Program 4th International Premutation meeting 2019

Wednesday September 25th 2019

08.15 – 08.30 Welcome

08.30 – 09.30 Keynote Lecture Laura Ranum
RAN proteins in neurologic disease: molecular insights and therapeutic opportunities

09.30 – 10.30 Clinical involvement in premutation carriers (FXTAS+ass features)
(Chairs: Deborah Hall & Randi Hagerman)
09.30-09.50 M. Mallick (O01)
Data Driven Phenotype Discovery of FMR1 Premutation Carriers in a Population-Based Sample
09.50-10.10 J. Klusek (O02)
Response Inhibition Skills are Modulated by Age and CGG Repeat Length in Women with the FMR1 Premutation
10.10-10.30 E. Allen (O03)
Clustering of co-morbid conditions among FMR1 premutation carrier women

10.30 – 10.45 Break

10.45 – 12.05 Clinical involvement in premutation carriers (ass. Features + FXPOI)(cont)
10.45-11.05 F. McKenzie/R. Hagerman (O04)
Ehlers Danlos Syndrome, Aneurysms and Spontaneous Coronary Artery Dissection (SCAD) in Premutation Carriers
11.05-11.25 D. Loessch-Mdzewska (O05)
Relationship between white matter lesions and premutation phenotypes - towards understanding of modification of infratentorial involvement by gender.
11.25-11.45 E. Allen (O06)
Establishment of genetic counseling guidelines for risk of FXPOI among premutation women
11.45-12.05 D. Hessl (O07)
Neuropsychological and motor changes in aging FMR1 premutation carriers: Towards characterization of the FXTAS prodrome

12.05 – 12.30 General Discussion (speakers and chairs)

12.30 – 13.30 Lunch

13.30 – 15.10 Molecular aspects of premutation alleles
(chairs: Stephanie Sherman & Peter Todd)
13.30-13.50 P. Jin (O08)
Identification of genetic modifiers of FXTAS by combing whole genome sequencing with fly genetics
13.50-14.10 V. Martinez-Cerdeno (O09)
New discoveries in the pathology of FXTAS
14.10-14.30 S. Sherman (O10)
Identifying modifying genes to explain the variation in severity of fragile X-associated primary ovarian insufficiency
14.30-14.50 L. Rodriguez-Reyenga (O11)
Autophagic alterations in skin fibroblasts from Fragile X-associated tremor/ataxia syndrome patients

14.50-15.10  S. Wright (O12)
Antisense Oligonucleotides block RAN translation, enhance FMRP and reduce toxicity in CGG repeat expansion patient neurons.

15.10 – 15.40  Break

15.40 – 17.20  Molecular aspects of premutation alleles (cont)
15.40-16.00  Y. Ajjugal (O13)
Secondary structural choice of DNA and RNA associated with CGG/CCG trinucleotide repeat overexpansion leads to the RNA misprocessing in FXTAS

16.00-16.20  I. Boustanai (O14)
FMRpolyG may play a role in the pathogenesis of FXPOI by altering mitochondrial function.

16.20-16.40  M. Epstein (O15)
Identification of common modifying genes related to age of onset of premutation-associated disorders.

16.40-17.00  P. Todd (O16)
Monitoring and Modulating RAN translation in Fragile X-associated disorders

17.00-17.20  P. Hagerman (O17)
Pathogenesis of FXTAS: an inclusion-centric view

17.20 – 17.45  General Discussion (speakers and chairs)

