

# Prion 2023

16-20 October  
Faro, Portugal

## Final Program

### October 17

#### **09:00 Opening Session**

Rector of University of the Algarve  
Vice-President of Faro City Hall, Dr. Paulo Santos  
Dean of the Medical School  
President of ABC  
Director of ABC-RI  
Organizing committee representatives

#### **Session 1. Protein structure, function, conversion, dysfunction**

Moderator: Alejandro Ruiz

09:30 – 09:30 Keynote lecture: Szymon Manka, Structural biology of prions in 4D: from *ex vivo*, via *in cellulo*, towards *in situ*

10:00 – 10:15 Runchuan Yan, Flexible N-Terminal Domain of the Prion Protein is Neurotoxic

10:15 – 10:30 Luigi Russo, Structural and mechanistic insights into the pathogenesis of prion diseases

10:30 – 10:45 Ilaria Vanni, Isolation of oligomeric prions from atypical scrapie

#### **10:45 – 11:15 Coffee break + posters**

#### **Session 2. From yeast prions to mammalian functional aggregates**

Moderator: Heather True

11:15 – 12:00 Keynote lecture: Reed Wickner, Anti-prion systems cull all but one in 5000 prions that arise

12:15 – 12:30 Tayyaba Saleem, Isolation and characterization of stress granules from human brain

12:30 – 12:45 Marta Badia, The mutational landscape of the Sup35 QN-rich domain reveals an essential region for Sup35 nucleation

12:45 – 13:00 Yury Chernoff, Relationship between hyperosmotic stress, liquid-liquid phase separation and prion formation

#### **13:00 – 14:30 Lunch break + posters**

#### **Session 3. Spreading of pathology in prion-like diseases**

Moderator: Amanda Woerman

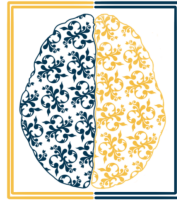
14:30 – 15:00 Keynote lecture: Mathias Jucker, A-beta seeds

15:00 – 15:15 Ina Vorberg, Propagation of yeast prions in a mammalian host

15:15 – 15:30 Shelley Forrest, *MAPT* and *SNCA* gene expression in cells with protein cytopathologies in Tau- and Synuclein- related neurodegenerative diseases

15:30 – 15:45 Farjana Parvin, Recombinant A $\beta$  amyloid fibrils seed CAA pathology in APP23 transgenic mice

#### **15:45 – 16:45 Coffee break + posters**



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## **Session 4. Pathogenic mechanisms in prion diseases**

Moderator: Eduardo Melo

16:45 – 17:15 Keynote lecture: David Westaway, Beta-endoproteolysis of the cellular prion protein by dipeptidyl peptidase-4 and fibroblast activation protein

17:15 - 17:30 Giuseppe Legname, A novel prion clearance mechanism by SERPINA3/SerpinA3n

17:30 – 17:45 Prerna Grover, The role of the soluble N-terminal domain (N1-PrP) of the prion protein in  $\alpha$ Syn Aggregation and Seeding

17:45 – 18:00 Diane Ritchie, Investigating infectivity associated with prion protein deposits detected in formalin-fixed paraffin- embedded specimens from asymptomatic carriers (UK Appendix studies): an initial update

## **18:30 Art of Science Event and Welcome Reception**

### **October 18**

## **Session 5. The connection between prion diseases and other disorders**

Moderator: Tuane Vieira

09:00 – 09:30 Keynote lecture 1: Jerson Silva, Prion-like Aggregation and Phase Transition of Mutant p53 as a Novel Cancer Treatment Strategy

09:30 – 10:00 Keynote lecture 2: Sophie Mouillet-Richard, The prion protein from neurodegeneration to cancer

10:00 – 10:15 Elizabeth Hill, Assessing the Role of Syntaxin-6 on Prion Initiation, Prion Propagation and Prion-Induced Neurotoxicity *in vivo*

10:15 – 10:30 Holger Wille, A unified approach for rationally designed vaccines targeting neurodegenerative diseases

10:30 – 10:45 Carmen Nussbaum-Krammer, Cellular disaggregation and degradation systems generate seeding and spreading-competent  $\alpha$ -Syn and Tau species

## **10:45 – 11:15 Coffee break + posters**

## **Session 6. Cell biology of PrP**

Moderator: Jiyan Ma

11:15 – 11:45 Keynote lecture 1: Christina Sigurdson, Deranged synaptic signaling in experimental prion disease

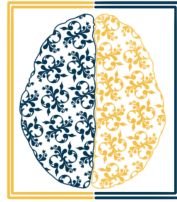
11:45 – 12:15 Keynote lecture 2: Chiara Zurzolo, Mechanisms of spreading of prions: role of tunneling nanotubes

