

This is to announce our next workshop: Dr. Djuro Kosanovic will give the course “Introduction into Methodology of Scientific Thinking and Logic” which is recommended for students who are **in the first stages of their studies and their scientific development**, but advanced members are, of course, welcome, too.

Title: “Introduction into Methodology of Scientific Thinking and Logic:
Use your creativity and learn how to make a valid scientific conclusion”.

Dates: Thursday, January 22nd, 2015, 9.00 a.m. – 5.00 p.m.

Venue: GGL Seminar room nr. 24, Leihgesterner Weg 52, 35392 Giessen

Trainer: Dr. Djuro Kosanovic has finished his master studies of Molecular Biology and Physiology at Belgrade University, Serbia in 2005. In 2007, he started his PhD studies at the Justus-Liebig University in the lab of Prof. Ralph Schermuly and received his title in 2011. The focus of his scientific research is in the field of Pathophysiology of chronic pulmonary diseases (such as pulmonary hypertension, lung fibrosis, COPD). Currently, he has a postdoctoral position in AG Schermuly.

Minimum/Maximum number of participants: 15

Aim: The aim of this course is to describe the basic principles of the Philosophy and Logic of Science and how to use that knowledge for the successful scientific work. This course is conceived to be interactive between lecturer and participants. Every student will have the opportunity to write a short example of valid/false conclusion and to create a short experimental design.

Content: The major topics that will be covered by this course:

- 1) What is science?
- 2) What is the crucial difference between science and knowledge?
- 3) A brief history of the philosophy of science
- 4) Scientific thinking (deductive and inductive) and reasoning
- 5) The criteria of truth (theories of coherence, correspondence and pragmatism)
- 6) How to create a scientific hypothesis
- 7) How to make a valid scientific conclusion from investigation of the nature phenomena
- 8) What is a scientific method and how to create/design an experiment (choosing the correct sample sizes and the correct controls)

Time Schedule:

09:00 – 09:15 Introduction

09:15 – 10:30 Lecturer’s presentation: Introduction into Methodology of Scientific Thinking and Logic

10:30 – 11:00 *Coffee break*

11:00 – 12:00 Lecturer’s presentation: The basic components of a scientific method

12:00 – 13:00 *Lunch break*

13:00 – 14:00 Writing down examples of valid/false conclusion(s) and designing projects

14:00 – 15:30 Student presentations and discussion I

15:30 – 15:45 *Coffee break*

15:45 – 17:00 Student presentations and discussion II

Preparation required: Think up a short experimental design (complete with hypothesis, methods, questions, answers and conclusions). This could either be based on your own project or a hypothetical project.