



DSAD



ADAD

Genetically Determined Alzheimer Disease: Cross-fertilization between Down Syndrome & Autosomal Dominant Alzheimer Disease

Barcelona, April 11th and 12th, 2024

Modernist Hospital of Sant Pau (Pau Gil Room) and Online

Presentation

This conference will feature the latest research and clinical trial findings in Down syndrome associated Alzheimer disease (DSAD) and autosomal dominant AD (ADAD).

Sessions are listed in Central European Standard Time (CEST). Schedule is current at the time of posting. Communications from across the world.

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Hospital of Sant Pau; Barcelona, Spain

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Heather Snyder
Alzheimer's Association; Chicago, USA

PROGRAM

Thursday, April 11th, 2024

Pau Gil Room

7:30 am Registration

8:00 am Opening remarks

- Adrià Comella. CEO of Hospital of Sant Pau; Barcelona, Spain
- Katy Trias. CEO of Catalan Down Syndrome Foundation; Barcelona, Spain
- Alberto Lleó. Chair of Neurology. Hospital of Sant Pau; Barcelona, Spain
- Juan Fortea. Memory Unit Director. Hospital of Sant Pau; Barcelona, Spain
- Raquel Sánchez-Valle. AD and Other cognitive disorders Group leader. Hospital Clínic de Barcelona. IDIPABS; Barcelona, Spain

8:15 am

Lifetime achievement award: [Rafael Blesa](#)

[Alberto Lleó](#) will give the prize in recognition of his key role in the foundation of the PICOGEN and DABNI cohorts

8:30 am

Session 1. Pathophysiology of DSAD and ADAD

Moderators: Raquel Sánchez-Valle and Beau Ances

1. Adults with Down syndrome display blood-brain barrier damage at advanced stages of Alzheimer's disease neuropathology
[Lisi Flores Aguilar](#). University of California; Irvine, USA
2. Galectin-3 is upregulated and correlated with MRI findings in ADAD and genetic Frontotemporal Dementia
[Agnès Pérez-Millan](#). Hospital Clínic de Barcelona; Barcelona, Spain
3. Whole blood differentially expressed genes in mutation carriers of autosomal dominant Alzheimer's disease
[Aina Comas Albertí](#). Fundació de Recerca Clínic Barcelona - Institut d'Investigacions Biomèdiques August Pi i Sunyer; Barcelona, Spain
4. Amyloid-B peptide signature associated with cerebral amyloid angiopathy in familial Alzheimer's disease with APPdup and Down syndrome
[Marie-Claude Potier](#). Institut du Cerveau; Paris, France
5. Could the status of the NGF metabolism predict preclinical Alzheimer's pathology in Down Syndrome?
[Claudio Cuello](#). McGill University; Westmount, Canada. *Prerecorded talk*

10:00 am

Coffee break

10:30 am

Session 2. Clinical and neuropsychological presentation and non genetic modifiers of the phenotype

Moderators: Benjamin Handen and Laura del Hoyo

1. AT(N) status and longitudinal changes in cognition in adults with Down syndrome
[Benjamin Handen](#). University of Pittsburgh; Pittsburgh, USA
2. Bridging the Gap: Understanding The Clinical and Cognitive Expression of Alzheimer's Disease in Down Syndrome
[Laura Videla-Toro](#). Hospital of Sant Pau; Barcelona, Spain

3. Developing a digital cognitive platform for Down syndrome-associated AD research: The ARC-DS Study
Jason Hassenstab. Washington University in St. Louis; St. Louis, USA
4. Generational changes in DS: impact on intellectual disability, Alzheimer's disease progression, and cognitive trajectories
Lidia Vaqué-Alcázar. University of Barcelona; Barcelona, Spain
5. Timing of Cognitive Decline in Down Syndrome Alzheimer's Disease
Sigan Hartley. University of Wisconsin-Madison; Madison, USA. *Prerecorded Talk*