12:15 – 12:30 Nadia A. Mirza, Murine astrocytes display differential susceptibility to prion strains

12:30 – 12:45 Patricia Aguilar-Calvo, Reducing the sulfation of neuron-derived heparan sulfate accelerates prion protein clearance and prolongs survival time in prion-infected mice

12:45 – 13:00 Walker Jackson, Expression of Rps24-PKE is induced by activated microglia during acquired and genetic prion diseases

## **13:00 – 14:30 Lunch break + posters**



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## **Session 7. Animal prion diseases**

Moderator: Leonor Orge

14:30 – 15:00 Keynote lecture: Glenn Telling, Refined transgenetic approaches to characterize the host-range and adaptive potentials of emerging and established chronic wasting disease strains

15:00 – 15:15 Audrey Sandoval, Chronic wasting disease *in utero* transmission in free-ranging white-tailed deer

15:15 – 15:30 Sabine Gilch, Norwegian moose CWD induces clinical disease and spleen-independent neuroinvasion in mice expressing cervid S138N prion protein

15:30 – 15:45 Francisca Bravo Risi, Detection of CWD prions in plants collected from white-tailed deer farms

### **15:45 – 16:30 Coffee break + posters**

## **Session 8. Transmission of prions and prion-like proteins**

Moderator: Tiago Outeiro

16:30 – 17:00 Keynote lecture: Jiyang Ma, Understanding the seeding capability, transmissibility, and pathogenicity of prion

17:00 – 17:15 Sarah A. M. Holec, Effect of neuroinvasion on strain property maintenance for two  $\alpha$ -synuclein prion strains Hornberg, Propagation of yeast prions in a mammalian host

17:15 – 17:30 Joel Watts, Stochastic misfolding drives the emergence of distinct  $\alpha$ -synuclein strains

17:30 – 17:45 Rodrigo Morales, Deciphering the pathological significance of self-propagating A $\beta$  strains in different animal models

**18:00 – 19:00 Special lecture – John Collinge, A brief history of prions**

## **October 19**

## **Session 9. Biomarkers for prion and neurodegenerative diseases**

Moderator: Matthias Schmitz

09:00 – 09:30 Keynote lecture: Inga Zerr, Biomarkers for prion and neurodegenerative diseases

09:30 – 09:45 Wen-Quan Zou, Large-Scale Validation of Skin Prion Seed-Amplification Assay for Diagnosis of Creutzfeldt- Jakob Disease

09:45 – 10:00 Michael Geschwind, General and biomarker cerebrospinal fluid findings in prion disease and other rapidly progressive dementias

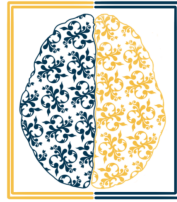
10:00 – 10:15 Sang-Hyun Oh, Blood-based nano-QulC: Accelerated and Inhibitor-resistant Detection of Misfolded  $\alpha$ -synuclein

### **10:15 – 11:00 Coffee break + posters**

## **Session 10. CJD International Support Alliance**

11:00 – 12:30 Supporting patient associations globally and providing a unified, global voice for all affected by prion disease

### **12:30 – 14:00 Lunch break + posters**



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## **Session 11. Current therapeutic approaches in neurodegeneration**

Moderator: Inga Zerr

14:00 – 14:30 Keynote lecture: Jeffrey Kordower, Current therapeutic approaches in neurodegeneration

14:30 – 15:00 Sonia Vallabh, Broad Institute, Lowering PrP: Evidence of therapeutic benefit across diverse yet relevant models

15:00 – 15:30 Pekka Kallunki, Lundbeck, Inhibition of prion like seeding of pathology in Parkinson's disease by antibodies and other therapies to alpha-synuclein in clinical development

15:30 – 16:00 Warren Hirst, Biogen, Therapeutic approaches for AD

**16:00 – 16:45 Coffee break + posters**

## **Session 12. Late breaking news**

Moderator: Glenn Telling

16:45 – 17:00 Joaquín Castilla, A Noah's ark approach to understand the molecular basis of the bona fide spontaneous prion misfolding

17:00 – 17:15 Marcela Viviana Karpuj, A Novel Therapeutic Approach Modulates Protein Interactions and Cellular Processes

17:15 – 17:30 Vineet Rathod, Engineering of a single chained fluobody into a flashbody format for optimized detection and labeling of native PrP<sup>Sc</sup>

17:30 – 17:45 Joseph DeFranco, Peripherally-challenged gene-targeted mice produce strains that recapitulate the properties of natural CWD and are distinct from intracerebrally-adapted variants

**18:00 Closing session**

**19:00 Gala dinner**