



MIA Portugal
Multidisciplinary
Institute of Ageing

MIA-Portugal
Events Report M36

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This document describes MIA-Portugal M36 Event.

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1. Introduction:

This report describes the events organized by MIA-Portugal and those in which the Institute participated.

This document addresses the activity that occurred between M24 and M36 of the MIA-Portugal project implementation.



1. MIA-Portugal Events

1.1 MIA-Portugal Ageing Seminars

The Institute launched an online series of seminars, the *MIA-Portugal Ageing Seminar Series*, focused on the biology of ageing, targeted at the Coimbra ageing scientific community.

Four seminars were organized in 2022:

- «Novel senolytic with mitochondrial targeting prevents premature ageing caused by radiotherapy in a mouse model»;
- «Cardiovascular ageing: modeling and therapies»;
- «Heterogeneity in cellular senescence: from mechanisms to interventions»;
- «Cell senescence, neuroinflammation and cognitive decline».

Dates: 24th January, 3Rd February, 5th May, 7th July

Nature: Scientific events | Online - Remote

Speakers: Satomi Miwa, Lino Ferreira, Marco Demaria, Thomas von Zglinicki

Participants: 215 (Total) | Mainly Researchers and post-graduate students.

Communication & Dissemination: MIA-Portugal website, social media and UC channels, newsletter.

1.2 AHA Mini-Symposium: Stem cells in ageing and metabolism (co-organization MIA-Portugal)

The event gathered top-level specialists from European and US research centres and provided deep knowledge on this topic.

Leading figures in ageing research presented research findings and projects related to the application of stem cell therapies to ageing-related diseases.



Organization: AHA – Alliance for Healthy Aging & MIA-Portugal

Date: 4th April 2022 | [Programme](#)

Nature: Scientific | On site (Hotel Dona Inês – Coimbra)

Participants: 35

Speakers: 10

Communication & Dissemination: MIA-Portugal website, social media and UC channels, Mass Media.



Programme:

AHA Mini-Symposium: Stem cells in ageing and metabolism

9:00 Opening Session

Thomas von Zglinicki - Professor of Cell Gerontology, Newcastle University

Cláudia Cavadas - Vice-Rector of University of Coimbra

Session 1

Chairperson: Satomi Miwa - Newcastle University

9:30-10:10 Moustapha Kassem (University of Southern Denmark) '**Accelerated Aging of skeletal stem cells in metabolic bone diseases: contribution to bone fragility**'

10:10-10:50 Lino Ferreira (University of Coimbra) '**Cardiovascular ageing and stem cells**'

10:50-11:20 Coffee break

11:20-12:00 Eugene Berezikov (Eriba, University of Groningen) '**Stem cells, regeneration and aging in the flatworm *Macrostomum lignano***'

12:00-12:40 Laura Greaves (Newcastle University) '**MtDNA mutation and stem cell function**'

12:40-14:30 Lunch Break

Session 2

Chairperson: Marco Demaria - University of Groningen

14:30-15:10 Paul Robbins (University of Minnesota) '**Stem cell extracellular vesicles as senotherapeutics**'

15:10-15:50 A. Cristina Rego (University of Coimbra) '**Mitochondrial deregulation in stem cell models of Huntington's disease**'

15:50-16:20 Coffee break

16:20-17:00 Luis Almeida (University of Coimbra) '**Gene and stem cell therapies**'

17:00-17:40 João Ramalho Santos (University of Coimbra) '**Pluripotency, Metabolism and aging**'

17:40-19:00 Poster session



1.3 8th European Synapse Meeting

(co-organization MIA-Portugal)

The meeting brought together junior and senior neuroscientists working on synapses and provided a forum for new directions and ideas in studying synapses in the healthy and diseased brain. The event convened EU and other international scientists and included lectures, selected talks and poster presentations.

The program provided multiple opportunities for interaction, during the poster sessions, offering an opportunity for disseminating the latest advances and for cross-disciplinary discussion and collaboration.

Organization: CNC - Center for Neuroscience and Cell Biology, University of Coimbra, IMM – Instituto de Medicina Molecular, MIA-Portugal

Date: 20th and 21st October 2022

Nature: Scientific | On site (Convento de São Francisco - Coimbra)

Participants: 166

Speakers: 25

Communication & Dissemination: MIA-Portugal website, social media and UC channels, Mass Media, sponsors and organizing institutions communication channels.

