

# 3<sup>rd</sup> International Conference Trisomy 21 Research Society



RESEARCH  
SOCIETY

**Barcelona**  
**6 - 9 June**  
**2019**

**FINAL PROGRAMME**

[www.t21rs2019.com](http://www.t21rs2019.com)

# FOUNDING MEMBERS

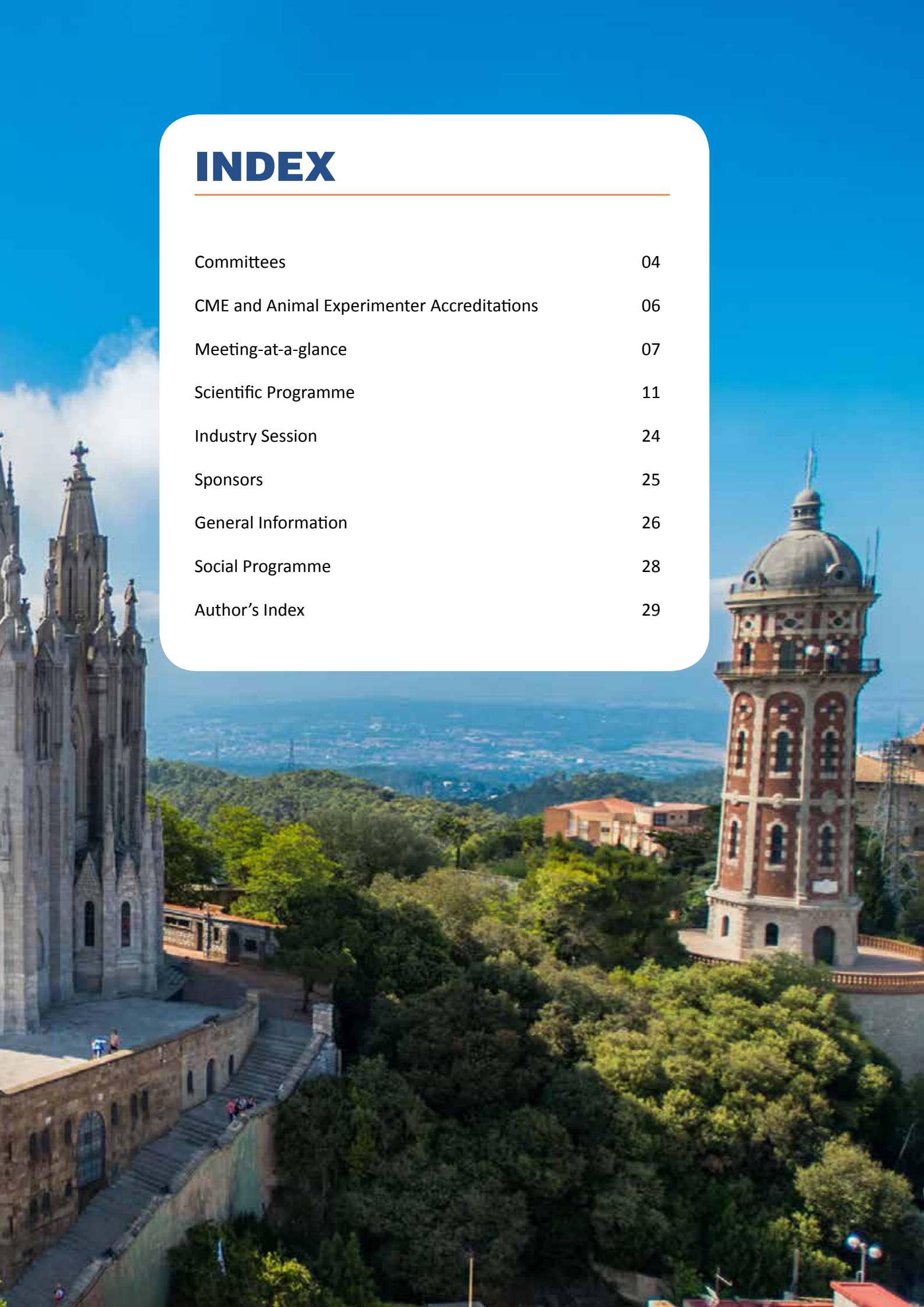




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# COMMITTEES

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## Programme Committee

**Anita Bhattacharyya, Ph.D.**

*Chairwoman T21RS Scientific Programme Committee  
University of Wisconsin- USA*

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*Linda Crnic Institute for Down Syndrome, University of Colorado School of Medicine, USA*

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**Victor Tybulewicz, PhD**

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**Weihong Song, MD, PhD**

*University of British Columbia, CA*

**Juan Fortea, MD, PhD**

*Fundació Catalana Síndrome de Down and Hospital Sant Pau, SP*

**Anna Esbensen, PhD**

*Cincinnati Children's Hospital Medical Center, USA*

**Pablo Helguera, PhD**

*NIMEC-CONICET, Cordoba , AR*



## Organizing Committee

**Mara Dierssen, MD, PhD**

*Chair Organizing Committee*

*Centre for Genomic Regulation (CRG), SP*

**Maria Martínez de Lagran, PhD**

*Centre for Genomic Regulation, SP*

**Francisco J Tejedor, PhD**

*Molecular Neurogenetics, Instituto de Neurociencias, CSIC and UMH, Alicante, SP*

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**Rafael de la Torre, PhD, MD**

*Integrative Pharmacology and Systems Neurosciences. IMIM, SP*

**Laura Videla**

*Barcelona Down Medical Center of the Fundació Catalana Síndrome de Down*

# CME AND ANIMAL EXPERIMENTER ACCREDITATIONS



## Accreditation Statement

The 3rd International Conference of the Trisomy 21 Research Society, Barcelona, Spain, 06/06/2019-09/06/2019 has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with 30 European CME credits (ECMEC®s). Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

## Claiming CME credits

The EACCME® awards ECMEC®s on the basis of 1 ECMEC® for one hour of CME with a maximum of 8 ECMEC®s per day. Cf. Chapter X of UEMS 2016.20.

Please submit the UEMS-EACCME Evaluation Form (that you will receive after the conference), in order to receive the corresponding UEMS-EACCME Certificate.

## Agreement with other medical associations

Through an agreement between the Union Européenne des Médecins Spécialistes and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of AMA PRA Category 1 Credits™. Information on the process to convert EACCME® credit to AMA credit can be found at [www.ama-assn.org/education/earn-credit-participation-international-activities](http://www.ama-assn.org/education/earn-credit-participation-international-activities).

Live educational activities, occurring outside of Canada, recognised by the UEMS-EACCME® for ECMEC®s are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.

## Continuing Education in Animal Handling

The following sessions will offer the possibility to participants to be accredited as Continuing Education in Animal Handling:

Mouse master class (9:00-13:00, June 6, 2019) \*4 hours

SESSION 2A: New disease-relevant behavioral perspective in preclinical intellectual disability studies

(9:30-11:30, June 7, 2019) \*2 hours

SESSION 4: Investigating Down syndrome phenotypes and mechanisms through comprehensive mouse modeling (18:00-20:00, June 7, 2019) \*2 hours

For the Continuing Education in Animal Handling is obligatory to scan at the entrance and exit from the meeting room the QR code of your badge.



