14th International Summer School 2012

Infectious Disease Epidemiology

Concepts, Methods, Mathematical Models, and Public Health

September 3 – 7, 2012

Programme (Draft)

Programme Directors:

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Institute for Innovation Transfer at the University of Bielefeld, Germany

Location: University of Bielefeld Campus

www.uni-bielefeld.de/gesundhw/ag2/summerschoolide/

List of lecturers

- Thomas Finkbeiner, MD, PhD (Centers for Disease Control and Prevention, Tanzania)
- Stefanie Helmer, M.Sc. (University of Bremen)
- Md. Mobarak Hossain Khan, PhD (University of Bielefeld)
- Alexander Krämer, MD, PhD (University of Bielefeld)
- Thomas Krafft, PhD (Maastricht University, The Netherlands)
- Gérard Krause, MD, PhD (Robert Koch Institute, Berlin)
- Mirjam Kretzschmar, PhD (RIVM, Bilthoven / UMC Utrecht, The Netherlands)
- Jürgen Kropp, PhD (Potsdam Institute for Climate Impact Research)
- Tobia Lakes, PhD (Humboldt University, Berlin)
- Rafael Mikolajczyk, MD, PhD (University of Bremen)
- Maarten Postma, PhD (University of Groningen, The Netherlands)
- Luise Prüfer-Krämer, MD, PhD (Institute for Innovation Transfer at the University of Bielefeld GmbH)
- Timo Ulrichs, MD, PhD (Koch-Metschnikov Forum, Berlin)
- Tanja Wörmann, MPH (University of Bielefeld)

Learning objectives

The International Summer School Programme Infectious Disease Epidemiology (IDE) focusses on statistical and epidemiological methods for controlling predominant health problems of the 21st century. Among the structural determinants of infectious diseases are population growth, mobility, urbanization, poverty, climate and environmental change and insufficient health care systems, which will deteriorate further with the financial crisis, political unrest and unforeseen weather events, in many parts of the world. The course will teach specific statistical methods in order to detect, and adequately respond to global and local health problems, e.g. in megacities.

The IDE course will provide a deep understanding of the special IDE concepts and methods. The participants will be enabled to manage an outbreak, to correctly create and interpret surveillance data, and to perform simple mathematical modelling for the spread of IDs as well as to use basic health economic evaluations. In addition they will know how to apply the learned concepts and methods to actual global and local public health challenges.

September 3-7, 2012

Monday, September 3, 2012

Introduction, methods, study designs and health statistics

08.30 – 09.00	Registration, welcome and introduction **(Krämer) (Common session)**
09.00 – 10.30	Challenges for infectious disease epidemiology in a global world characterised by increasing urbanisation and climate change **(Krämer) (Common session)**
10.30 – 11.00	*Coffee break*
11.00 – 12.30	Principles and methods of infectious disease epidemiology **(Mikolajczyk)**
12.30 – 13.30	*Lunch*
13.30 – 15.00	Advanced study designs in infectious disease epidemiology **(Mikolajczyk)**
15.00 – 15.15	*Coffee break*
15.15 – 16.30	**Subgroups according to knowledge:** Introduction to SPSS for data analysis and basic health statistics (**basics**) (**Helmer**)
15.15 – 16.30	Introduction to SPSS for data analysis and basic health statistics (**advanced**) (**Khan)**
16.30 – 16.45	*Short break*
16.45 – 18.00	**Subgroups according to knowledge:** Computing I: Practical exercise for computing basic health statistics (basics) **(Helmer)**
16.45 – 18.00	Computing I: Practical exercise for computing basic health statistics (advanced) **(Khan)**
19.00	*Coming together*

Tuesday, September 4, 2012

Methods and mathematical modelling

09.00 – 10.30	Study design: Bias, confounding and interpretation of epidemiological findings **(Khan) (Common session)**
10.30 – 11.00	*Coffee break*
11.00 – 12.30	Remote sensing and spatial data analysis in megacities using geographic information systems (GIS) **(Lakes) (Common session)**
12.30 – 13.30	*Lunch*
13.30 – 15.00	Introduction to mathematical modelling **(Kretzschmar)**
15.00 – 15.15	*Coffee break*
15.15 – 16.30	Practical course mathematical modelling **(Kretzschmar)**
16.30 – 16.45	*Short break*
16.45 – 18.00	Working in groups (data analysis) **(Helmer)**

Wednesday, September 5, 2012

Climate change, emerging infections, health economics, tuberculosis

09.00 – 10.30	Climate impact and other environmental stressors **(Kropp) (Common session)**
10.30 – 11.00	*Coffee break*
11.00 – 12.30	Climate change and emerging infectious diseases **(Prüfer-Krämer) (Common session)**
12.30 – 13.30	*Lunch*
13.30 – 15.00	Health economics in infectious diseases with practical course **(Postma)**
15.00 – 15.15	*Coffee break*
15.15 – 16.30	Epidemiology of tuberculosis with focus on eastern Europe **(Ulrichs)**
16.30 – 16.45	*Short break*
16.45 – 18.00	Working in groups (data analysis) (**Helmer**)

Thursday, September 6, 2012

Surveillance, viral hepatitis, Pandemic Influenza A (H1N1)

09.00 – 10.30	Global epidemiology of viral hepatitis **(Wörmann)**
10.30 – 11.00	*Coffee break*
11.00 – 12.30	Surveillance: Principles and methods / Outbreak investigations **(Krause)**
12.30 – 13.30	*Lunch*
13.30 – 15.00	Influenza / Pandemic Influenza A (H1N1) **(Krause)**
15.00 – 15.15	*Coffee break*
15.15 – 17.30	Working in groups / Preparation of presentations (**Helmer**)
19.00	*Coming together*

Friday, September 7, 2012

Practical examples, group presentations, closing

09.00 – 10.30	Global epidemiology and challenges of HIV/AIDS **(Finkbeiner) (Common session)**
10.30 – 11.00	*Coffee break*
11.00 – 12.30	Early-warning surveillance based on emergency data **(Krafft) (Common session)**
12.30 – 13.30	*Lunch*
13.30 – 15.30	Presentations of the participants **(Krämer, Prüfer-Krämer, Gruebner, Khan) (Common session)**
15.30	*Closing session*