

MARS – Interdisciplinary Research on Complex Adaptive Systems

<http://www.mars-group.org/>

Contact:

Dr **Thomas Clemen** (Prof), Head of Research Group

Email: thomas.clemen@haw-hamburg.de

Selected topics:

- Decision Support Systems
- Large-Scale Agent-Based Modelling & Simulation
- Data Science
- Big Data Management

Recent fields of application:

- Urban Systems
 - Decision Support and Planning System City of Hamburg
 - Smart Logistics
 - Pedestrian Dynamics and Evacuation
 - Dispersal of Influenza by Public Transport
- Social-Ecological Systems
 - Adaptive Resilience of Southern African Ecosystems
(<http://www.ars-africae.org/>)
 - Interdisciplinary Short Course on Social-Ecological Modeling & Simulation

Selected Publications:

Lenfers, U. A., Bruggemann, R., & Clemen, T. (2017). Exploring survival strategies of African Savanna trees by partial ordering techniques. *Ecological Informatics*, 42, 14–23. <https://doi.org/10.1016/j.ecoinf.2017.08.008>

Glake, D., Weyl, J., Hüning, C., Dohmen, C., & Clemen, T. (2017). Modeling through Model Transformation with MARS 2.0. In Proceedings of the 2017 Spring Simulation Multiconference (p. 12). Virginia Beach, Virginia, USA: Society for Computer Simulation International.

Dalski, J., Hüning, C., & Clemen, T. (2017). An Output and 3D Visualization Concept for the MSAAS System MARS. In Proceedings of the 2017 Spring Simulation Multiconference. Virginia Beach, Virginia, USA: Society for Computer Simulation International.

Hüning, C., Adebahr, M., Thiel-Clemen, T., Dalski, J., Lenfers, U., Grundmann, L., ... Kiker, G. A. (2016). Modeling & Simulation as a Service with the Massive Multi-Agent System MARS. In Spring Simulation Multiconference. San Diego, CA, USA: Society for Computer Simulation International.

Linkov, I., Bridges, T., Creutzig, F., Decker, J., Fox-Lent, C., Kröger, W., ... Thiel-Clemen, T. (2014). Changing the resilience paradigm. *Nature Climate Change*, 4(6), 407–409. <https://doi.org/10.1038/nclimate2227>