# MEETING – AT – A – GLANCE

|               |   |
|---------------|---|
|               | <b>Wednesday, June 5, 2019</b>  |
| 15.30 - 19.00 | Registration  |
|               | Room: TAU   |
| 16.00 - 18.00 | <b>Industry Session</b><br>Top Challenges Facing the Pharmaceutical Industry in Down syndrome Drug Development. |

|              |  |   |   |
|--------------|--|---|---|
|              | <b>Thursday, June 6, 2019</b>  |   |   |
| 08:30-18:00  | Registration   |   |   |
| 09:00-13:00  | Room: ALPHA  | Room: BETA  | Room: GAMMA   |
|              | PRE-MEETING SATELLITE SYMPOSIA   |   |   |
|              | CLINICAL SESSIONS  |   | PRECLINICAL SESSION   |
|              | <b>Health co-morbidities in older adults with Down syndrome - assessment and diagnosis</b><br>Chair: <b>Andre Strydom</b> (University College London, UK)<br>T21RS Committee for clinical research (UK)  | <b>Health co-morbidities in children with Down syndrome</b><br>Chairs: <b>Stephanie Sherman</b> (Emory University, USA),<br><b>Stefano Vicari</b> (Bambino Gesù' Children's Hospital, IT) | <b>Mouse master class</b><br>Chair: <b>Yann Héroult</b> (Institute de Génétique et de Biologie Moléculaire et Cellulaire, FR)<br>T21RS Committee for Preclinical research |
|              | Room: AUDITORIUM   |   |   |
| 14:00        | START OF MEETING   |   |   |
| 14:00-14:30  | <b>WELCOME NOTE</b><br><b>Mara Dierssen</b> (CRG, SP)<br>President T21RS and local authorities   |   |   |
| 14:30-16:30  | <b>SCIENTIFIC SESSION 1 (Parallel)</b><br>Three of a perfect pair: stereotyped homeostatic compromises in trisomies<br>Chair: <b>Pablo Helguera</b> (INIMEC-CONICET, AR)   |   |   |
| 16:30-18:00  | <b>Poster Session 1 and selected Nanosymposia with coffee</b><br>16:30 - 18:00 Poster Session 1: PO18 - PO61, PO145 (Foyer Hypatia)<br>17:00 - 17:30 Nano-symposium #8: PO13 - PO17 (Room Gamma)<br>17:30 - 18:00 Nano-symposium #3: PO01 - PO06 (Room Alpha)<br>17:30 - 18:00 Nano-symposium #6: PO07 - PO012 (Room Beta) |   |   |
|              | Room: AUDITORIUM   |   |   |
| 18:00-19:00  | <b>JEROME LEJEUNE PLENARY LECTURE</b><br><b>Genetics of Human Chromosome 21</b><br><b>Stylianios Antonarakis</b> (University of Geneva, CH)<br>Chair: <b>Thierry de la Villejegu</b> (Jerome Lejeune Foundation, FR)   |   |   |
| 19:00- 19:10 | <b>Montserrat Trueta Award</b><br>Mara Dierssen (President T21RS), Katy Trias (Fundació Catalana Síndrome Down, SP)  |   |   |
|              | Room: AGORA  |   |   |
| 19:30-19:50  | <b>"I am able"</b><br>Presentation of an art project by Quim and Jesús Vilamajó  |   |   |
|              | Room: AUDITORIUM   |   |   |
| 20:00-21:00  | <b>"Cactus, sólo muere lo que se olvida"</b><br>Theater play featuring actors with Down syndrome, directed by Victor Ignacio Romero Rojas<br>Compañía Nacional de Teatro Manantial de Ilusión (Chile)  |   |   |
|              | Foyer: HYPATIA (AMBAIXADES)  |   |   |
| 21:00-22:00  | Welcome cocktail   |   |   |

# MEETING – AT – A – GLANCE

| Friday, June 7, 2019 |   |  |
|----------------------|---|--|
| 08:00-18:00          | Registration  |  |
|                      | Room: AUDITORIUM  |  |
| 08:30-09:30          | <b>THE EMBO KEYNOTE LECTURE</b><br>Human-specific genes, neural stem cell amplification, and neocortex expansion in development and human evolution<br><i>Wieland Huttner (Max Planck Institute, GER)</i><br><i>Chair: Anita Bhattacharyya (University of Wisconsin, USA)</i>   |  |
|                      | Room: AGORA   | Room: AUDITORIUM   |
|                      | SCIENTIFIC SESSION 2 (Parallel)   |  |
| 09:30-11:30          | <b>Session 2A</b><br>New disease-relevant behavioral perspective in preclinical intellectual disability studies<br><i>Chairs:</i><br><i>María Martínez de Lagrán (CRG, SP)</i><br><i>Anna Vázquez (University Pompeu Fabra, SP)</i>   | <b>Session 2B</b><br>Biomarkers for Alzheimer's disease in Down syndrome<br><i>Chairs:</i><br><i>Bradley Christian (University of Wisconsin, USA)</i><br><i>María Carmona Iragui (Hospital Sant Pau, SP)</i>   |
| 11:30-12:00          | Coffee break - Foyer : Hypatia (Ambaixades)   |  |
|                      | Room: AGORA   | Room: AUDITORIUM   |
|                      | SCIENTIFIC SESSION 3 (Parallel)   |  |
| 12:00-14:00          | <b>Session 3A</b><br>New directions in human trisomy 21 stem cell research<br><i>Chair:</i><br><i>Anita Bhattacharyya (University of Wisconsin, USA)</i>  | <b>Session 3B</b><br>Alzheimer's disease in the context of the trisomy of Hsa21 - preclinical studies<br><i>Chairs:</i><br><i>Frances Wiseman (University College London, UK)</i><br><i>William Mobley (University of California-San Diego, USA)</i> |
| 14:00-15:00          | Lunch break   |  |
|                      | Room: AUDITORIUM  |  |
| 15:00-16:00          | T21RS General Assembly  |  |
| 16:30-18:00          | <b>Poster Session 2 and selected Nanosymposia with coffee</b><br>16:30 - 18:00 Poster Session 2: PO75 - PO117, PO146, PO167 (Foyer Hypatia)<br>16:00 - 17:00 Special symposium "Microbiota, nutrition and dietary supplements in Down syndrome" (Room Beta)<br>17:00 - 17:30 Nanosymposia #9 PO71 - PO74 (Room Gamma)<br>17:30 - 18:00 Nanosymposia #4 PO62 - PO66 (Room Alpha) |  |
|                      | Room: AUDITORIUM  | Room: ALPHA  |
|                      | SCIENTIFIC SESSION 4 (Parallel)   |  |
| 18:00-20:00          | <b>Session 4A</b><br>Investigating Down syndrome phenotypes and mechanisms through comprehensive mouse modeling<br><i>Chairs:</i><br><i>Elizabeth Fisher (University College London, UK)</i><br><i>Veronique Brault (Institut de Génétique et de Biologie Moléculaire et Cellulaire, FR)</i>  | <b>Session 4B</b><br>Cognitive outcomes in children with Down syndrome<br><i>Chairs:</i><br><i>Anna Esbensen (Cincinnati Children's Hospital Medical Center, USA)</i> <i>Lisa Jacola (St Jude Children's Research Hospital, USA)</i>                 |
| 21:00                | Gala Dinner: Mirabé Restaurant  |  |