12:00 pm

Flash talks

Moderators: Alexandre Bejanin and Albert Lladó

1. Spatial and single-nucleus transcriptomic analysis of DSAD and sporadic AD
Samuel Morabito. University of California; Irvine, USA
2. Correlations between monoaminergic biomarkers, classical biomarkers and the BPSD-DSII behavioral scale in Down individuals with and without Alzheimer's dementia
Charlotte Jacob. University of Antwerp; Wilrijk, Belgium
3. The Down Syndrome Biobank Consortium: an initiative to advance research on Alzheimer's disease in Down Syndrome
Isabel Barroeta. Hospital of Sant Pau; Barcelona, Spain
4. Predominant Visuo-perceptual Dysfunction in a Patient with Down Syndrome associated Alzheimer's Disease
Íñigo Rodríguez-Baz. Sant Pau Memory Unit, Institut d'Investigació Biomèdica Sant Pau (IIB SANT PAU); Barcelona, Spain
5. Cerebrovascular disease and neuroinflammation enhance the classification accuracy of AD-related clinical diagnostic conversion in adults with DS
Natalie Edwards. Columbia University; New York, USA
6. Molecular basis of clinical onset in familial Alzheimer's disease (FAD)
Sara Gutiérrez-Fernández. Vib Center For Brain & Disease Research; Leuven, Belgium
7. Plasma p-tau217 is a severity and progression biomarker in Niemann-Pick disease type C
Fernando Gonzalez-Ortiz. Gothenburg University; Göteborg, Sweden
8. Electrophysiological biomarkers in autosomal dominant Alzheimer Disease
Charlotte Johansson. Karolinska Institutet; Hågersten, Sweden
9. Improving IQ measurement in DS by using true deviation from population norms with the Kaufman Brief Intelligence Test
Laura del Hoyo-Soriano. Hospital of Sant Pau; Barcelona, Spain

1:00 pm

Finger food lunch

2:00 pm

Session 3. Biomarkers 1

Moderators: Lisi Flores and María Carmona-Iragui

1. AD effects on sleep in adults with DS
Sandra Gimenez. Hospital of Sant Pau; Barcelona, Spain

2. Clinical and fluid biomarker characteristics of ADAD in Dutch memory clinic
Janna Dijkstra. Amsterdam University Medical Center; Amsterdam, Netherlands
3. Reducing the production of toxic AB peptides in Alzheimer's disease: a new therapeutic strategy?
Michael Okafor. Institut du Cerveau; Paris, France
4. Retinal and Choroidal Vascular Changes as Potential Biomarkers for AD in Individuals with DS: A Cross-Sectional Study
Lajos Csincsik. Queen's University Belfast; Belfast, UK
5. Lewy-Body co-pathology in the context of Alzheimer Disease originating in a genetic B-amyloid trigger
Johannes Levin. Ludwig-Maximilians-University of Munich and German Center for Neurodegenerative Diseases; Munich, Germany

3:30 pm **Session 4. Biomarkers 2**

Moderator: Florencia Iulita and John Ringman

1. Proteomic Analysis of Cerebrospinal Fluid in DS: Uncovering Shared and Distinct Pathological Alterations in Comparison to Late Onset and ADAD
Laia Montoliu-Gaya. Gothenburg University; Mölndal, Sweden
2. CSF Proteomics Define the Natural History of ADAD
Erik Johnson. Emory University; Atlanta, USA
3. The A431E PSEN1 mutation arising as a founder effect in Jalisco State in Mexico: from clinical presentation to an animal model
John Ringman. University of Southern California; Los Angeles, USA
4. Within-individual trajectory of plasma GFAP in dominantly inherited Alzheimer disease
Lisa Vermunt. Amsterdam University Medical Center; Amsterdam, Netherlands
5. Soluble tau phosphorylation and MTBR-tau243 changes in autosomal dominantly inherited AD
Nicolas Barthelemy. Washington University in St. Louis; St. Louis, USA. *Prerecorded talk*

5:30 pm Guided visit to the Modernist Hospital and Casa de Convalescència

8:30 pm Dinner at Casa de Convalescència (Sant Antoni Maria Claret street, 171. Barcelona)



Map

Friday, April 12th, 2024

Pau Gil Room

7:30 am Registration

8:00 am **Session 5. Neuroimaging**

Moderator: Katherine Koenig and Patrick Lao

1. Comparisons of Tau PET Imaging in Down Syndrome and Autosomal Dominant AD
Brian Gordon. Washington University in St. Louis; St. Louis, USA
2. Longitudinal changes in neuroimaging biomarkers of small vessel disease by sex and APOE genotype
Patrick Lao. Columbia University; New York, USA

