# Agent-based Modeling for Disaster Management

Agent-Based Models (ABMs) are used a lot to simulate human-environmental systems. They are a natural modelling approach to simulate the human response to natural disasters. ABMs are used frequently in disaster management for different types of disasters. Researchers and decision-makers use them to understand the dynamics of disasters, understand their impact and test mitigation and response strategies. In this half-day workshop, we will show examples of the use of ABMs for disaster response planning, evacuation modelling, and developing interventions for pandemics.

Several disaster models developed by ITC will be made available for the participants to gain hands-on experience. After a short introductory lecture, participants will run example models to answer disaster-related questions. Each block will end with a discussion on the possible follow-up work.

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| Time | Activity | Presenter |
| 13:00 – 13:15 | Welcoming | Dr Irene (CDR) |
| 13:15 – 14:00 | * Introduction to Agent-Based modeling for Disaster management | Dr Ellen-Wien (GIP) |
| 14:00 – 14:30 | About Netlogo   * Short hands-on exercise * Model Examples | Dr Shaheen (GIP) |
| 14:30 – 14:45 | Break |  |
| 14:45 – 15:15 | Evacuation ABMs   * Indoor Evacuation (old ITC Building) * Hurricane Evacuation * Discussion | Dr Ellen-Wien (GIP) |
| 15:15 – 15:30 | Disease models:   * Covid-19 * Cholera * Discussion | Dr Shaheen (GIP) |
| 15:30 – 16:00 | Wrapping up |  |

**Note**:

* Prior to this workshop, participant should install Netlogo (include short instruction).
* No prior experience with ABM or Netlogo is required to follow this workshop.
* Minimum number of participants is six.