# MEETING – AT – A – GLANCE

| Saturday, June 8, 2019 |   |
|------------------------|---|
| 08:00-18:00            | Registration  |
|                        | Room: AUDITORIUM  |
| 08:30-09:30            | <b>PLENARY LECTURE 3</b><br><b>Alzheimer's disease mechanisms and therapeutics</b><br><i>Li-Hue Tsai</i> (Massachusetts Institute of Technology, USA)<br><b>Chair:</b> <i>Victor Tybulewicz</i> (Francis Crick Institute, London, UK)   |
|                        | Room: AUDITORIUM  |
|                        | Room: AGORA   |
|                        | SCIENTIFIC SESSION 5 (Parallel)   |
| 09:30-11:30            | <div> <div> <b>Session 5A</b><br/> <b>Modifications of autophagy-lysosomal-endosomal pathways in Down syndrome and other neurodegenerative diseases</b><br/> <b>Chairs:</b><br/> <i>Marie Claude Potier</i> (ICM, FR)<br/> <i>Eric Hamlett</i> (Medical University of South Carolina, USA)               </div> <div> <b>Session 5B</b><br/> <b>Language Outcome Measures for Treatment Studies</b><br/> <b>Chairs:</b><br/> <i>Len Abbeduto</i> (University of California-Davis, USA)<br/> <i>Laura del Hoyo</i> (University of California-Davis, USA)               </div> </div> |
| 11:30-12:00            | Coffee break - Foyer : Hypatia (Ambaixades)   |
|                        | Room: AUDITORIUM  |
| 12:00 - 15:35          | <b>SCIENCE &amp; SOCIETY SYMPOSIUM - PROGRAM FOR FAMILIES</b><br><b>T21rs Committee for Science &amp; Society</b><br><i>Peter Paul De Deyn</i> (University Medical Center Groningen, NL)(Chairman), <i>Alain Dekker</i> (University Medical Center Groningen, NL), <i>Juan Fortea</i> (Fundació Catalana Síndrome de Down, SP), <i>Sebastian Videla</i> (Fundació Catalana Síndrome de Down, SP), <i>Lotta Granholm</i> (University of Denver, USA), <i>Cindy Lemere</i> (Brigham and Women's Hospital, Harvard Medical School, USA)  |
| 13:30                  | Lunch break and <b>Meet the Scientist</b>   |
| 15:45-17:45            | <b>Scientific Session 6</b><br><b>The Role of Inflammation and NGF dysfunction in cognitive decline and Alzheimer's disease pathology in Down syndrome</b><br><b>Chair:</b><br><i>Jorge Busciglio</i> (University of California-Irvine, USA)<br><i>Florencia Iulita</i> (Université de Montreal, Canada)  |
| 17:45-19:00            | <b>Poster Session 3 and selected Nanosymposia with coffee</b><br>17:45 - 19:00 Poster Session 3: PO127 - PO166 (Foyer: Hypatia)<br>18:00 - 18:30 Nanosymposia #2: PO121 - PO 123 (Room: Beta)<br>18:00 - 18:30 Nanosymposia #7: PO124 - PO126 (Room: Gamma)<br>18:30 - 19:00 Nanosymposia #1: PO118 - PO120 (Room: Alpha)   |
|                        | Room: AGORA   |
| 19:00 - 20:00          | <b>MEET THE EXPERTS SESSIONS with aperitif</b><br><i>Li-Huei Tsai</i> (Massachusetts Institute of Technology, USA)  |
| 20:00 - 21:00          | <b>EDUCATION COMMITTEE SESSION</b><br><b>How should we study Down syndrome: pros and cons of mouse models and human iPSCs</b><br><b>T21RS Committee for Education &amp; Training:</b><br><i>Renata Bartesaghi</i> (University of Bologna, IT) (Chair), <i>Carmen Martínez-Cué</i> (University of Cantabria, SP), <i>Tom Blumenthal</i> (Linda Crnic Institute for Down Syndrome, USA), <i>Tarik Haydar</i> (Boston University, USA)   |

# MEETING – AT – A – GLANCE

| Sunday, June 9, 2019 |   |   |
|----------------------|---|---|
| 08:00-18:00          | Registration  |   |
|                      | Room: AUDITORIUM  |   |
| 08:30-09:30          | <b>PLENARY LECTURE 4</b><br>Alzheimer's disease in Down syndrome: update from the LonDowns consortium<br><i>Andre Strydom</i> (University College London, UK)<br><i>Chair: Juan Fortea</i> (Sant Pau Hospital, SP).   |   |
| 09:30-10:15          | <b>Annette Karmiloff-Smith and Michael Harpold Thesis Awards Ceremony</b><br><i>Renata Bartesaghi</i> (University of Bologna, IT)   |   |
| 10:15-11:00          | Coffee break - Foyer : Hypatia (Ambaixades)   |   |
|                      | Room: AGORA   | Room: AUDITORIUM  |
|                      | SCIENTIFIC SESSION 7 (Parallel)   |   |
| 11:00-13:00          | <b>Session 7A</b><br>Leukemia in Children with Down syndrome: why does it happen and what can we do about it?<br><i>Chairs:</i><br><i>John Crispino</i> (Northwestern, USA)<br><i>Sebastien Malinge</i> (Telethon Kids Institute, USA)  | <b>Session 7B</b><br>Metabolic defects in Down syndrome: from periphery to the brain<br><i>Chairs:</i><br><i>Eugenio Barone</i> (Sapienza University of Rome, IT)<br><i>Marzia Perluigi</i> (Sapienza University of Rome, IT) |
| 13:00-14:00          | Lunch break   |   |
|                      | Room: AUDITORIUM  |   |
| 14:00-16:00          | <b>SCIENTIFIC SESSION 8</b><br>Correction of circuit specific GABAergic over-inhibition and dendritic alterations in Down syndrome<br><i>Chair:</i><br><i>Floriana Costanzo</i> (Bambino Gesù Children's Hospital, IT)<br><i>Jean Maurice Delabar</i> (Paris Sorbonne Université, CNRS, FR) |   |
| 16:00-16:30          | Coffee break - Foyer : Hypatia (Ambaixades)   |   |
| 16:30-17:00          | <b>Melissa Parisi: updates on US NIH funding (ABC-Connect, INCLUDE)</b><br><i>Chair: Roger Reeves</i> (Johns Hopkins University School of Medicine, USA)  |   |
|                      | Room: AUDITORIUM  |   |
| 17:00-19:00          | <b>SCIENTIFIC SESSION 9</b><br>Endpoints for clinical trials<br><i>Chair:</i><br><i>Diana Bianchi</i> (NIH-NICHD, USA)<br><i>Alain Dekker</i> (University Medical Center Groningen, NL)   |   |
| 19:00                | <b>CLOSING CEREMONY</b><br>Posters awards and Honorary Members presentation<br>with aperitif (Foyer: Hypatia)   |   |
| 20:30                | END OF MEETING  |   |



# SCIENTIFIC PROGRAMME

## Wednesday, June 5, 2019

15.30 – 19.00 Registration

Room: TAU

16:00 - 18:00 Industry session. (Page 24)

## Thursday, June 6, 2019

08.30 – 18:00 Registration

09:00 – 13:00 **PRE-MEETING SATELLITE SYMPOSIA (parallel)**

### CLINICAL SESSIONS

**T21RS Committee for clinical research:** *Andre Strydom (King's College London, UK) (chair)*

Room: ALPHA

### CLINICAL SESSION 1: Health co-morbidities in older adults with Down syndrome – assessment and diagnosis

**Adult clinical committee:** *Shahid Zaman (University of Cambridge, UK), Juan Fortea (Fundació Catalana Síndrome de Down and Hospital San Pau, SP), Wayne Silverman (Kennedy Krieger Institute and Johns Hopkins University School of Medicine, USA), Tonnie Coppus (Radboud University Medical Center, NL), Ben Handen (University of Pittsburgh, USA), Elizabeth Head (University of Kentucky, USA), Weihong Song (University of British Columbia, CA)*

09:00 – 09:30 Registration / coffee

09:30 – 09:45 Welcome and Introduction. *Andre Strydom (King's College London, UK)*

09:45 – 10:15 Overview of the health needs of older adults. *Tonnie Coppus (Radboud University Medical Center, NL)*

10:15 – 10:45 Sleep Apnea. *Dr. Anne-Sophie Rebillat (Institut Jerome Lejeune, FR)*

10:45 – 11:00 Break

11:00 – 11:30 Cognitive function in aging adults. *Sharon Krinsky-McHale (New York State Institute for Basic Research in Developmental Disabilities, USA)*

11:30 – 12:00 Dementia management and maintaining functional abilities. (Professor Mary McCarron, Trinity college, Dublin, Ireland)

12:00 – 12:30 Summary and discussion

**Room: BETA**

**CLINICAL SESSION 2: Health co-morbidities in children with Down syndrome**

**Child/developmental subcommittee:** *Stephanie Sherman (Emory University, USA) – co-chair; Stefano Vicari (Bambino Gesù Children's Hospital, IT) – co-chair, Cecile Cieuta-Walti (Institut Jerome Lejuene, FR), Brain Skotko (Massachusetts General Hospital, USA), Julie Korenberg (University of Utah, USA), Silvia Sacco (Institut Jerome Lejuene, FR), Rafael de la Torre (IMIM-Hospital del Mar Medical Research Institute, SP), Jamie Edgin (University of Arizona, USA), Stefania Veltri (IT), Andre Strydom (King's College, London, UK), Maria Stanley (University of Wisc, USA), Floriana Costanzo (Bambino Gesù Children's Hospital, IT)*

09:00 – 09:30 Registration / coffee

09:30 – 10:00 Welcome; Overview of Medical Research in Down Syndrome. *Stephanie Sherman (Emory University, USA)*

10:00 – 10:35 Medical comorbidities of childhood and their potential impact on cognition and development. *George Capone (Kennedy Krieger Institute, USA)*

10:35 – 10:50 Break

10:50 – 11:25 Psychiatric comorbidities of childhood/adolescents and their association with cognitive impairment. *Stefano Vicari (Ospedale Pediatrico Bambino Gesù, IT)*

