

## **Training Course**

### **European Educational Programme in Epidemiology**

#### **FRONTIERS IN CAUSALITY IN EPIDEMIOLOGY: EXPOSOME Florence, 13-16 June, 2017**

*The four days residential course provides a perspective on the burgeoning field of exposomics; the latest addition to the instruments for assessing exposures and exploring mechanisms within epidemiological studies. After reviewing the history of exposure assessment and the concept of exposome, the course addresses the issues of measurement errors, methods for measuring biomarkers in different areas of “omics”, study designs for validating biomarkers and tools for statistical analysis of biomarker data. The course concludes with a look at the crystal ball of future developments in exposure assessment in epidemiology.*

#### **Faculty:**

**Paolo Vineis** and **Marc Chadeau-Hyam**, Imperial College, London;  
**Augustin Scalbert**, International Agency for Research on Cancer, Lyon;  
**David Phillips**, King's College London

#### **Course fee:**

**€1300** - covers full boarding and lodging for entire course

#### **Venue:**

*The “Studium” Centre, via della Piazzola 71, 50103, FIRENZE, Italy*

Application forms are available on-line at: <http://www.eepe.org>

## Course Timetable

<b>Day 1</b>		
<b>13 June 2017</b>		
	<b>Topic</b>	<b>Presenter</b>
<b>9.00 - 10.00</b>	Welcome and introduction of participants and a brief outline of what we measure in epidemiology  <b><i>The exposome and exposure assessment in epidemiology</i></b>	<i>Paolo Vineis</i>
<b>10.00 -11.00</b>	Concepts and approaches	<i>Paolo Vineis</i>
<b>11.00 -11.30</b>	<b><i>Coffee break</i></b>	
<b>11.30 -12.30</b>	Internal/ external exposomes	<i>Paolo Vineis</i>
<b>12.30 -14.30</b>	<b><i>Lunch</i></b>	
<b>14.30 -15.30</b>	Exercise in small groups 1	<i>All</i>
<b>15.30 -16.30</b>	Exposure biomarkers and biomonitoring	<i>David Phillips</i>
<b>16.30 -17.00</b>	<b><i>Coffee break</i></b>	
<b>17.00 -18.00</b>	Measurement errors: an introduction	<i>Marc Chadeau-Hyam</i>
<b>Day 2</b>		
<b>14 June 2017</b>		
	<b><i>The measurement and integration of "omics"</i></b>	
<b>9.00 - 10.00</b>	Introduction to metabolomics	<i>Augustin Scalbert</i>
<b>10.00 -11.00</b>	Introduction to adductomics	<i>David Phillips</i>
<b>11.00 -11.30</b>	<b><i>Coffee break</i></b>	
<b>11.30 -12.30</b>	The exposome and early effects: mutations	<i>David Phillips</i>
<b>12.30 -14.30</b>	<b><i>Lunch</i></b>	
<b>14.30 -15.30</b>	OMICs profiling: multiple comparison and nuisance variation	<i>Marc Chadeau-Hyam</i>
<b>15.30 -16.30</b>	Multivariate OMICs profiling techniques; Omics Integration	<i>Marc Chadeau-Hyam</i>

16.30 -17.00	<i>Coffee break</i>	
17.00 -18.00	Exercise in small groups 2	<i>All</i>
<b>Day 3</b> <b>15 June 2017</b>		
<b><i>The exposome in practice</i></b>		
9.00 - 10.00	Measuring nutritional and lifestyle exposures	<i>Augustin Scalbert</i>
10.00 -11.00	Introduction to study design in exposome research	<i>Paolo Vineis</i>
11.00 -11.30	<i>Coffee break</i>	
11.30 -12.30	Microbiome in epidemiological research	<i>Augustin Scalbert</i>
12.30 -14.30	<i>Lunch</i>	
14.30 -15.30	Validation of biomarkers	<i>Paolo Vineis</i>
15.30 -16.30	Exercise in small groups 3	<i>All</i>
16.30 -17.00	<i>Coffee break</i>	
17.00 -18.00	Metabolomics – From discovery experiments to biomarker implementation	<i>Augustin Scalbert</i>
<b>Day 4</b> <b>16 June 2017</b>		
9.00 - 10.00	Epigenetics in epidemiology	<i>Paolo Vineis</i>
10.00 -11.00	Epigenetics: examples	<i>Paolo Vineis</i>
11.00 -11.30	<i>Coffee break</i>	
11.30 -12.30	Longitudinal models	<i>Marc Chadeau-Hyam</i>
12.30 -14.30	<i>Lunch</i>	
14.30 -15.30	Ethical issues and incidental findings	<i>Paolo Vineis</i>
15:30-16:30	<b><i>Course evaluation and conclusions</i></b>	