italy) and **K. Reymann** (Germany)

- 7.35-8.00 a.m.** Receptor-receptor interaction between mGluR1 and NMDARs as potential target for treating stroke
F. Liu on line (Canada)
- 8.00-8.25 a.m.** Contralesional excitation suppresses local and global circuit reconnection and plasticity related transcription factors after ischemic stroke.
A.Q Bauer (Sweden)
- 8.25-8.50 a.m.** Post-acute stroke treatment with mGluR5 NAMs restore global brain connectivity and somatosensory brain functions.
T. Wieloch (Sweden)
- 8.50-9.15 a.m.** The GABAA receptor as target for restorative ischemic stroke treatment: Insights from preclinical and clinical studies
D. Hermann (Germany)
- 9.15-9.40 a.m.** Interplay between metabotropic and ionotropic glutamate receptors in the mechanisms leading to postischemic neuronal death
D. Pellegrini Giampietro (Italy)
- 9.40-10.05 a.m.** *Coffee break*

Stress related disorders: resilience to stress, epigenetics and treatment of depression

In memory of Prof. Bruce McEwen

Chair: **F. Caraci** (Italy) and **M.V. Catania** (Italy)

- 10.05-10.30 a.m.** Longitudinal dissection of the stress response: a matter of resilience or vulnerability
M. Popoli on line (Italy)

- 10.30-10.55 a.m.** Maternal stress and behavior at the core of the offspring neurodevelopmental programming in both sexes:
focus on Group II mGlu receptors
S. Maccari (France)
- 10.55-11.20 a.m.** On the enhancement of antidepressant-like efficacy of cholinergic or serotonergic receptor ligands by substances acting on mGlu receptors
A. Pilc (Poland)
- 11.20-11.45 a.m.** Sex differences in ketamine's antidepressant and addictive properties
M. Kabbaj (USA)
- 11.45-12.10 a.m.** Convergent mechanism between the antidepressant actions of ketamine and mGluR2 signaling pathways
P. Zanos (Cyprus)

Wednesday, October 6th

Afternoon session

**Stress related disorders: resilience to stress,
epigenetics and treatment of depression**

In memory of Prof. Bruce McEwen

Chair: **A. Pilc** (Poland) and **S. Chaki on line** (Japan)

- 3.00-3.25 p.m.** Safety and Pharmacokinetic Profiles of (1) TP0473292 (TS-161), Novel Orthosteric mGlu2/3 Receptor Antagonist Prodrug, and (2) MGS0274 Besylate (TS-134), a Novel mGlu2/3 Receptor Agonist Prodrug, in Healthy Subjects
M. Watanabe (USA)
- 3.25-3.50 p.m.** Is mGlu2/3 a viable target for the treatment of depression?
Novel insights and renewed hope
A. Der Avakian on line (USA)

- 3.50 -4.15 p.m.** Discovery and Characterization of an mGlu2 PAM for Substance Use Disorder
D. Sheffler *on line* (USA)
- 4.15-4.40 p.m.** *Coffee break*
- 4.40-5.05 p.m.** Clinical Efficacy and Target Engagement of Glutamatergic Drugs: Placebo-Controlled RCTs of Pomaglumetad and TS-134 for Reversal of Ketamine-Induced Psychotic Symptoms and PharmacobOLD in Healthy Volunteers
J. Kantrowitz *on line* (USA)
- 5.05-5.30 p.m.** Epigenetic modulation of glutamatergic function: revisiting the crosstalk between mitochondria and cell nuclei
C. Nasca *on line* (USA)
- 5.30-5.55 p.m.** Role of CNS and peripheral insulin resistance in mood and cognitive disorders
N. Rasgon *on line* (USA)
- 5.55-6.20 p.m.** Glutamatergic function in treatment-resistant depression
N. Schatzberg *on line* (USA)

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