Programme

October 20th 2022

08:30 Registration

09:30 Opening session

Luis Pereira de Almeida – President of CNC-Center for Neuroscience and Cell Biology

Ana Luísa Carvalho – Organizing Committee

09:45 Keynote Lecture 1: **Gordon Fishell**

Harvard Medical School, USA

The intimate dependence and remarkable precision of cortical interneuron-pyramidal cell connectivity

Chair: Carlos B Duarte

10:45 Coffee Break (sponsored by ICONEUS)

11:05 **Company Techbites**

Zsolt Lenkei – INSERM, Paris, France

Drug-induced dysconnectivity patterns in the awake mouse brain

11:15 **S1: Neuronal and Synaptic Development**

Chairs: Matthijs Verhage & Paulo Pinheiro

Invited speakers

11:15 **Beatriz Rico** – King's College London, UK

Mechanisms orchestrating the assembly of interneuron-pyramidal cell networks

11:45 **Britta Eickholt** – Charite Berlin, Germany

Coordination of synaptic (stress) signaling and actin filament dynamics

12:15 **Sabine Levi** – Fer à Moulin Institute, Sorbonne University, France

Stabilization and elimination of synapses by the adenosine signaling pathway

Short talks

12:45 **Ayca Olcay** – Polish Academy of Sciences, Poznań

Analysis of synapse-enriched circular RNAs for loss-of-function studies in primary cortical neurons

13:00 **Sébastien Delhaye** – CNRS/Université Côte d'Azur, France

Phosphodiesterase 2A is a Goldilocks protein involved in neurodevelopment

13:15 Lunch and Posters

16:00 **S2: Synaptic Function**

Chairs: Rodrigo Cunha & Uri Ashery

Invited speakers

16:00 **Andrea Barberis** – Italian Institute of Technology, Italy [online]

Short-range interaction between excitatory and inhibitory synapses in dendrites of hippocampal pyramidal neurons

16:30 **Ira Milosevic** – MIA Portugal, University of Coimbra *Coordination of synaptic vesicle acidification and trafficking by rabconnectin-3a*

17:00 **Olivier Thoumine** – University of Bordeaux, France

Role of the adhesion molecule neuroligin-1 in synapse differentiation: membrane dynamics, phosphotyrosine signalling, and regulation by cis-binders

17:30 **Thomas Blanpied** – University of Maryland School of Medicine, USA

Subunit-specific NMDA receptor nanoarchitecture

Short talk

18:00 **Domenico Azarnia Tehran** – Leibniz- FMP, Berlin, Germany

Selective Endocytosis of Ca²⁺-permeable AMPARs by the Alzheimer's Disease Risk Factor CALM Bidirectionally Controls Synaptic Plasticity

Company Techbites

18:15 **Johny Pires** – Field Applications Scientist EMEA, Axion BioSystems

Functional Analysis of Developing Neuronal Networks in a dish with Next Generation MEA

18:20 **Laura Machado** – Sales Representative Portugal, ZEISS Research Microscopy Solutions

ZEISS Microscopy – Your Partner in cutting-edge microscopy

18:25 Posters + Wine and Cheese

October 21st 2022

09:00 S3: Neuronal-Glia Interactions

Chair: Ana Sebastião

Invited speakers

09:00 **Klaus-Armin Nave** – Max Planck Institute for Experimental Medicine, Göttingen, Germany

Novel functions of oligodendrocytes in the neuronal circuitry

09:30 **Nathalie Rouach** – Centre Interdisciplinaire de Recherche en Biologie, Collège de France

Astrocytes : guardians of critical period plasticity of the visual cortex

10:00 **Paola Bezzi** – University of Lausanne, Switzerland [online]

Astrocytic VMAT2 in the developing prefrontal cortex is required for normal grooming behavior in mice

Short talks

10:30 **Ana Beltran Arranz** – King's College London, UK

Glia-to-interneuron conversion in the postnatal mouse cortex

10:45 **Maria Joana Pinto** – Institut de Biologie de l'École Normale Supérieure (IBENS), Paris, France

Microglial TNF α orchestrates phosphorylation of synaptic proteins and controls homeostatic sleep

11:00 Coffee Break

11:30 Keynote Lecture 2: **Reinhard Jahn** [online]

Max Planck Institute, Göttingen, Germany

Mechanisms of SNARE-mediated exocytosis in neurons

Chair: Ira Milosevic

12:30 Lunch and Posters

14:20 Group photo

14:30 S4: Synaptic Circuits and Brain Function

Chair: Christophe Mulle & João Peça

Invited speakers

14:30 **Camilla Bellone** – University of Genève, Switzerland

The synaptic basis of social approach and avoidance behaviour

15:00 **Rosa Cossart** – Institute of Mediterranean Neurobiology, France

From the synapse to the network: is the CA1 GABAergic synapse really inhibitory?