11:25 – 12:00 Interventions from early childhood to adolescents—how we can help. *Rafael de la Torre Fornell, (Universitat Pompeu Fabra, SP)*

12:00 – 12:30 Panel: Q/A and discussion

**PRECLINICAL SESSION**

T21RS Committee for Preclinical research: *Yann Héroult (Institut de Génétique et de Biologie Moléculaire et Cellulaire, FR)(Chair), William Mobley (University of California-San Diego, USA), Elizabeth Fisher (University College London, UK), Marie-Claude Potier (ICM, FR), Stylianos Antonarakis (University of Geneva, CH), Jean-Maurice Delabar (CNRS, FR), Eugene Yu (Roswell Park Cancer Institute, USA), Katheleen Gardiner (University of Colorado, USA), Mara Dierssen (Centre for Genomic Regulation (CRG), SP), Anita Bhattacharyya (University of Wisconsin, USA), Randall Roper (Indiana University-Purdue University Indianapolis, USA)*

**Room: GAMMA**

**Mouse master class**

09:00 – 09:15 Registration / coffee

09:15 – 09:45 Overview of currently available preclinical mouse models. *Yann Héroult (Institut de Génétique et de Biologie Moléculaire et Cellulaire, FR)*

09:45 – 10:15 Genetic quality control, maintenance and breeding procedures. *Eugene Yu (Roswell Park Cancer Institute, USA)*

10:15 – 10:45 Classical behavioral phenotyping. *Mara Dierssen (Centre for Genomic Regulation (CRG), SP)*

10:45 – 11:00 Break

11:00 – 11:30 Craniofacial and skeletal phenotyping. *Randall Roper (Indiana University-Purdue University Indianapolis, USA)*



11:30 – 12:00 Electrophysiology. *William Mobley (University of California-San Diego, USA)*

12:00 – 12:30 Preclinical testing. *Jean-Maurice Delabar (CNRS, FR)*

12:30 – 13:00 Discussion on key information about models and their availability (*moderated by Lizzy Fisher*) and perspective on new animal models for Down syndrome research. *Roger Reeves (Johns Hopkins University School of Medicine, USA)* and *Victor Tybulewicz (Francis Crick Institute, UK)*

### Room: AUDITORIUM

### 14:00 START OF THE MEETING

14:00 - 14:30 Welcome note.

**Mara Dierssen** (*President T21RS*)

**Àngel Font** (*Corporate Director of Research and Strategy "la Caixa" Foundation*)

**Gemma Tarafa** (*Commissioner for Health and Functional Diversity, City Council of Barcelona*)

**Carmen Vela** (*Director of Projects Collaborative Projects, INGENASA- Eurofins Technologies and former Secretary of State of R+D, President of the Honorary Committee*)

**Presentation of the T21RS Honorary Member Prof. Marie-Odile Rethoré**

14:30 - 16:30 **SCIENTIFIC SESSION 1**

### SESSION 1: Three of a perfect pair: stereotyped homeostatic compromises in trisomies

Chair: Pablo Helguera (INIMEC-CONICET, Argentina)

1. Metabolic dependencies of aneuploid cells. *Eduardo Torres (University of Massachusetts-Worcester, USA)*
2. Comparative analysis of autosomal human trisomies. *Jorge Busciglio (University of California-Irvine, USA)*
3. Aneuploidy-associated stress; another therapeutic target for pathophysiology in Down syndrome. *Yasuji Kitabatake (Osaka University, JP)*

#### Short talks:

**PO105.** Multi-Omics Data-Driven Systems Biology approach for the identification of molecular targets to rescue Down syndrome-associated cognitive. *Mohit Rastogi (University Of Genoa, Genova, IT).*

**PO113.** A Comprehensive Proteomics-Based Interaction Screen Links Dyrk1a to RNF169 and to the DNA Damage Response. *Chiara Di Vona (Center For Genomic Regulation, Barcelona, SP)*

### Foyer: HYPATIA

16:30 – 18:00 **Poster SESSION 1 and selected Nano-symposia with coffee**

**Poster Session 1:** PO18 – PO61, PO145

**17:00 – 17:30** Nano-symposium #8: PO13 – PO17

**17:30 – 18:00** Nano-symposium #3: PO01 – PO06

**17:30 – 18:00** Nano-symposium #6: PO07-PO12

Room: GAMMA

Room: ALPHA

Room: BETA

**Room: AUDITORIUM**

**18:00 – 19:00 JEROME LEJEUNE PLENARY LECTURE: Genetics of Human Chromosome 21. Stylianos Antonarakis (University of Geneva, CH)**

*Chair: Thierry de la Villejegu (Jerome Lejeune Foundation, FR)*



**19:00 – 19:10 Montserrat Trueta Award Mara Dierssen (President T21RS), Katy Trias (Fundació Catalana Síndrome Down, SP)**

**19:30 – 22:00 Social Programme – Opening ceremony. (Page 28)**

## Friday, June 7, 2019

**08:00 – 18:00 Registration**

**Room: AUDITORIUM**

**08:30 – 09:30 THE EMBO KEYNOTE LECTURE: Human-specific genes, neural stem cell amplification, and neocortex expansion in development and human evolution, Wieland Huttner (Max Planck Institute, GER)**

*Chair: Anita Bhattacharyya (University of Wisconsin, USA)*



**09:30 – 11:30 SCIENTIFIC SESSION 2 (parallel)**

**Room: AGORA**

### **SESSION 2A: New disease-relevant behavioral perspective in preclinical intellectual disability studies**

Chairs: Maria Martínez de Lagran (Centre for Genomic Regulation, SP) and Anna Vazquez (University Pompeu Fabra, SP)

1. Social Learning in the Ts65Dn Mouse Model of Down Syndrome: New Evidence for Hippocampal Dysfunction, *Nicholas Santiago (University of California-Santa Cruz, USA)*
2. Sleep and EEG abnormalities in DS mouse model, effects of single gene dosage correction. *Charles Hoeffler (University of Colorado, USA)*
3. Using mouse genetics to deconstruct Down syndrome phenotypes. *Victor Tybulewicz (Francis Crick Institute, London, UK)*



Short talks:

**PO102.** Genetic and Epigenetic Analysis of Down Syndrome: New insights from human studies and mouse models. *Eugene Yu (Roswell Park Comprehensive Cancer Center and University at Buffalo, State University of New York, USA)*

**PO163.** Treatment with Granulocyte-Macrophage Colony-Stimulating factor improves cognition in aging mice and in a mouse model of Down syndrome. *Md Mahiuddin Ahmed (Linda Crnic Institute For Down Syndrome, Aurora, US)*

**Room: AUDITORIUM**

## SESSION 2B: Biomarkers for Alzheimer's disease in Down syndrome

Chairs: Bradley Christian (University of Wisconsin, USA) and María Carmona Iragui (Hospital de la Santa Creu i Sant Pau, SP)

1. Cognitive correlates of amyloid PET in Down syndrome. *Sigan Hartley (University of Wisconsin, USA)*
2. Alzheimer's-related MRI markers of cerebrovascular disease and dementia in Down syndrome. *Adam Brickman (Columbia University, USA)*
3. Cerebrovascular neuropathology, aging and Alzheimer disease in Down syndrome. *Elizabeth Head (University of Kentucky, USA)*
4. Plasma Neurofilament Light and Alzheimer's Disease Biomarkers in Down syndrome: Results the Down Syndrome Biomarker Initiative (DSBI). *Michael S. Rafii (University of Southern California, USA)*

**11:30 – 12:00 Coffee Break** **Foyer: HYPATIA**

**12:00 – 14:00 SCIENTIFIC SESSION 3 (parallel)**

**Room: AGORA**

## SESSION 3A: New directions in human trisomy 21 stem cell research

Chair: Anita Bhattacharyya (University of Wisconsin, USA)

1. (Epi)genetic approaches towards resolving trisomy 21 gene-dosage contributions. *Stefan Pinter (University of Connecticut, USA)*
2. Consequences of trisomy 21 on the epigenome of different iPSC-derived cell types of the brain. *Hiruy Meharena (Massachusetts Institute of Technology, USA)*
3. CRISPR-enabled functional genomics approaches in Down syndrome iPSCs. *Ernst Wolvetang (University of Queensland, AUS)*

