

*ESTS school – Academic Competence Track*

## **ESTS Course on Statistics and Methodology**

**ESI, Hamburg, Germany**

**2 - 4 November 2016**

***An application has been made to the EACCME® for CME accreditation of this event***

### **Faculty**

Luca Bertolaccini, Negrar Verona, Italy  
Pierre-Emmanuel Falcoz, Strasbourg, France  
Gilbert Massard, Strasbourg, France  
Isabelle Opitz, Zurich, Switzerland  
Gonzalo Varela, Salamanca, Spain (practical workshop ideologist)

### **Aims**

- Basic knowledge in biomedical statistics
- Study design

### **Objectives**

- Help to understand the technical vocabulary to communicate with professional statisticians and methodologists.
- Provide tools to set up clinical trials, retrospective studies

### **Format**

- 2 days
- Arrival during morning day 1 – first session afternoon
- Day 2 – full day
- Day 3 – adjourn at 13.00

### **Location**

European Surgical Institute, Hamburg, Germany

**Please bring your own personal laptop and your own database (if exists) to the meeting!**  
(R software and R-commander (free) will be provided)

## **Day 1: 2 November 2016**

Faculty and delegates are expected to arrive before 14:00.

An informal lunch will be offered

- |               |  |                       |
|---------------|--|-----------------------|
| <b>14.00:</b> | Welcome, presentation of ESTS educational activities | G Massard, Strasbourg |
|               | Presentation of faculty and objectives of the course | I Opitz, Zurich       |

Presentation round of participants:

What are my objectives and experienced problems?

What do I expect from this course?

### **15.00 – 16.30: Start your research project**

- |    |   |                        |
|----|---|------------------------|
| a. | Biological or clinical relevance                | G Varela, Salamanca    |
| b. | Formulate a research question                   | G Varela, Salamanca    |
| c. | Searching the literature                        | G Varela, Salamanca    |
| d. | EBM and guidelines                              | P E Falcoz, Strasbourg |
| e. | Critical appraisal of the literature – insights | G Varela, Salamanca    |

*16.30 – 17.00 coffee break*

### **17:00 - 18:30 Practical work**

- Searching for evidence in the literature (group working, all faculty) - PICO

**Day 2: 3 November 2016**

**08.30 - 10.00 Retrospective Studies**

- a. How to create a database P E Falcoz, Strasbourg
- b. Tips for retrospective studies G Varela, Salamanca
- c. Practical part : Set up a new database or rearrange own database

*10.00 – 10.30 coffee break*

**10.30 – 12.00: Prospective Studies**

- a. Types of clinical studies I Opitz, Zurich
- b. Phases of clinical trial I Opitz, Zurich
- c. How to set up a protocol for a clinical trial I Opitz, Zurich

***12.00 - 13.30 Lunch***

**13:30 – 16:30: Statistics 1**

- a. Descriptive and comparative statistics: L Bertolaccini, Negrar Verona
  - Binary and categorical variables
  - Continuous variables
  - Testing statistical significance
- b. Practical part: own / exemplary database

*16.30 - 17.00 coffee break*

**17.00 - 19.00: Statistics 2**

- a. Survival Analysis G Varela, Salamanca
- b. Diagnostic tests – sensitivity, specificity ROC-analysis P E Falcoz, Strasbourg

***19:30 – 22:00 Dinner***

**Day 3: 4 November 2016**

**8.30 - 10.00: Practical workshop**

- Design a study inspired by a clinical problem (all faculty, group)

*10.00 - 10.30 coffee break*

**10.30 - 12.30: Putting into practice**

- How to write a grant application

G Varela, Salamanca

**Evaluation and conclusion**

I Opitz, Zurich  
G Massard, Strasbourg

An informal lunch will be offered at 12:30