Short talks

15:30 **Nicolas Morgenstern** – Institute of Molecular Medicine, University of Lisbon, Portugal

Pyramidal tract neurons amplify excitation to the striatum through cholinergic interneurons

15:45 **Rafael Almeida** – Centre for Discovery Brain Sciences, University of Edinburgh, UK

Non-synaptic axonal neurotransmission regulates myelinated circuit formation in vivo

16:00 Coffee Break

16:25 Presentation International Society for Neurochemistry

16:30 S5: Synaptopathies (Supported by ISN)

Chairs: Ana Luisa Carvalho & Àlex Bayés

Invited speakers

16:30 **Eleonora Palma** – University of Roma La Sapienza, Italy

Looking for an altered synaptic function in epilepsy

17:00 **Laurent Groc** – Interdisciplinary Institute for Neuroscience, University of Bordeaux, France

Dysfunction of NMDA receptor trafficking in neuropsychiatric disorders

17:30 **Peter Kind** – University of Edinburgh, UK

Cognitive and Behavioural Phenotypes in a rat model of SYNGAP1 Haploinsufficiency

Short talks

18:00 **Ludovic Tricoire** – Sorbonne Université, Paris, France



18:15 *GRID1/GluD1 homozygous variants linked to intellectual disability and spastic paraplegia impair Glu1/5 receptor signaling and excitatory synapses*
Ângela S. Inácio – Center for Neuroscience and Cell Biology, University of Coimbra, Portugal
Aberrant hippocampal transmission and behavior in mice with a stargazin mutation linked to intellectual disability

18:30 Closure
Claudia Cavadas – Vice-Rector for Research, University of Coimbra
Best Communication Awards:
2 Best Posters (sponsored by Axion BioSystems)
Best Short Talk (supported by ISN)

19:30 **Speakers' dinner**

3- Other events

3.1 Science Communication events

- European Researchers Night - Coimbra 2022

Date: 30th of September 2022 | **Nature:** General public event, science communication event



MIA-Portugal researchers participated in this event, which took place in downtown Coimbra, Portugal. Scientists engaged with people of all ages, talking about ageing mechanisms and healthy ageing.

The public was challenged with quizzes on healthy ageing and young people learned about cell ageing through hands-on activities.

- **FICA – Feira Internacional de Ciência, Oeiras (Portugal)**

Date: 13th of October 2022 | **Nature:** General public event, science communication event.

MIA- Portugal researchers participated in FICA – Feira Internacional de Ciência (International Science Fair). In Oeiras (Portugal), scientists had the opportunity to exchange knowledge, with 13 to 15-year-olds, about the basic mechanisms of Ageing.

Date: 13th of October 2022 | **Nature:** General public event, science communication event.





3.2 – Participation in Events

- 1) **3rd Forum UK-PT Healthy Ageing** | 15 march 2022 | Lisbon, Portugal | Societal event | 100 participants

- 2) **III Congresso Internacional de Geriatria e Saúde Mental** | 17 june 2022 | Mealhada, Portugal | Societal event | 200 Participants

- 3) **Gordon Research Conference Autophagy in Stress| Development and Disease** | Ventura, CA, USA | 20-25 March 2022 | Scientific event
MIA-Portugal PI Nuno Raimundo oral communication: "Autophagosome Accumulation Triggers a Signaling Response That Modifies Organelle Homeostasis and Metabolism in ageing and disease".

- 4) **CNC - Center for Neuroscience and Cell Biology PhD Course “Metabolic and inflammatory drivers in age-related neurodegenerative diseases”** | Coimbra, Portugal | 4-8 April 2022 | Scientific
MIA-Portugal PI Nuno Raimundo lecture: Mitochondria-lysosome communication in age-related disease.

- 5) **56th Annual Scientific Meeting of the European Society for Clinical Investigation** | Bari, Italy | 8-10 June 2022 | Scientific Event
MIA-Portugal PI Nuno Raimundo invited speaker: “AMPK bosses organelles around to rewire cellular metabolism in ageing and disease”.

