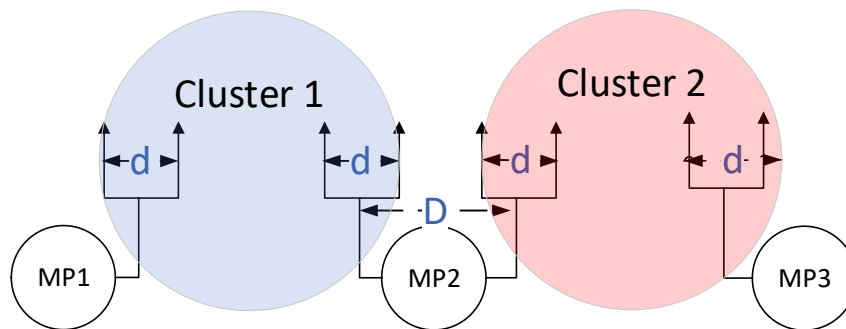


## Project: Analysis of the influence of the distance between the radio antennas on the data throughput in WMN for disaster scenario

- Setup a multi-radio WMN (Wireless Mesh Network) with 3 routers
- Configuration of the routers to work in 2 different clusters
- Throughput measurement in each cluster depending on the distance  $d$  between radio antennas of the same WLAN interface
- Throughput measurement between cluster 1 and 2 depending on the distance  $D$  between the antennas of different interfaces
- Comparison of the results with the theoretical expectations
- Contact: Auberlin Paguem - paguem@e-technik.org



## Project/Thesis: Implementation of a clustering algorithm for the automatic configuration of mesh routers in multi-radio WMN

- Implementation of the clustering algorithm according to the description in ([Paguem et al., 2020](#))
- Definition of common scenarios in the deployment of mesh routers on the disaster field
- Evaluation of the implementation based on the defined scenarios
- Requirements: Good knowledge and experience in hardware-related programming using c/c++ or python and good knowledge in Linux
- Contact: Auberlin Paguem - paguem@e-technik.org

## Project/Thesis: NSGA-II based implementation and evaluation of a multi-objective optimisation algorithm for the optimisation of the power consumption in WMN for disaster scenario

- Theoretical background on the multi-objective genetic algorithm NSGA-II (Non-dominated Sorting Genetic Algorithm II)
- Implementation of the multi-objective optimisation problem using the python library platypus or pymoo
- Definition of common scenarios
- Evaluation of the implementation based on the defined scenarios
- Requirements: Good knowledge in python
- Contact: Auberlin Paguem - paguem@e-technik.org