

MGSE SUMMER SCHOOL 2023

Dates: 12.09 -15.09.2023

Venue: Landesturnschule at Oberwerries Castle (<https://www.wtb.de/landesturnschule.html>) Hamm.

Detailed Schedule

MGSE SUMMER SCHOOL 2023

Tuesday 12.09.2023			Wednesday 13.09.2023			Thursday 14.09.2023			Friday 15.09.2023											
until 11:00			Arrival			Breakfast			Breakfast											
			7:45	8:45	60	7:45	8:45	60	7:45	8:45	60									
			8:45	9:00	15	8:45	9:00	15	8:45	9:00	15									
11:00	12:00	60	Welcome			9:00	12:00	180	9:00	10:00	60	9:00	12:00	180	Workshop by Alfredo Sánchez-Tójar	Meta Analysis (Zoom)				
			Lunch			Lunch			Lunch			Lunch								
12:00	12:45	45	Lunch			12:00	12:45	45	12:00	12:45	45	12:00	12:45	45	Lunch					
12:45	13:05	20	Imke	student presentation	12:45	13:05	20	Jonas	student presentation	12:45	13:30	45	Ozan	Talk (Zoom)	~13:00			Departure		
13:05	13:25	20	Martin		13:05	13:25	20	Dimphy		13:30	14:00	30								
13:25	13:45	20	Marcel		13:25	13:45	20	Alina												
13:45	14:00	15	Short break			13:45	14:00	15	Short break											
14:00	14:45	45	Tal Dagan	Talk	14:00	14:45	45	Joachim Kurtz	talk	13:30	15:30	120	Poster session (Angelica, Annika, Hanna, Ines, Jules, Zoe)							
14:45	15:30	45	Sophie Helaine	talk (Zoom)	14:45	15:30	45	Jan Baedke	Discussion Philosophy											
15:30	16:00	30	coffee break			15:30	16:00	30	coffee break			15:30	16:00	30	coffee break					
16:00	18:00	120	Workshop by Krishnendu Mukherjee	Epigenetics	16:00	18:00	120	Jan Baedke	Discussion Philosophy	16:00	18:00	120	Group activity							
18:00	19:00	60	Dinner			18:00	19:00	60	Dinner			18:00	19:00	60	Dinner					

	Workshop	See page 2 for more information
	Guest's talks	See page 3 for more information

WORKSHOPS

1. Epigenetic workshop by Krishnendu Mukherjee:

One of the most remarkable aspects of complex genomes is their ability to produce a wide variety of phenotypes in a highly structured and reproducible manner. Epigenetic modifications direct the formation of distinct cellular and organismal phenotypes from a common genome independent of nucleotide alterations. Epigenetics is the study of heritable changes in gene regulation caused by intercellular and extracellular environmental stimuli. In this workshop we will provide an overview of the latest epigenomic research and techniques. Lecturers will provide the necessary foundation of information on the different epigenetic mechanisms like DNA methylation and histone acetylation and epigenomics tools (such as ChIP-seq and DNA methylation analysis). The workshop will explore how different biological systems such as humans and insects achieve the correct balance between epigenome inheritance and reprogramming, and what sort of ramifications this has for developmental processes, disease etiology, adaptation, and evolution. In addition, we will explore the possibilities of developing new applications from the fundamental understanding of epigenetic mechanisms for medicine, agricultural and industrial innovations.

2. "A gentle introduction to evolutionary game theory" by Pete Csuppon:

The workshop is about the evolution of conflict and cooperation.

3. Discussion-philosophy: "Does the organism concept return in (evolutionary) biology?" by Jan Baedke:

"In the last decades, there has been a growing number of calls for expanding the explanatory scope of evolutionary theory. Advocates of a so-called Extended Evolutionary Synthesis (EES) have argued that developmental phenomena studied in epigenetics, evolutionary developmental biology (evo-devo), phenotypic plasticity research, and niche construction theory should be more seriously integrated in the standard theoretical framework of evolutionary biology. This includes that evolutionary investigations should become less focused on genes but more on developing organisms and their active, reciprocal interactions with their environments. Despite recent discussions, this debate about a novel organism-centered approach to evolution is in need of a better understanding of (i) its historical roots, (ii) the explanatory roles organisms should play in studying evolution and the upsides and shortcomings of conceptual frameworks (for organismality and biological individuality) developed, and (iii) the socio-political dimensions of past and present organism-centered accounts to evolution. These and related issues will be discussed."

4. Science Communication workshop by Tobias Zimmermann

5. Introduction to Meta Analysis by Alfredo Sánchez-Tójar

TALKS

1. **Tal Dagan** - Multilevel drift and selection in the evolution of prokaryotic plasmids
2. **Sophie Helaine** - Internal conflicts in *Salmonella* persists during infection
3. **Joachim Kurtz** - Experimental evolution in *Tribolium*
4. **Jorge Contreras-Garduño** - Female Response to Male Attractiveness
5. **Ozan Altinok** - "The Concept of Disease in Evolutionary Medicine"

The received view of disease positions the unit of care, unit of diagnosis and unit of intervention to be in parallel if not the same, following a disease essentialism. If the recent developments in biology and particularly evolutionary medicine are followed, we can have a much more socially nuanced and individualized understanding of disease. My aim is to provide the epistemic consequences of such a disease concept when it comes to deal with healthcare, and the epistemic injustices that need to be dealt with when the essentialist account of disease is in application when it comes to decision making in healthcare."