

4 September Morning/Afternoon

10:00 Registration

AULA A

Chair Francesco Di Virgilio

12:00 Hinge Plenary Lecture **Henning Ulrich** “Purinergic receptors: from neurogenesis to neurodegeneration”

14:30 Opening Session Welcome Address:

*Professor Carlo Volta, Deputy Rector for Health Affairs
Professor Stefano Volpato, Chairman of the Department of Medical Sciences
Professor Pier Andrea Borea, Honorary Professor, University of Ferrara
Professors Francesco Di Virgilio and Elena Adinolfi, Presidents of the Meeting*

AULA A

Chair Diego Dal Ben

15:10 Plenary Lecture **Christa Muller** “Structural Insights Fostering the Development of Purinergic Drugs”

Chair Tim Magnus

15:50 Plenary Lecture **Friedrich Koch-Nolte** “Structure, function, and applications of P2X7-specific nanobodies”

AULA A

Chair Tobias Engel

Purinergic signalling in neuroinflammation

16:30 **Tim Magnus**

Inflammation in Stroke: The Role of the Purinergic System

16:55 **Cecile Delarasse**

Highlighting the roles of P2X7 in autoimmune diseases

17:20 **Rodrigo Cunha**

Overfunction of the ATP-CD73-A_{2A} receptor pathway in synapses before the onset of symptoms in neurodegenerative disorders

AULA B

Chair Mariapia Abbracchio

P2Y receptor signalling in the nervous system

Marta Fumagalli

Purinergic players in amyotrophic lateral sclerosis: focus on the P2Y-like receptor GPR17

Yong Tang

Purinergic signalling and depression

Christian Lohr

P2Y₁ receptor-mediated neuron-astrocyte communication in the mouse olfactory bulb is cell type- and context-dependent

Selected Short Communications

Chair Valentina Vultaggio Poma

17:45 Bruce Cronstein

Adenosine Metabolism and Receptors in Aging of the Musculoskeletal System

18:00 Adriana Guijarro

Rapid ATP release during pyroptotic cell death is mediated by gasdermin pore formation

Selected Short Communications

Chair Anna Pegoraro

Maria Chiara Zuccarini

Deciphering the role of Purine Nucleoside Phosphorylase as potential druggable target and prognostic marker in breast cancer

Endre Kokai

Identification and functional characterization of A_{2A} receptor interacting proteins

18:30

Welcome Party

5 September Morning

AULA A

Chair Rafael Franco

8:30 Plenary Lecture Jorgen Schrader *“Intercellular crosstalk shapes purine metabolism and signaling”*

AULA A

Chair Marta Fumagalli

Strategies for the manipulation of Purinergic signaling

9:10 Diego Dal Ben

Design and development of novel P2X7 ligands

9:35 Stephanie Federico

Development of CD73 inhibitors: a Medicinal Chemistry point of view

10:00 Leanne Stokes

Positive allosteric modulation of P2X7

AULA B

Chair Renata Ciccarelli

Pathophysiology of P2X receptors in the nervous system

Carlos Matute

Purinergic (and non-) new avenues in neuroinflammation, tissue damage and repair

Eric Bouè-Grabot

Dichotomous functions of P2X4 receptors in Amyotrophic Lateral Sclerosis (ALS)

Miguel Diaz-Hernandez

P2X7 as a therapeutic target in Alzheimer's disease

10:25

Coffee Break

AULA A

Chair Stefano Moro

10:45 Plenary Lecture Ken Jacobson *“Discovery of modulators of purinergic signaling for chronic disease treatment”*

Chair Francesco Di Virgilio

11:25 Round Table “Purinergic signalling in cancer therapy: Where do we stand?”
Speakers: Michail Sitkovsky, Simon C. Robson

13:00 Lunch

5 September Afternoon

14:10 Poster Session 1

AULA A

Chair Francisco Ciruela

15:30 Plenary Lecture Rafael Franco “Delving into Neuroprotection: Navigating the Adenosine A_{2A} Receptor Network for Therapeutic Insights”

16:10 Coffee Break

AULA A

Chair Peter Illes

Pathophysiology of P2X7 receptors in the nervous system

16:35 Beata Sperlagh

The role of P2X7 receptors in early neuronal development and later onset of psychiatric disorders

17:00 Tobias Engel

The P2X7 receptor in epilepsy - is it only inflammation?

AULA B

Chair Francois Rassendren

Immunologic approaches to target P2X7 receptor

Annette Nicke

Investigation of P2X7 activation and signaling by biophysical and biochemical approaches.