Short talks:

**PO87.** A System to Unravel Effects of APP Dosage in Trisomy 21 Cerebral Organoids. *Melvys Villedor (Umass Med School, Worcester USA)*

**PO98.** Human iPSC-Derived Down Syndrome Astrocytes Display Genome-Wide Perturbations in Gene Expression, Alterations in Chromatin Accessibility, and an Altered Adhesion Profile. *Blandine Ponroy (Mcgill University, Montreal, CA)*

**Room: AUDITORIUM****SESSION 3B: Alzheimer's disease in the context of the trisomy of Hsa21 – preclinical studies**

Chair: Frances Wiseman (University College London, UK), William Mobley (University of California-San Diego, USA)

1. The role of Dyrk1A in tau pathogenesis in Down syndrome and Alzheimer's disease. *Fei Liu (New York State Institute for Basic Research in Developmental Disabilities, USA)*
2. Mechanisms of neurodegeneration in mouse models of Down syndrome. *Carmen Martínez-Cué (University of Cantabria, SP)*
3. The role of genes other than APP in Alzheimer's disease development. *Frances Wiseman (UCL-UK).*

Short talks:

**PO85.** Maternal DNA-Immunization strategy targeting Amyloid- $\beta$  related neuropathology and dementia in Down-syndrome. *Tomer Illouz (Bar-Ilan University, Ramat Gan, IL)*

**PO86.** Alzheimer-like pathology in trisomy 21 cerebral organoids reveals BACE2 as a gene-dose-sensitive AD-suppressor in human brain. *Aoife Murray (Lee Kong Chian School Of Medicine, Ntu, SG)*

**14:00 – 15:00 Lunch break**

**Room: AUDITORIUM****15:00 – 16:00 T21RS general assembly**

1. Welcome and opening of the General Assembly, *Mara Dierssen, President T21RS*
2. Presentation and Approval of Annual Report 2018 incl. Financial Report 2018, *Marie-Claude Potier, secretary and Alain Dekker, treasurer T21RS.*
3. Society announcements and discussion
4. Closing

**Foyer: HYPATIA****16:00 – 18:00 Poster SESSION 2 and selected Nano-symposia with coffee**

**Poster Session 2:** PO75-PO117, PO146, PO167

**17:00 – 17:30** Nano-symposium #9: PO71 – PO74

**17:30 – 18:00** Nano-symposium #4: PO62 – PO66

**16:00 – 17:00 Special symposium "Microbiota, nutrition and dietary supplements in Down syndrome"**

**Room GAMMA**

**Room ALPHA**

**Room BETA**

1. Diet and Intellectual disabilities. *Dr. Rafael de la Torre (Integrative Pharmacology and Systems Neurosciences. IMIM, Barcelona, SP)*
2. Citizen-Science maps the oral microbiome in Down Syndrome. *Dr. Toni Gabaldon (Comparative Genomics. CRG, Barcelona, SP)*
3. Plant polyphenols as natural drugs for the management of Down syndrome. *Dr. Rosa Anna Vacca (Institute of Biomembranes and Bioenergetics, Italian National Council of Research, Bari, IT.)*



4. Dietary Supplement Use in Children with Down syndrome. *Dr. Amy Feldman Lewanda (Division of Genetics & Metabolism, Children's National Health System, Washington, DC, USA)*



Symposium sponsored by:

**18:00 – 20:00 SCIENTIFIC SESSION 4 (parallel)**

**Room: AUDITORIUM**

#### **SESSION 4A: Investigating Down syndrome phenotypes and mechanisms through comprehensive mouse modelling**

Chair: Elizabeth Fisher (University College London, UK), Veronique Brault (Institut de Génétique et de Biologie Moléculaire et Cellulaire, FR)

1. Route 66, an exhilarating ride. *Yann Herault (Institut de Génétique et de Biologie Moléculaire et Cellulaire, FR)*
2. Understanding gene-phenotype relationship of skeletal abnormalities in Down syndrome using several mouse models. *Randall Roper (Indiana University-Purdue University Indianapolis, USA)*
3. A new, humanized mouse model of Down syndrome. *Roger Reeves (Johns Hopkins University School of Medicine, USA)*

##### Short talks:

**P033.** Investigating DYRK1A gene dosage effect in glutamatergic and Gabaergic Neurons in a mouse model of Down syndrome. *Veronique Brault (Igbmc Cerbm Gie, Illkirch, FR)*

**P071.** Altered Hippocampal-Prefrontal Neural Dynamics in the Dp1Tyb model of Down syndrome. *Phillip Muza (University College London, UK)*

**Room: ALPHA**

#### **SESSION 4B: Cognitive outcomes in children with Down syndrome**

Chair: Anna Esbensen (Cincinnati Children's Hospital Medical Center, USA) and Lisa Jacola (St Jude Children's Research Hospital, USA)

1. Neurocognitive outcomes for survivors of childhood leukemia with Down syndrome. *Lisa Jacola (St Jude Children's Research Hospital, USA)*
2. Cognitive profiles in children with Down syndrome. *Silvia Lanfranchi (University of Padova, IT)*
3. Relationship between executive functioning and behavior in children with Down syndrome. *Anna Esbensen (Cincinnati Children's Hospital Medical Center, USA)*

Short talks:

**PO90.** New-rocognitive? Assessing the reliability and utility of the new DSM-5 neurocognitive disorder criteria in a Down Syndrome population. *Sarah Pape (King's College London, UK)*

**PO138.** Mortality reduction in institutionalized children with intelectualintellectual disability and social vulnerability: results of 2 years improving basic health care. *Beatriz Shand (Pontificia Universidad Católica, Santiago, Chile)*

**21:00 GALA DINNER. (Page 28)**

## Saturday, June 8, 2019

**08:30 – 18:00 Registration**

**Room: AUDITORIUM**

**08:30 – 09:30 PLENARY LECTURE 3: Alzheimer's disease mechanisms and therapeutics. Li-Huei Tsai (Massachussets Institute of Technology, USA)**

*Chair: Victor Tybulewicz (Francis Crick Institute, London, UK)*

**09:30 – 11:30 SCIENTIFIC SESSION 5 (parallel)**

**SESSION 5A: Modifications of autophagy-lysosomal-endosomal pathways in Down syndrome and other neurodegenerative diseases**

*Chair: Marie Claude Potier (ICM, FR) and Eric Hamlett (Medical University of South Carolina, USA)*

1. Dysfunction of the Autophagy-Lysosomal Pathway as a common mechanism of neurodegeneration. *Steve Finkbeiner (University of California- San Francisco, USA)*
2. Neuronal lysosomal dysfunction releases exosomes harboring APP C-terminal fragments and unique lipid signatures. *André Miranda (University of Minho, PRT)*
3. Excess synaptojanin 1 contributes to place cell dysfunction and memory deficits in the aging hippocampus in Down syndrome. *Catherine Marquer (Columbia University, USA)*

Short talks:

**PO109.** Targeted Proteomics of the Endosomal Compartment: Spatio-temporal localization in human fibroblasts. *Laura Xicota (ICM, Paris, FR)*

**PO119.** Mitochondrial fusion and function are elevated in T21 iPSCs. *Beverly Rothermel (University of Texas Southwestern Medical Center, Dallas, USA)*

**Room: AGORA**

**SESSION 5B: Language Outcome Measures for Treatment Studies**

*Chair: Len Abbeduto (University of California-Davis, USA), Laura Del Hoyo (University of California-Davis, USA)*

1. Measuring spoken language to evaluate treatment efficacy for Down syndrome. *Len Abbeduto (University of California-Davis, USA)*



2. Early language and communication indicators of response to treatment. *Angela John Thurman (University of California-Davis, USA)*

3. Semantic verbal fluency as an early diagnostic tool of Alzheimer's disease in Down syndrome. *Rafael de la Torre (IMIM-Hospital del Mar Medical Research Institute, SP)*

Short talks:

**PO134.** Lexical Prediction Abilities in People with Down Syndrome: An Eye-Tracking task. *Natalia Arias, (Unam, México, MX)*

**PO135.** Language Skills as a Predictor of Cognitive Decline in Adults with Down Syndrome. *Margaret Pulsifer, (Massachusetts General Hospital/Harvard Medical School, Boston, USA)*

**11:30 -12:00 Coffee break** **Foyer: HYPATIA**

**Room: AUDITORIUM**

**12:00- 15:35 SCIENCE AND SOCIETY SYMPOSIUM – PROGRAMME FOR FAMILIES**

This years' symposium primarily intends to have an interactive discussion between the speakers and the audience. To facilitate the interaction, English-Spanish and Spanish-English translations will be provided. This symposium is organized by the Science and Society Committee of the T21RS.

