Developmental programming of health and epigenetics: what role in the public arena?

November 14 – 15, 2016
Amphithéâtre du Biophore-M1 UNIL Sorge
Dorigny Campus - Lausanne

The organizers: Prof. Francesco Panese, Prof. Umberto Simeoni, Dr. Luca Chiapperino
For more information: http://www.unil.ch/stslab

This Conference aims at engaging scientists from different fields (from molecular biology, to gestational and paediatric medicine, to epidemiology) working around epigenetics, in order to explore the potential of this knowledge to intervene upon public discourses of reproduction, parenting and intergenerational responsibility.
08h15-08h45  Registration
08h45-09h00  Welcome

Session 1

Mechanisms of epigenetic inheritance: early-life health programming across generations
Alain Kaufmann (Interface Sciences - Société, Université de Lausanne) (Chair)

09h00-09h45  Epigenetic effects of parental trauma in offspring
Prof. Rachel Yehuda – Mount Sinai School of Medicine

09h45-10h30  DNA methylation mediating the impact of early life experience on long-term phenotypes; what are the implications?
Prof. Moshe Szyf – McGill University

10h30-10h45  Coffee Break

10h45-11h30  How can life experiences be engraved in the epigenome across generations?
Prof. Isabelle Mansuy – University of Zurich

11h30-12h15  Genome, epigenome, exposome: a complex information to deliver (or not?) to our patients
Prof. Ariane Giacobino – University of Geneva

12h15-12h45  Plenary Discussion (Session 1)
12h45-14h00  Lunch

Session 2

Epigenetic epidemiology for social policy:
early-life exposures, health programming and the embodiment of disadvantages
Dr. Silvia Stringhini – Université de Lausanne (Chair)

14h00-14h45  DNA methylation profiles of early-life environmental exposure and socioeconomic position
Dr. Michelle Plusquin – Imperial College London

14h45-15h30  Epigenetics at the Crossroads. Can Transgenerational Responses to early Life exposures impact health and well being?
Prof. Nico Rizzo – Loma Linda University & Karolinska Institute

15h30-15h45  Coffee Break
15h45-16h30  
*Prenatal exposures and cord blood methylation: Findings from the Pregnancy and Childhood Epigenetics (PACE) consortium*  
**Dr. Gemma Sharp** - University of Bristol

16h30-17h00  
**Plenary Discussion (Session 2)**

17h00-17h30  
**Wrap-up day one**

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**Session 3**

*DOHaD (Developmental Origins of Health and Disease) and the role of epigenetics*

**Prof. Umberto Simeoni** – Université de Lausanne (Chair)

09h00-09h45  
*Epigenetics: a timely opportunity to reflect on the cross-talks between sex and gender*  
**Dr. Claudine Junien** – INRA, Paris

09h45-10h30  
*Epigenetics, society, and the intergenerational transmission of disease risk.*  
**Prof. Jonathan Wells** – University College London

10h30-10h45  
**Coffee Break**

10h45-11h30  
*Developmental and environmental origin of the reproductive diseases: the epigenetic mechanisms*  
**Prof. Mohamed Benahmed** – University of Nice Sophia-Antipolis

11h30-12h15  
*Environmental exposures during early-life and epigenetic changes leading to cancer development*  
**Dr. Semira Gonseth Nusslé** – University of California Berkeley

12h15-13h00  
*The contamination of epigenetic sciences with medical humanities for holistic care*  
**Prof. Gian Paolo Donzelli & Dr. Kathleen McGreevy** – University of Florence, Meyer Foundation

13h00-13h30  
**Plenary Discussion (Session 3)**

13h30-14h30  
**Lunch**

14h30-15h30  
**Final Roundtable:**  
Developmental programming of health and epigenetics: what role in the public arena?

15h30-16h00  
**Concluding remarks and farewell**
Developmental programming of health and epigenetics: what role in the public arena?

University of Lausanne, Dorigny Campus
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“Why your DNA isn’t your destiny” (Cloud 2010); “Babies born into poverty are damaged forever before birth” (McLaughlin 2012); “Epigenetics has shown that there’s no such thing as a normal human body, so how did it get hijacked by the body police?” (Guthman and Mansfield 2015); “Mother’s diet during pregnancy alters baby’s DNA” (Gallagher 2011); “Pregnant 9/11 survivors transmitted trauma to their children” (The Guardian 2011); “Society don’t blame the mothers” (Richardson et al. 2014); “Poisoned Inheritance” (The Economist 2013); “Les Nouveaux Secrets De Notre Héritéité” (ARTE 2015); “My dad survived the Holocaust–how can it be that I’m the one fighting for life?” (The Telegraph 2015). These resounding—and very much mixed—headlines are only few among the examples of how epigenetic inheritance and developmental programming of health are currently being introduced to the public.

The Conference ‘Developmental programming of health and epigenetics: what role in the public arena?’ aims at engaging scientists from different fields (from molecular biology, to gestational and paediatric medicine, to epidemiology) working around epigenetics, in order to explore the potential of this knowledge to intervene upon public discourses of reproduction, parenting and intergenerational responsibility.

In doing so, the conference will build upon the current work of the SNSF-funded project PaRED—Parental Responsibilities, Epigenetics and DOHaD (Decision N°100018_162873/1), which gathers researchers from different domains of biomedical and social sciences grappling with epigenetics and its implications for reproductive, perinatal and paediatric care. Thanks to the variety of experts it brings together, PaRED is strongly connected to the international network of biomedical scientists and researchers currently contributing to the uptake of epigenetics in public health, healthcare and the wider society.

Addressing epigenetics at the intersection of science and society from within the scientific community—and from the different perspectives it embeds—will enable us to unpack the distinct societal usages that different disciplinary approaches envisage when it comes to knowledge-production of epigenetically acquired, inheritable traits. Evidences of intergenerational epigenetic inheritance are in fact understood in different, if not adversarial ways among researchers. For some, who have long advocated that epigenetic inheritance should be taken seriously, this seems to be a vindication of the science they have tried to establish for a long time. For those in search of a ‘causal’ explanation for epidemiological evidences that early-life experiences determine later wellbeing and health, this seems to represent an opportunity to establish the whole molecular conduit behind long-standing epidemiological findings and correlations. For some others, these preliminary data are important in that they may rebalance the burden of responsibility for the health of the unborn between mothers and fathers, and should thus be most welcomed. Finally, for some others, this knowledge is finally tearing down the distinction between the natural and social sciences, or is all the more important to disentangle and unify the two for the sake of addressing the future challenges for human health and wellbeing.

Making sense of this complex tapestry underlying the public appreciation of epigenetic inheritance and developmental programming is the main aim of this Conference. To this purpose, the event very much invites the participation of epigenetic scientists and researchers, policy makers, clinician representatives, patient organizations and ELSI scholars, who can jointly contribute to define the critical issues and promises that will emerge from the scrutiny of scientific developments in epigenetics and their imagination of the future of civil societies.

The Organizers
Prof. Francesco Panese, Prof. Umberto Simeoni, Dr. Luca Chiapperino