Sahil Adriouch

Evaluation of P2X7 as a target in inflammatory and autoimmune models, or in cancer, using AAV vectors coding for anti-P2X7 nanobodies

AULA A

Chair Felicita Pedata

17:25 Plenary Lecture Mariapia Abbracchio “Rewiring of glial cell metabolism: a new strategy for neuro-repair?”

18:05 Delegate Assembly

19:00

Hotel

20:00

Leave to the Disco

6 September Morning

AULA A

Chair Anna Lisa Giuliani

9:00 Plenary Lecture **Pablo Pelegrin** "P2X7 receptor signalling in inflammation: through and beyond the inflammasome"

AULA A

Chair Flavia Trettel

Pathophysiology of ATP and adenosine receptors in the nervous system

9:40 **David Blum**

Cell- and non-cell autonomous impacts of adenosine A_{2A} receptor dysregulation in Alzheimer's Disease

10:05 **Paola Pizzo**

Extracellular ATP and P2X7 receptors as main drivers of neuroinflammation in Alzheimer's disease

10:30 **Ana Sebastiao**

A₃Rs as putative targets in epilepsy

AULA B

Chair Elena Adinolfi

Purinergic signalling and cancer

Elena Adinolfi

P2X7 blockade prevents colon carcinoma metastasis in mice models: role of the A_{2A} receptor

Gennadi Yegutkin

Role of the ATP-adenosine pathway in tumor immune evasion

Valerie Vouret-Craviari

From inflammation to cancer: Unveiling the future of purinergic checkpoint modulation

10.55

Coffee Break

AULA A

Selected Short communications

Chair Mario Tarantini

11:20 **Riekje Winzer**

The ATP receptor P2X7 mediates cell death in effector-prone human unconventional and tissue-resident T lymphocytes

11:35 **R. Murray**

AULA B

Selected Short communications

Chair Maria Chiara Zuccarini

Fritz Markwardt

Two serial filters, a central tri-Ser342 ring and 3 lateral cytoplasmic exits of 3 acidic residues each, determine hP2X7R cation selectivity

Antonella Ferrante

Comprehensive genome editing to engineer 'off-the-shelf' CAR-T cells with superior efficacy against solid tumors

11:50 Andrea Spinaci

Dual anta-inhibitors" of the A_{2A} adenosine receptor and casein kinase CK1delta and their potential in neurodegenerative disorders

Dipyridamole rescued cognitive deficits in a mouse model of Niemann Pick type C1 disease (NPC1) by increasing hippocampal calbindin levels.

Cecilia Astigiano

P2X7 receptor controversial role in α -Sarcoglycan Muscular Dystrophy

AULA A

Chair Rodrigo Cunha

12:05 Plenary Lecture Francisco Ciruela *"Illuminating adenosine receptors: Towards new therapeutic opportunities"*

12:45

Lunch

6 September afternoon

14:00

Poster Session 2

AULA A

Chair Darek Gorecki

15:10 Plenary Lecture Alexej Verkhratsky *"Pathophysiology of astroglia: General principles"*

15:50

Coffee Break

AULA A

Chair Ivana Novak

P2X7 receptors in metabolic diseases

16:15 Niklas Jorgensen

Purinergic signaling in bone – where are we today?

16:40 Luca Antonioli

Pharmacological modulation of the purinergic system in inflammatory bowel diseases: the right

AULA B

Chair Annamaria Pugliese

Structure and function of purinergic receptors

Francesca Lazzara

P2X7 receptor: pivotal role in retinal neurodegeneration

Elisabetta Coppi

Adenosinergic ligands with mixed "A₂" pharmacology as an advantageous strategy to treat brain disorders

*way towards novel
therapeutics?*

17:05 Marco Rossato

*P2 purinergic receptors as regulators of human
adipocyte functions*

17:30 Anna Solini

P2 receptors and complications of diabetes

17:55

Francois Rassendren

*Deciphering the molecular mechanisms of ATP
release by astrocytes*

Thomas Grutter

*New Insights into P2X7 Receptor Function:
Implications for Pathology*

Steven Mansoor

Structural Mechanisms of P2X Receptor Gating

AULA A

Chair Yong Tang

18:20 Plenary Lecture Peter Illes *“Status epilepticus causes cognitive impairment via the
hippocampal release of ATP and adenosine”*

19:00

Farewell Address

Francesco Di Virgilio