**T21RS Committee for Science & Society:** *Peter Paul De Deyn (University Medical Center Groningen, The Netherlands) (Chairman), Alain Dekker (University Medical Center Groningen, The Netherlands), Juan Fortea (Fundació Catalana Síndrome de Down, Spain), Sebastian Videla (Fundació Catalana Síndrome de Down, Spain), Lotta Granholm (University of Denver, USA), Cindy Lemere (Brigham and Women's Hospital, Harvard Medical School, USA)*

**12:00 Welcome:** *Peter De Deyn (Chairman of the T21RS Committee for Science & Society)*

**12:15 Parent-reported needs for development of research on Down syndrome (10 minutes presentation + 20 minutes debate)** *Hampus Hillerstrom (LumindrDS, USA).*

Results from the parents' surveys on knowledge and personal experiences towards Down syndrome studies. Conducted by LumindrDS in the USA and Fondation Lejeune in the European Union.

**12:45 Clinical studies (10 minutes presentation + 20 minutes debate)** *Juan Fortea (Sant Pau Hospital, Spain).*

General overview of clinical studies and what we can expect for the future. Future clinical trials on Alzheimer's disease will be discussed. The voices of families and associations are encouraged.

**13.15 How Global is Supporting Science & Possibilities for Collaboration.** *Michelle Whitten (Global Down Syndrome, USA)*

**13:30 Lunch break and Meet the Scientist**

During lunchtime, individuals with Down syndrome, their families and caregivers will have the opportunity to discuss and ask questions to junior researchers about their work and other aspects of research. For young investigators, it will be an opportunity to get to know individuals with Down syndrome and their families.

**14:10 Participation in research: pros and cons. How to involve families in research? (30 minutes debate)**

*Peter De Deyn (University Medical Center Groningen, The Netherlands)*

Discussion with the audience about the needs and targets for research on Down syndrome. What is the point of view of family members and caregivers about participating in research?

**14:40 Ethics: autonomy of people with Down syndrome (10 minutes presentation + 20 minutes debate)**

*Jesús Florez (University of Cantabria, Fundación Iberoamericana Down21, Spain)*

How can we promote autonomy in people with Down syndrome? What should -and should not- expect from this autonomy?

**15:10 Human Rights Assembly. Fundació Catalana Síndrome de Down, Spain**

**15:25 Summary and closure. Peter De Deyn (University Medical Center Groningen, The Netherlands)**

**Room: AUDITORIUM**

**15:45 – 17:45 SCIENTIFIC SESSION 6**

**SESSION 6: The Role of Inflammation and NGF dysfunction in cognitive decline and Alzheimer's disease pathology in Down syndrome**

Chair: Jorge Busciglio (University of California-Irvine, USA), Florencia Iulita (Université de Montreal, CN)

1. Inflammation and NGF deregulation across the life span in Down syndrome. *Florencia Iulita (Université de Montreal, CN)*
2. Molecular and cellular mechanisms of degeneration in Down syndrome neurons: a link between ABeta pathological changes, inflammation and NGF dysmetabolism. *Maria Lioudyno (University of California-Irvine, USA)*
3. Analysis of biomarkers of cognitive decline and neurodegeneration in plasma and CSF in a DS cohort. *Juan Fortea (Fundació Catalana Síndrome de Down and Hospital San Pau, SP)*

Short talks:

**PO149.** Disturbed Expression of Inflammation-Related Genes Caused by A Triplication of Erg Gene in The Prenatal Developing Brain with Down Syndrome. *Ryohei Shimizu (Kyoto Pharmaceutical University, Kyoto, JP)*

**PO150.** SNX27 Deficiency Limits Antigen Dependent Activation and Potentiates CXCR4 Dependent Migration in T Lymphocytes. *Cristina Rodríguez (National Centre for Biotechnology, Madrid, SP)*

**Foyer: HYPATIA**

**17:45 – 19:00 Poster SESSION 3 and selected Nano-symposia with coffee break**

**Poster Session 3:** PO127-PO166

**18:00 – 18:30** Nano-symposia #2: PO121-PO123

**18:00 – 18:30** Nano-symposia #7: PO124-PO126

**18:30 - 19:00** Nano-symposia #1: PO118-PO120

**Room: BETA**

**Room: GAMMA**

**Room: ALPHA**



**Room: AGORA**

**19:00 – 20:00** **Meet the Experts Sessions: Li-Huei Tsai** (*Massachusetts Institute of Technology, USA*) *with aperitif*

*Chair: Renata Bartesaghi (University of Bologna, IT)*

**Room: AGORA**

**20:00 – 21:00** **Education Committee session: “How should we study Down syndrome: pros and cons of mouse models and human iPSCs”**

**T21RS Committee for Education & Training:** *Renata Bartesaghi (University of Bologna, IT) (Chair), Carmen Martinez-Cué (University of Cantabria, SP), Tom Blumenthal (Linda Crnic Institute for Down Syndrome, USA), Tarik Haydar (Boston University, USA)*

## Sunday, June 9, 2019

**08:00 – 18:00** **Registration**

**Room: AUDITORIUM**

**08:30 – 09:30** **PLENARY LECTURE 4: Alzheimer’s disease in Down syndrome: update from the LonDowns consortium.** *Andre Strydom (King’s College London, UK)*

*Chair: Juan Fortea (Sant Pau Hospital, Spain).*

**09:30 – 10:15** **Annette Karmiloff-Smith and Michael Harpold Thesis Awards Ceremony - Renata Bartesaghi** (*University of Bologna, IT*)

**10:15 – 11:00** **Coffee break** **Foyer: HYPATIA**

**11:00 – 13:00** **SCIENTIFIC SESSION 7 (parallel)**

**Room: AGORA**

**SESSION 7A: Leukemia in Children with Down syndrome: why does it happen and what can we do about it?**

*Chair: John Crispino (Northwestern, USA), Sebastien Malinge (Telethon Kids Institute, AU)*

- 1.Targeting constitutive Ras/Mapk pathway activation in Down syndrome associated B Cell leukemia. *Sebastien Malinge (Telethon Kids Institute, AU)*
- 2.Trisomy 21 silencing in hematopoietic and neural cells: new insights and prospects. *Jeanne Lawrence (University of Massachusetts-Worcester, USA)*
3. HMGN1 in phenotypes of trisomy 21 hematopoietic stem/progenitor cells and leukemia. *Andrew Lane (Dana Farber Cancer Institute, USA)*

Short talks:

**PO106.** Using Single-Cell Sequencing to Assess DNA Damage in Trisomy 21 Blood. *Rebecca Silberman (Massachusetts Institute of Technology, Cambridge, USA)*

**PO127.** Uncovering The Origin(s) Of Down Syndrome-Associated Leukemia. *Sara Martina Maffioletti (Ospedale San Raffaele/San Raffaele Telethon Institute For Gene Therapy, IT)*

**Room: AUDITORIUM**

### **SESSION 7B: Metabolic defects in Down syndrome: from periphery to the brain**

*Chair: Eugenio Barone (Sapienza University of Rome, IT) and Marzia Perluigi (Sapienza University of Rome, IT)*

1. Plasma and urinary metabolomic profiles of children with Down syndrome. *Maria Chiara Pelleri (University of Bologna, IT)*
2. Trisomy 21 activates the kynurenine pathway via increased dosage of interferon receptors. *Kelly Sullivan (University of Colorado, USA)*
3. Alzheimer's disease biomarkers in neuron-derived extracellular vesicles and cognitive decline in Down syndrome. *Aurelie Ledreux (University of Denver, USA)*

Short talks:

