

“New Horizons for Early Life Exposome Research”

Scientific Symposium Barcelona – 30-31 October 2017

Organising committee:

- HELIX: Martine Vrijheid, Lea Maitre, Diana van Gent, Iolanda Molina (ISGlobal), Cathrine Thomsen (NIPH Norway), Muireann Coen (Imperial College London), John Wright (Bradford), Rémy Slama (Inserm, Grenoble), Peter van den Hazel (VGGM, Netherlands)
- EXPOSOMICS: Paolo Vineis (ICL), Roel Vermeulen (IRAS, Utrecht)

Programme

Day 1

9.00-9.15 **Welcome**

9.15-11.00 **Session 1. Setting the scene - the Exposome projects (chair: Mark)**

- The global, societal and policy challenge - Manolis Kogevinas (12 + 3 mins)
- EU Project Officer's overview of Exposome research - Tuomo Karjalainen (12 + 3 mins)
- What have we learnt in HELIX and why does it matter? Martine Vrijheid (12 + 3 mins)
- What have we learnt in Exposomics and why does it matter? Paolo Vineis (12 + 3 mins)
- What have we learnt in HEALS and why does it matter? Dennis Sarigiannis (12 + 3 mins)
- Update on US exposome efforts – Hercules. Gary Miller (12 + 3 mins)
- Update on US exposome efforts – NIEHS. Gwen Collman (12 + mins)

11.00-11.30 **Coffee**

11.30-13.00 **Session 2. Describing the early life Exposome and its determinants and variability across Europe (chair: Leda) – part 1**

- **Keynote:** The chemical exposome, determinants & variability – Cathrine Thomsen (NIPH) (30 mins)
- Estimating the early-life exposure to two perfluorinated compounds (PFOS and PFOA) using PBPK modeling and biomarker measurements – Celine Brochot (10 mins)
- Diet as a source of exposure to environmental contaminants for pregnant women and children - Eleni Papadopoulou (10 mins)

- **Keynote:** The urban exposome, determinants & variability – Mark Nieuwenhuijsen (ISGlobal) (30 mins)
- ExpoApp: the integrative system to assess the external exposome & Personal exposure to the external exposome in pregnancy and childhood in Europe – David Donaire (10 mins)

13.00-14.00 Lunch & Posters

14.00-14.30 Session 2. Describing the early life Exposome and its determinants and variability across Europe (chair: Leda) – part 2

- Early life exposome patterns in 6 countries – Xavier Basagaña (10 mins)
- Discussion of summary statement: “achievements and challenges” (20 mins)

14.30-15.45 Session 3. Omics signatures related to multiple early-life environmental exposures (chair: Hector) Part 1

- **Keynote** – Cataloguing omics signatures of many environmental exposures – HELIX results (Mariona Bustamente / Lea Maitre ISGlobal) (30 mins)
- Alexis or Chung-ho: The urinary and serum metabolome in children from six European populations / Metabolic phenotypes of obesity, dietary habits and cardio-metabolic outcomes in HELIX cohort children. (10 mins) or both?
- Epigenetic marks of early life exposure to particulate matter – Michelle Plusquin (10 mins)
- Smoking and methylation – Marta Vives (10 mins)
- The exposome and telomere length – Diana Clemente (10 mins)

15.45-16.15 Coffee

16.15-17.30 Session 3. Omics signatures related to multiple early life environmental exposures (chair: Hector) Part 2

- **Keynote** - Biostatistical/bioinformatics challenges – Marc Chadeau (ICL) (30 mins)
- RExposome and exposome & cross-omics analyses - Juan Ramon Gonzalez (10 mins)
- Molecular signatures time variability in HELIX panel paired-samples - Carles Hernandez (10 mins)
- Discussion of summary statement: “achievements and challenges”

Meeting Dinner

Day 2

9.00-10.45 Session 4. Assessing health effects of the early life Exposome (chair: Martine)

- **Keynote** - Systematically associating multiple exposures with child health: Methodological challenges & HELIX results – Rémy Slama (INSERM) (30 mins)
 - Selection of short presentations with HELIX results
 - Exposome and cognitive and behavioural development – Léa Maitre (7 mins)
 - Allergies – Berit Granum (7 mins)
 - Lung function - Lydiane (7 mins)
 - Exposome and blood pressure - Charline Warembourg (7 mins)
 - Exposome and obesity - Martine Vrijheid (7 mins)
 - Discussion (10 mins)
 - Beyond bioinformatics: contributions from health informatics to exposome research – Fernando Martin – Sanchez? (ISCIII) (10 mins)
- Discussion of summary statement: “achievements and challenges”

10.45-11.15 Coffee

11.15-12.30 Session 5. Translation of Exposome results to policy (chair: John Wright)

- **Keynote** - Health impact assessments related to the early life exposome - David Rojas (ISGlobal) (30 mins)
 - Development of App – John Wright (10 mins)
- Discussion of policy and societal implications of results (based on last slide of each presentation) – John Wright / Peter van den Hazel... (20 mins)

12.30-13.30 Session 6. Networking between Exposome-related projects in and outside Europe – “building an exposome toolbox” (chair: Cathrine)

- Short presentation on each project’s match with “exposome toolbox”: HBM4EU (Marika Kolossa), LifeCycle (Vincent Jaddoe), LifePath (Paolo Vineis), US projects (Gary Miller, Gwen Collman), HEALS (Denis Sarigiannis), Exposomics (Paolo Vineis), HELIX, others...
 - Project ‘Speed-date’ (Diana van Gent)
 - Discussion on networking, complementarities, gaps, future ...
- Discussion of summary statement: “achievements and challenges”

13.30-14.30 LUNCH – networking continued + posters

14.30-16.00 Session 7. Reflections on the Future of (early life) Exposome Research (chair: Remy)

- Toxicologist's view: Thomas Hartung (Human Toxome project) (30 mins)
- Epidemiologist's view: Roel Vermeulen (IRAS) (30 mins)
- SAB statement (SAB members)
- Closure