19.00 – 21.00  Dinner Buffet (NHOW)
<table>
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<th>Time</th>
<th>Session</th>
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<tr>
<td>08.30 – 09.30</td>
<td><strong>Keynote lecture Silvere van der Maarel</strong>&lt;br&gt;Facioscapulohumeral muscular dystrophy: nuclear heterogeneity in a monogenic disease.</td>
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<td>09.30 – 10.30</td>
<td><strong>Models systems for the premutation (cellular and animal)</strong>&lt;br&gt;(chairs: Peng Jin &amp; Karen Usdin)</td>
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<td>09.30 – 09.50</td>
<td>K.Shelly (O18)&lt;br&gt;Expression of CGG repeat-containing mRNA in either oocytes or granulosa cells leads to differential effects on female fertility in mice</td>
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<td>09.50 - 10.10</td>
<td>D. Nelson (O19)&lt;br&gt;Ectopic CGG repeat expression leads to impaired ovarian response to hormonal stimulation</td>
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<td>10.10 – 10.30</td>
<td>I. Boustanai (O21)&lt;br&gt;Establishment of a novel Granulosa cell-line model for the research of FXPOI pathophysiology</td>
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<td>10.30 – 10.45</td>
<td>Break</td>
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<td>10.45 – 11.30</td>
<td><strong>Model systems for the premutation (cellular and animal)</strong>(cont)</td>
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<td>10.45 - 11.05</td>
<td>K. Usdin (O22)&lt;br&gt;Breaking bad: The mechanism of repeat expansion in the FMR1-related disorders.</td>
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<td>11.05 – 11.30</td>
<td>General Discussion (speakers and chairs)</td>
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<td>11.30 – 12.30</td>
<td><strong>Diagnosis and screening</strong>&lt;br&gt;(chairs: Flora Tassone &amp; Frank Kooy)</td>
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<td>11.30 – 11.50</td>
<td>D. Annear (O20)&lt;br&gt;A catalogue of the CGG Short-Tandem Repeats in the Human Genome</td>
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<td>11.50 - 12.10</td>
<td>N. Domniz (O23)&lt;br&gt;Ethnicity is an independent Risk Factor for Full Mutation Expansion in FMR1 Premutation Carriers</td>
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<td>12.10 - 12.30</td>
<td>M. Raspa (O24)&lt;br&gt;Newborn screening for FMR1 expansions: Uptake rates from the first year of Early Check</td>
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<td>12.30 – 13.30</td>
<td>Lunch</td>
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<td>13.30 – 14.50</td>
<td><strong>Diagnosis and screening</strong> (cont)</td>
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<td>13.30-13.50</td>
<td>À. Wheeler (O25)&lt;br&gt;Early Developmental Profiles of Infants with a Premutation: Updates from the first year of Early Check</td>
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<td>13.50-14.10</td>
<td>B. Rodrigues (O26)&lt;br&gt;FMR1 alleles and ovarian reserve: is the AGG pattern a neglected biomarker?</td>
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<td>14.10-14.30</td>
<td>B. Boyea (O27)&lt;br&gt;Expanded newborn screening for fragile X premutation: Challenges in genetic counseling</td>
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<td>14.30-14.50</td>
<td>D. Hall (O38)&lt;br&gt;Fragile X Gray Zone Alleles in Men are associated with Parkinsonism and Earlier Death in an Elderly Community Population</td>
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<td>14.50 – 15.05</td>
<td>General Discussion (speakers and chairs)</td>
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<td>15.05 – 15.20</td>
<td>Break, including Photo moment</td>
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15.20 – 17.20  Poster session (finger food and drinks 16.00 – 17.00)

17.20 – 18.20  IFC meeting (Robby Miller: development of a Pre/FXTAS patient registry for research)

18.20  Free (arrange dinner yourself, you can use the diner voucher in your goodie bag for discount at a few restaurants)
Friday September 27th 2019

08.30 – 10.10 Therapeutic interventions & Biomarkers (chairs: Renate Hukema & Krysztof Sobszak)

08.30-08.50 M. Zafarullah (O28)
Characterization of Antisense FMR1 (ASFMR1) Gene and Identification of Novel Splice Variants in Premutation Carriers

08.50-09.10 M. Derbis (O29)
Reversal of multiple manifestations of Fragile X-associated tremor/ataxia syndrome by short antisense oligonucleotides

09.10-09.30 S. Haify (O30)
Compound 1a reduces toxic FMRpolyG levels in vitro and in vivo models for Fragile X-associated Tremor and Ataxia Syndrome.

09.30-09.50 C. Yrigollen (O31)
Assessing CRISPR mediated deletion of CGG repeats in the brains of Fmr1 CGG knock-in mice

09.50-10.10 D. Gohel (O32)
Mito-miR, hsa-miR-320a modulates mitochondrial functions and cell death in FXTAS

10.10 – 10.25 Break

10.25 – 12.05 Therapeutic interventions & Biomarkers (cont)

10.25-10.45 M. Mosconi (O33)
Precision visuomotor behavior and cortical-cerebellar function in aging FMR1 premutation carriers

10.45-11.05 S. Rivera (O34)
Thickness of Motor Cortex as a Biomarker of FXTAS

11.05-11.25 M. Winston (O35)
A unique visual attention profile associated with the FMR1 premutation

11.25-11.45 C. Giulivi (O36)
Prenatal biomarkers of the FMR1 premutation

11.45-12.05 F. Tassone (O37)
Metabolic changes associated with development and prediction of fragile X-associated tremor/ataxia syndrome

12.05 – 12.30 General Discussion (speakers and chairs)

12.30 - 13.30 Lunch

13.30 – 14.15 Special lecture Randi Hagerman (incl members EFXN)
FXTAS and associated problems in carriers of the premutation

14.15 – 15.00 Panel Discussion + FAQ (European Fragile X Network) (chairs Jorg Richstein and Robby Miller)

15.00 – 15.15 Break

15.15 – 16.15 Keynote lecture Guido de Wert
Germline genome editing: the case of Fragile X. An ethical exploration
16.15 – 17.00  **Premutation Carrier Perspective**  
(chairs Jorg Richstein and Robby Miller)

16.15 – 16.35  Diewertje Houtman (O39)  
Healthcare Needs of FMR1 Premutation Carriers: A Semi-Structured Interview Study

16.35 – 17.00  Future Research and involvement stakeholders (IFXA)

17.00 – 17.45  **Closing discussion + next meeting 2021 + award ceremony Best Presentation & Best Poster (young investigators)**  
(Renate Hukema and Rob Willemsen)

19.00 – 22.00  Social program (boat trip and dinner)