**PO47.** Reduced Insulin Receptor Levels in Neuronal-Derived Exosomes Highlights Early Alterations of Brain Insulin Signaling In Down Syndrome. *Eugenio Barone (Sapienza University of Rome, IT)*

**13:00 -14:00 Lunch**

**Room: AUDITORIUM**

### **14:00-16:00 SCIENTIFIC SESSION 8**

### **SESSION 8: Correction of circuit specific GABAergic over-inhibition and dendritic alterations in Down syndrome**

*Chair: Floriana Costanzo (Child Neuropsychiatric Unit, Department of Neuroscience, Bambino Gesù Children's Hospital, IT) and Jean Maurice Delabar (Paris Sorbonne Université, CNRS, FR)*

1. GABA neurotransmission in a mouse model of Down syndrome, *Trevor G. Smart (University College London, UK)*
2. Cortical inhibitory circuits in Down syndrome, *Javier Zorrilla de San Martin (ICM, INSERM, CNRS, ICM,FR)*
3. Modulation of dendritic  $\alpha 5$ -GABAA receptors rescues impaired NMDA receptor activation in a mouse model of Down syndrome, *Jan Michael Schulz (University of Basel, Switzerland)*

**Short talks:**

**PO51.** In vivo modeling of human neuron dynamics and Down syndrome. *Vincenzo De Paola (Imperial College London, UK)*

**PO54.** Altered development of interneurons in Down syndrome. *Anita Bhattacharyya (University of Wisconsin-Madison, USA)*

**16:00-16:30 Coffee break**

**Foyer: HYPATIA**



**Room: AUDITORIUM****16:30-17:00 Melissa Parisi: updates on US NIH funding (ABC-Connect, INCLUDE)***Chair: Roger Reeves (Johns Hopkins University School of Medicine, USA)***Room: AUDITORIUM****17:00-19:00 SCIENTIFIC SESSION 9****SESSION 9: Endpoints for clinical trials***Chair: Diana Bianchi (NIH-NICHD, USA) and Alain Dekker ((University Medical Center Groningen, NL)*

1. Clinical trials in children with Down syndrome, the experience of the Jerome Lejeune Institute. *Clothilde Mircher (Institut Jerome Lejeune, FR)*
2. Endpoints for clinical trials from the Horizon 21 Consortium. *Bessy Benejam (Fundació Catalana Síndrome de Down, SP)*

Short talks:Down Syndrome Clinical Trials Network (*LuMind*)**PO10.** Diagnosing Cognitive Decline Due to Alzheimer's Disease in Down Syndrome Patients with Neuropsychological Testing. *Laura Videla (Alzheimer-down Unit (FCSD&HSP), Barcelona, SP)***PO95.** CSF NPTX2 as A Synaptic Biomarker of Alzheimer's Disease in The Down Syndrome Population. *Meifang Xiao (Johns Hopkins University, JHMI, USA)***19:00 CLOSING CEREMONY. Poster awards presentation with aperitif****PROUS INSTITUTE**  
for Biomedical Research**20:00 END OF MEETING**

# INDUSTRY SESSION

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Wednesday, June 5, 2019

ROOM: TAU

**16:00-18:00 Top Challenges Facing the Pharmaceutical Industry in Down syndrome Drug Development**

**The Market:** Is it large enough to justify drug development? (Pier-Vincenzo Piazza, AELIS Pharma)

**Translationality:** Are we using the most adequate tools in the evaluation of drug effects in the transfer from preclinical studies to clinical trials

Mouse-based genetic modeling of Down syndrome. (William C Mobley, USC San Diego)

Bordeaux Maze Test (Rafael de la Torre, IMIM)

**Clinical Trials Outcomes:** Difficulties in finding primary outcomes acceptable for regulatory authorities (FDA, EMA)

The NIH Toolbox Cognitive Battery for intellectual disabilities (Len Abbeduto, MIND Institute)

**Regulatory Aspects:** The EMA perspective in drug development of orphan drugs targeting neurodevelopmental disorders (Fernando Mendez, EMA Committee for Orphan Medicinal Products)

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# GENERAL INFORMATION



## Conference venue

The 3rd International Conference of the Trisomy 21 Research Society takes place at the CosmoCaixa in Barcelona.

CosmoCaixa Barcelona  
C/Isaac Newton, 26  
08022 Barcelona  
Tel. +34 932 12 60 50

The meeting rooms where the sessions of the conference will be held are: Auditorium, Agora, Alpha, Beta, Gamma and are located at the -2 floor. The coffee breaks will be served at Foyer Hypatia (Ambaixades)



## How to get there

Bus lines: V13, V15, V17, V19, H2, H4, 196  
Train: FGC - Line 7 - Av. Tibidabo



## WIFI

Free WI-FI internet is provided by the venue.



## Registration

Registrations have been managed by Bco Congressos. The registration desk is located at the -1 floor of the venue. General registration fee includes: access to the scientific sessions and exhibition area, conference documentation, coffee breaks, lunch boxes, welcome cocktail and gala dinner (for those who have confirmed it). It excludes fee for Satellite symposia and the Industry Session.



## Registration desk opening hours:

|                    |               |
|--------------------|---------------|
| Wednesday, 5 June: | 15.30 – 19.00 |
| Thursday, 6 June:  | 08.30 – 18.00 |
| Friday, 7 June:    | 08.00 – 18.00 |
| Saturday, 8 June:  | 08.00 – 19.00 |
| Sunday, 9 June:    | 08.00 – 18.00 |



## Badges

At the conference venue, a name badge will be provided on-site with your registration documents. Participants are requested to wear their badge at all times inside the venue and at the Gala Dinner organised within the conference.





## Abstract book

The complete Abstract book will be available online on the Conference website.



## Certificate of attendance

A certificate of attendance will be sent by e-mail to all participants after the conference.



## Disclaimer

All best endeavours will be made to present the programme as published. However, the 3rd International Conference of the Trisomy 21 Research Society and its agents reserve the right to alter or cancel, without prior notice, any arrangements, timetables, plans or other items relating directly or indirectly to the conference, for any cause beyond its reasonable control, the 3rd International Conference of the Trisomy 21 Research Society and its agents are not liable for any loss or inconvenience caused as a result of such cancellation.

Delegates are advised to take out their own travel insurance and to extend their policy to cover personal belongings as the conference does not cover individuals against cancellation of bookings or theft or damage to belongings.



## Workspace during the conference

The TAU meeting room will be accessible to participants who would like a space to work or have a meeting. Please consult the registration desk for availability as there are already programmed meetings.



## Public transportation passes

Multiple public transportation passes can be bought in all metro stations. Passes can be used for both the metro and bus network. The most popular pass is the ten-ride card, called T-10. With a T-10 card you may use several subway lines or buses if less than 1h15m have passed since you went through the turnstile. The current price for a single ride ticket is 2,20 € and 10,20 € for a T-10 card.

Barcelona travel cards ( Hola BCN! ): These cards allow unlimited journeys on Barcelona public transport over 2, 3, 4 or 5 consecutive days on a single ticket. They also include subway journeys between the airport and the city centre. More info [www.tmb.cat/en](http://www.tmb.cat/en)



## Metro network opening hours:

Monday to Thursday 05.00-24.00

Friday 05.00-02.00

Saturday 24 hours

Sunday 05.00-24.00

# SOCIAL PROGRAMME

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## Thursday, June 6, 2019

### Room: AGORA

**19.30 – 19.50** *I am able: Presentation of an art project by Quim and Jesús Vilamajó.* Meet the artists Quim, a young man with Down syndrome, and his father Jesús, who have been working for several years in a singular, collaborative, ambitious and transmedia project. Through art, they want to change the way society views people with disabilities. The exhibition will be on display during the whole meeting. For more information: #IamAbleProject, <https://vimeo.com/205878515>

### Room: AUDITORIUM

**20:00 – 21:00** *Cactus, sólo muere lo que se olvida:* Shakespeare's play Romeo and Juliette adapted by Compañía Nacional de Teatro Manantial de Ilusión (Chile). Inclusive theatre play featuring actors with Down syndrome and directed by Victor Ignacio Romero Rojas. Subtitles in English.

