

# IWR Summer School 2024

## Applied Modelling of Climate-sensitive Infectious Disease

### Program

| Time slot                             | Session   | Instructors  |
|---------------------------------------|---|--|
| <b>Day 1: Introduction</b>            |   |  |
| 08:30-09:00                           | <b>Registration</b>   |  |
| 09:00-09:45                           | Welcome and Official Opening. Introduction round and logistics of the applied modelling of climate-sensitive infectious disease summer course (45min) | <b>Michael Winckler and Joacim Rocklöv</b>               |
| 09:45-10:30                           | <b>Lecture:</b> Introduction to climate-sensitive diseases and modelling (45min)  | <b>Joacim Rocklöv</b>                                    |
|                                       | <b>Coffee break</b>   |  |
| 11:00-11:45                           | <b>Lecture:</b> Introduction to climate science (45min)   | <b>Stella Dafka</b>                                      |
| 12:00-12:45                           | <b>Presentation:</b> Introduction to spatial data science for climate data (45min)  | <b>Charles Hatfield</b>                                  |
|                                       | <b>Lunch</b>  |  |
| 14:00-17:00                           | <b>Computer tutorial:</b> Climate data + <b>Coffee break</b> (3h)   | <b>Stella Dafka, Pratik Singh, and Sumet Khumphairan</b> |
|                                       | <b>Reception</b>  |  |
| <b>Day 2: Statistical models</b>      |   |  |
| 09:00-10:00                           | <b>Lecture:</b> Statistical methods I (60min)   | <b>Joacim Rocklöv</b>                                    |
| 10:15-10:45                           | <b>Presentation:</b> Distributed Lag Models (30min)   | <b>Prasad Liyanage</b>                                   |
|                                       | <b>Coffee break</b>   |  |
| 11:15-12:15                           | <b>Lecture:</b> Statistical methods II (60min)  | <b>Jonas Walin</b>                                       |
|                                       | <b>Lunch</b>  |  |
| 13:15-16:15                           | <b>Computer tutorial:</b> Statistical methods + <b>Coffee break</b> (3h)  | <b>Jerome Baron, Pascale Stiles, and Prasad Liyanage</b> |
| <b>Day 3: Machine learning models</b> |   |  |
| 09:00-10:00                           | <b>Lecture:</b> Machine learning methods I (60min)  | <b>Michael Opata</b>                                     |
| 10:15-10:45                           | <b>Presentation:</b> Predicting Avian Influenza outbreaks in Europe (30min)   | <b>Michael Opata</b>                                     |
|                                       | <b>Coffee break</b>   |  |

|  |   |  |
|--|---|--|
| 11:15-12:15  | <b>Lecture:</b> Machine learning methods II (60min)   | <b>Ulrich Paquet</b>                                     |
|  | <b>Lunch</b>  |  |
| 13:15-16:15  | <b>Computer tutorial:</b> Machine learning methods + <b>Coffee break</b> (3h)                                   | <b>Michael Opata, Yichao Liu, and Peter Fransson</b>     |
|  | <b>Social event</b>   |  |
| <b>Day 4: Process-based models</b>                     |   |  |
| 09:00-10:00  | <b>Lecture:</b> Process-based models and methods I (60min)  | <b>Robert Scheichl</b>                                   |
| 10:15-10:45  | <b>Presentation:</b> Integration of climate-sensitivity in the parameterization of process-based models (30min) | <b>Julian Heidecke</b>                                   |
|  | <b>Coffee break</b>   |  |
| 11:15-12:15  | <b>Lecture:</b> Process-based models and methods II (60min)   | <b>Åke Brännström</b>                                    |
|  | <b>Lunch</b>  |  |
| 13:15-16:15  | <b>Computer tutorial:</b> Process-based models and methods + <b>Coffee break</b> (3h)                           | <b>Pratik Singh, Julian Heidecke, and Peter Fransson</b> |
| <b>Day 5: Process-based models cont. &amp; Outlook</b> |   |  |
| 09:00-09:45  | <b>Lecture:</b> Process-based models and methods III (45min)  | <b>Robert Scheichl</b>                                   |
| 10:00-10:45  | <b>Tutorial:</b> TBA  | <b>Peter Fransson</b>                                    |
|  | <b>Coffee break</b>   |  |
| 11:15-11:45  | Pitches for EU + Closing (30min)  | <b>Joacim Rocklöv</b>                                    |
| 11:45-13:15  | Networking + Lunch  |  |