- 6) **Zagreb Spring Symposium of Applied Cardiovascular Physiology and Treatment** | Zabreb, Croatia | 10-11 June 2022 | Scientific Event



MIA-Portugal PI Nuno Raimundo **Invited speaker:** “Mitochondrial dynamics in cardiovascular injury and ageing”.

- 7) **MSc program “Cell Biology (University of Coimbra) | Coimbra, Portugal | September 2022 | Scientific Event**
MIA-Portugal PI Nuno Raimundo lectures: «Mitochondrial Signaling in disease and ageing» and «Lysosomal Signaling in disease and ageing».
- 8) **12th Annual Alliance for Healthy Aging Conference | Minneapolis MN, USA | October 2022 | Scientific Event**
MIA Portugal PI, Nuno Raimundo, Invited speaker: “Mitochondrial malfunction engages lysosomes to modify cellular nutrient sensing”.
- 9) **Cell Symposium Multifaceted Mitochondria | 6-8 November 2022 | Scientific Event**
MIA Portugal PI, Nuno Raimundo.
- 10) **MNS-2022 (Mediterranean Neuroscience Society Biannual meeting) | Dubrovnik, Croatia, May 29-Jun 2, 2022| Scientific Event**
MIA-Portugal PI, Ira Milosevic talk: «Towards improving synaptic transmission in the ageing brain».
- 11) **EMBO Workshop Autophagy in brain health & disease | Sant Feliu, Spain | May 11-14, 2022 | Scientific Event**
MIA-Portugal PI, Ira Milosevic, talk: «Novel mechanisms of vertebrate v-ATPase activity regulation».
- 12) **IUPS2022 (International Union of Physiological Sciences) | Beijing, China (online talk) | May 7-11, 2022 | Scientific Event**



MIA-Portugal PI, Ira Milosevic, talk: «Negative regulation of exocytosis by amisyn/STXBP6».

13) OPDC (Oxford Parkinson Disease Centre) seminar | June 6, 2020 | Oxford, UK | Scientific Event

MIA-Portugal PI, Ira Milosevic, talk: «Onset and progression of neurodegeneration in mammalian models for defective endocytosis».

14) 21st ISCCB symposium | Hamburg, Germany | July 7-12, 2022 | Scientific Event

MIA-Portugal PI, Ira Milosevic, talk: «From chromaffin cells to neurons: Towards improving synaptic transmission in the brain undergoing neurodegeneration».

15) ISN-APSN 2022 | Honolulu, HI, USA | Aug 28 - Sep 2, 2022 | Scientific Event

MIA-Portugal PI, Ira Milosevic talk: «PI(4,5)P₂-driven negative regulation of exocytosis».

16) 12th Annual Alliance for Healthy Aging Conference | Minneapolis MN, USA | 13-14 October 2022 | Scientific Event

MIA Portugal PI, Lino Ferreira.

17) RESET Ageing | Newcastle, UK | Sept 15-17, 2022 | Scientific Event

MIA Portugal PI, Ira Milosevic, Talk: «Brain ageing, neurotransmission and neurodegeneration».

18) BSRA Annual meeting | Canterbury, UK | Sept 12-14, 2022 | Scientific Event



MIA-Portugal PI, Ira Milosevic, as the BSRA Board of Trustee member, coordinated the networking events.

- 19) **HDBMB22** | Brela, Croatia | Sept 28-oct 1, 2022 | Scientific Event
MIA-Portugal PI, Ira Milosevic talk: «Towards improving organelle acidification and synaptic vesicle filling».
- 20) **SFB Symposium** | Baltimore MD, USA| 1-2 November 2022 | Scientific Event
MIA-Portugal PI, Ira Milosevic, presenting: «Rabconnectin-3a is required for hearing by promoting synaptic vesicle reformation and otoferlin expression in auditory hair cells».
- 21) **Conferência PT-MedGen – Estratégia Nacional para a Medicina Genómica** | Lisbon, Portugal | 3 November 2022 | Scientific Event
MIA-Portugal Scientific Director, Manuel Santos, presenting: «Sequenciação e análise».
- 22) **MEDICA – Trade Fair** | Dusseldorf, Germany | 14-17 November 2022 | Trade Event
- 23) **ASCB Annual Meeting** | Washington DC, USA| 3- 7 December 2022 | Scientific Event
MIA-Portugal PI, Nuno Raimundo.



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