### Foyer: HYPATIA

**21:00 – 22:00** *Opening ceremony. Welcome cocktail*

## Friday, June 7, 2019

**21:00** **Gala Dinner. Restaurant Mirabé** (Address: Carrer Manuel Arnús, 08035 Barcelona). Within walking distance of the meeting venue, Cosmocaixa. Enjoy food and music over extraordinary views of the city of Barcelona. Concert: From Lost to the River + Els cracks d'Andi.

\*Not included on the following registration fees: One Day, Corporate/ Industry, Satellite simposium, Science and Society.

A **bus service** will be available for the attendees to take them from the restaurant to central points of Barcelona.

## Sunday, June 9, 2019

**19:00** Closing Ceremony

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### Free entrance at museums:

During the days of the conference the Ajuntament de Barcelona has offered free entrance to all the conference attendees of the 3rd International Conference of the Trisomy 21 Research Society to the following museums by showing the conference badge. This free entrance is personal and non-transferable.

List of museums: Muhba, Museu Marès, Museu del Disseny, Museu Etnològic i Cultures del Món, Born, Monestir de Pedralbes



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Giacomini, Andrea  
Gilmore, Anah  
Giménez, Sandra  
Gomez, Wileidy  
Gu, Yuchen  
Guedj, Faycal  
Guidi, Sandra

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Halder, Pinku  
Harabula, Izabela  
Hartley, Sigan  
Head, Elizabeth  
Helguera, Pablo  
Hendrix, James A  
Hérault, Yann  
Hiance-Delahaye, Anne  
Hithersay, Rosalyn  
Hoeffer, Charles  
Hughes, Katharine  
Hunter, Jessica  
Huttner, Wieland

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| Illouz, Tomer     | PO85, Short Talk  Session 3B | 16-16 |
| Ishihara, Keiichi | PO108                        | 16    |
| Iulita, Florencia | Session 6                    | 20    |

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|-----------------------|------------|----|
| Jackson-Cook, Colleen | PO155      | 20 |
| Jacola, Lisa          | Session 4B | 17 |
| Janel, Nathalie       | PO89       | 16 |

**K**

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|--------------------|-----------|----|
| Kasri, Amal        | PO84      | 16 |
| Khantsis, Sabina   | PO21      | 13 |
| Kitabatake, Yasuji | Session 1 | 13 |
| Klein, Jenny       | PO28      | 13 |
| Koenig, Katherine  | PO35      | 13 |
| Komatsu, Tomoko    | PO45      | 13 |
| Korenberg, Julie   | PO165     | 20 |

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| Lambert, Katherine      | PO145             | 13 |
| Lane, Andrew            | Session 7A        | 21 |
| Lanfranchi, Silvia      | Session 4B        | 17 |
| Langballe, Ellen Melbye | PO91              | 16 |
| Lanzillotta, Chiara     | PO80              | 16 |
| Lawrence, Jeanne B      | Session 7A        | 21 |
| Ledreux, Aurélie        | Session 7B        | 22 |
| Lee, Joseph             | PO103             | 16 |
| Lee, Masaichi           | PO46              | 13 |
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| Lewanda, Amy            | Special Symposium | 17 |
| Leysen, Valerie         | PO59              | 13 |
| Lim, JH                 | PO42              | 13 |
| Lioudyno, Maria         | Session 6         | 20 |
| Liu, Fei                | Session 3B        | 16 |
| Lizama, Macarena        | PO147             | 20 |
| Llambrich Ferré, Sergi  | PO22              | 13 |
| London, Jacqueline      | PO167             | 16 |
| Loosli, SV              | PO136             | 20 |

**M**

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| Maffioletti, Sara Martina         | PO127, Short Talk  Session 7A | 20-22 |
| Magara, Salvatore                 | PO160                         | 20    |
| Malinge, Sebastien                | Session 7A                    | 21    |
| Manfredi Lozano, Maria            | PO60                          | 13    |
| Manubens-Gil, Linus               | PO122                         | 20    |
| Marquer, Catherine                | Session 5A                    | 18    |
| Martínez de Lagran Cabredo, Maria | PO15                          | 13    |
| Martínez-Abadías, Neus            | PO19                          | 13    |
| Martínez-Cué, Carmen              | Session 3B, PO66              | 16-16 |

Mattos M, Fraga  
 Meharena, Hiruy  
 Minter, R,  
 Miranda, André  
 Mircher, Clotilde  
 Montal, Victor  
 Montesinos, Maria Luz  
 Moon, JE  
 Mufson, Elliott  
 Mumford, Paige  
 Muñoz Moreno, Maria Del Mar  
 Murray, Aoife  
 Musoles, Juan Luis  
 Muza, Phillip

## N

Ness, Deborah  
 Nitsch, L  
 Nizetic, Dean  
 Noy, Suzanna J

## O

Ojinaga Alfageme, Olatz

## P

Pal, Upamanyu  
 Pape, Sarah  
 Patkee, Prachi  
 Pelleri, Maria Chiara  
 Pentz, Rowan  
 Perluigi, Marzia  
 Pertierra, Lucía  
 Pinter, Stefan  
 Piovesan, Allison  
 Ponroy, Blandine  
 Potier, Marie-Claude  
 Puente Bedia, Alba  
 Puig, M. V.  
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## R

Rafii, Michael  
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| Rastogi, Mohit                | PO105, Short talk  Session 1  | 16 - 13 |
| Redhead, Yushi                | PO18                          | 13      |
| Reeves, Roger                 | Session 4A                    | 17      |
| Rein, PA                      | PO26                          | 13      |
| Replogle, John                | PO107                         | 16      |
| Rodríguez Rodríguez, Cristina | PO150, Short Talk  Session 6  | 20-20   |
| Roper, Randall                | Session 4A                    | 17      |
| Rosas, Herminia Diana         | PO92                          | 16      |
| Rothermel, Beverly            | PO119, Short Talk  Session 5A | 20-18   |
| Roux, Michel J.               | PO32                          | 13      |
| Roy Vallejo, Emilia           | PO143                         | 20      |

## S

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| Sacco, Silvia           | PO133                         | 20      |
| Salvalai, Maria Elisa   | PO65                          | 16      |
| Santiago, Nicholas      | Session 2A                    | 14      |
| Santoro, Stephanie      | PO37                          | 13      |
| Savardi, Annalisa       | PO164                         | 20      |
| Schulz, Jan Michael     | Session 8                     | 22      |
| Sevillano, Xavier       | PO38                          | 13      |
| Shaikh, Mirja Nurunnabi | PO16                          | 13      |
| Shand, Beatriz          | PO138, Short Talk  Session 4B | 20-18   |
| Sherman, Stephanie      | PO05 , Short Talk  Session 7B | 13-22   |
| Shimizu, Ryohei         | PO149, Short Talk  Session 6  | 20-20   |
| Sierra , Cèsar          | PO116                         | 16      |
| Silberman, Rebecca      | PO106, Short Talk  Session 7A | 16 - 21 |
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| Smith, Keith            | PO157                         | 20      |
| Sosa, Lucas             | PO58                          | 13      |
| Stagni, Fiorenza        | PO63                          | 16      |
| Strydom, Andre          | Plenary Lecture               | 21      |
| Sturm, Stefanie         | PO110                         | 16      |
| Sullivan, Kelly D       | Session 7B                    | 22      |

## T

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| Tarui, Tomo            | PO40            | 13 |
| Thurman, Angela        | Session 5B      | 19 |
| Tomas Aguirre, Beatriz | PO146           | 20 |
| Torres, Eduardo        | Session 1       | 13 |
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| Tsai, Li- Hue          | Plenary Lecture | 18 |
| Tuttle, Kathryn D.     | PO152           | 20 |
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## U

Uguagliati, B

## V

Vacca, Rosa Anna

Valldeneu, Sílvia

Valledor, Melvys

Vande Velde, Greetje

Vázquez-Oliver, Anna

Veling, Macy

Venkatesh, AV

Videla, Laura

## W

Waugh, Katherine A

William, Christopher

Winiarski, Maciej

Wiseman, Frances K

Wolvetang, Ernst

## X

Xiao, Meifang

Xicota, Laura

Xie, Peng

## Y

Ye, Bing

Yu, Eugene

## Z

Zammit, Matthew

Zampieri, Bruna L

Ziogas, Ilias

Zorrilla De San Martin, Javier

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PO10, Short talk | Session 9

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# NOTES

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