3. Pattern of brain metabolism (FDG-PET) in individuals with DS. Association with sociodemographic variables and Alzheimer's disease stages
José Enrique Arriola-Infante. Hospital of Sant Pau; Barcelona, Spain
4. Medial Temporal Lobe Volumes as Biomarkers for Early Alzheimer's Detection in in Down Syndrome
Alejandra Morcillo-Nieto. Hospital of Sant Pau; Barcelona, Spain
5. Cortical thickness along AD continuum in Down syndrome
Beau Ances. Washington University in St. Louis; St. Louis, USA

9:30 am **Session 6. Modelling (Natural history models)**

Moderator: Juan Fortea and Johannes Levin

1. APOE4 homozygotes: A new member of in the genetically determined AD familiy
Juan Fortea. Hospital of Sant Pau; Barcelona, Spain
2. Cortical Asymmetry in individuals with Autosomal Dominant Alzheimer's Disease
Raquel Sánchez-Valle. Hospital Clínic de Barcelona; Barcelona, Spain
3. A population study of Alzheimer's dementia in Down syndrome
Eric Rubenstein. Boston University; Boston, USA
4. Occurrence and description of epilepsy in adults with DS
Lucia Maure-Blesa. Hospital of Sant Pau; Barcelona, Spain
5. DIAN
Eric McDade. Washington University in St. Louis; St. Louis, USA. *Prerecorded talk*

11:00 am Coffee break

11:30 am **Session 7. Clinical trials in presymptomatic / at risk individuals of genetic AD**

Moderator: Laurent Meijer and Michael Rafii

1. Clinical Trials Targeting AD in DS
Michael Rafii. USC Keck School of Medicine; San Diego, USA
2. Phase 1 clinical study of leucettinib-21, a Dyrk1a kinase inhibitor drug aiming at the correction of cognitive disorders
Laurent Meijer. Perha Pharmaceuticals; Roscoff, France
3. A phase III, randomized, double-blinded study of the efficacy and safety of LEvetiracetam to prevent Seizures in Symptomatic Alzheimer's Disease in adults with Down syndrome: the LESS-AD trial
María Carmona-Iragui. Hospital of Sant Pau; Barcelona, Spain
4. Autosomal Dominant Alzheimer's Disease Barcelona Cohort
Beatriz Bosch. Hospital Clínic de Barcelona; Barcelona, Spain
5. The H21 consortium - enabling treatment trials for Alzheimer's disease in Down syndrome
André Strydom. King's College London; London, UK

1:00 pm Finger food lunch

2:00 pm **Session 8. Collaboration and networking opportunities for AD research in individuals with Down syndrome and ADAD**

Moderators: Heather Snyder and Sebastián Videla

- 1. NIH Funding Opportunities
Laurie Ryan and Erika Tarver. National Institute on Aging; USA. *Prerecorded talk*
- 2. Collaborative engagement with patient organisations in EU-funded research
Angela Bradshaw. Alzheimer Europe; Senningerberg, Luxembourg. *Prerecorded talk*
- 3. DABNI and Horizon 21 experience
Bessy Benejam. Catalan Down Syndrome Foundation and Horizon 21; Barcelona, Spain
- 4. DIAN experience and Multisite International R01 in DS
Jason Hassenstab. Washington University in St. Louis; St. Louis, USA

3:00 pm Coffee break

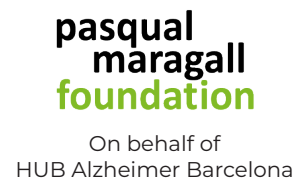
3:30 pm **Panel discussion. Ethical considerations and implications of AD research in individuals with Down syndrome and ADAD with the approval of new treatments**

Moderators: Matthew Janicki and Mircea Balasa

- 1. **Natalie Ryan**. UCL Queen Square Institute of Neurology; London, UK
- 2. **Alberto Lleó**. Hospital of Sant Pau; Barcelona, Spain
- 3. **Ann Cohen**. University of Pittsburgh; Pittsburgh, USA
- 4. **Shahid Zaman**. University of Cambridge; Cambridge, UK

4:30 pm Closing remarks and summary of conference findings
Raquel Sánchez-Valle, Juan Fortea and Heather Snyder

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