



NTUA- NETMODE Testbed

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NETMODE Team

Personnel

- Prof. Symeon Papavassiliou
- 7 Post-doc Researchers
- 15 PhD students
- 2 Software Engineers
- 1 Administrative Staff

Research Interests

- Wireless & Mobile Networks
- Cloud/Edge Computing
- Social/Complex Networks
- Network Tomography & Scalable Monitoring
- Network Modeling and Optimization
- Network Security
- User Behavior Profiling
- Tactile Internet
- Machine Learning

Indicative Recent Projects

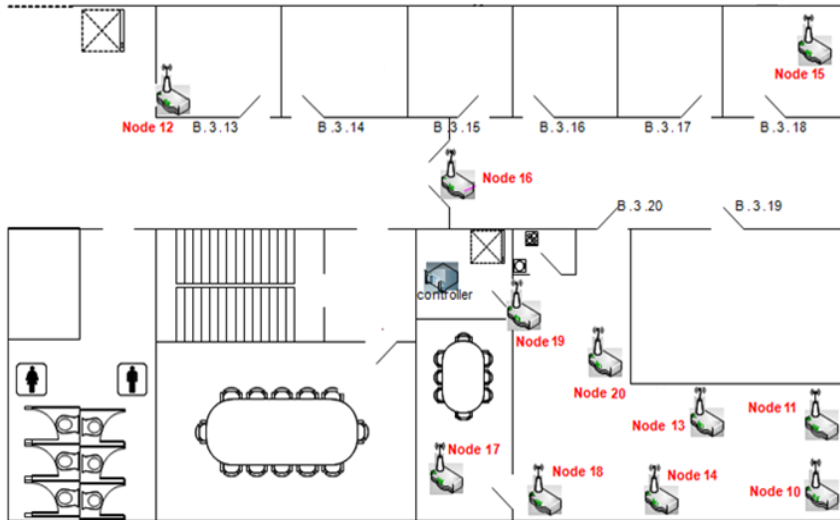


- H2020 - **Fed4Fireplus** - NETMODE Testbed, Reputation and SLA Service, Federation Ontologies, Sustainability working group, Experiment Patron.
- H2020 - **5G-HEART**: 5G Health, Aquaculture and Transportation Validation Trials – Algorithm & Tool Design, SDN & Resource Orchestration, Trial Execution, Performance Evaluation,
- H2020 - **DEMETER**: Building an Interoperable, Data-Driven, Innovative and Sustainable European Agri-Food Sector - IoT based platforms, Information Modeling & Interoperability
- General Secretariat for Research and Technology – **MESON**: Optimized Edge Slice Orchestration - Network Slice Placement and Autoscaling, Human-Robot Collaboration use case.
- Hellenic Foundation for Research and Innovation (HFRI) – **REALISM**: Rethinking Resource Allocation in Interdependent Wireless Systems - Dynamic spectrum management, data-offloading in MEC, stochastic uncertainties
- CHIST-ERA - **DRUID-NET** - Edge Computing Resource Allocation for Dynamic Networks – Modeling and Resource Allocation for IoT Applications, System and Control Theory



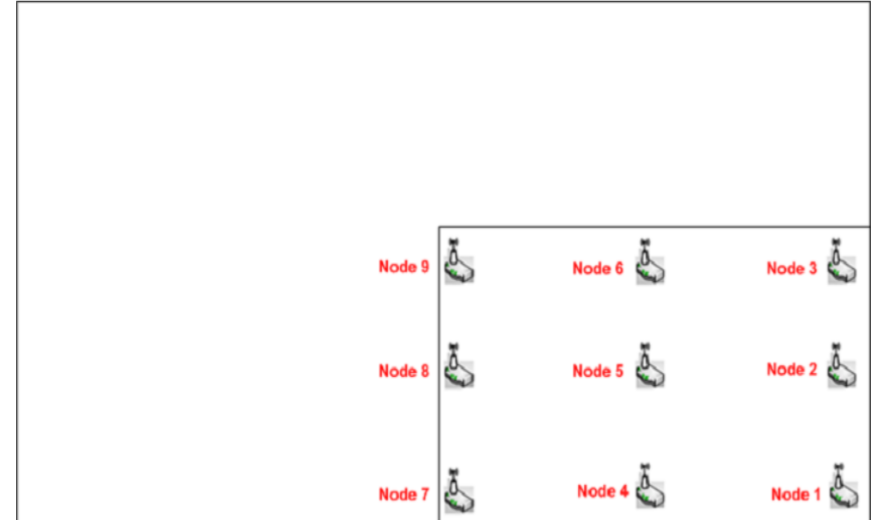
NETMODE Wireless Testbed

Indoor Testbed



Wireless Testbed Topology (3rd floor - Indoor)

Outdoor Testbed



Wireless Testbed Topology (Roof - Outdoor)

NETMODE Latest Resources

- HPE ProLiant DL360 Gen10 Servers
- Raspberry Pi 3 Model B+ devices
- Alphabot Robots
- SDN Switches (to be added soon)
- USRPs (to be added soon)
- NUC-based wireless nodes (to be added soon)
- Resource Orchestration: OSM, OpenStack, K3S

- **CHIST-ERA DRUID-NET** (Start 4/2020-Coordinator)
 - User Mobility, Indoor Positioning
 - Wireless Workload Profiling
 - Modeling of IoT applications
 - Resource allocation of IoT applications.
 - Control Co-design Methodology
 - Industry 4.0, physical disaster and smart city use cases

- **HFRI-REALISM** (Start 1/2020-Coordinator)
 - Data-offloading in Mobile Edge Computing
 - Modeling Wireless Medium Stochastic Uncertainties
 - Machine Learning for dealing with Partial Information Availability
 - Dynamic Spectrum Management (licensed & unlicensed)
 - User Behavior Modeling Under Risks

- **H2020 - 5G-HEART**(Started 6/2019)
 - Mapping of user requirements to 5G network requirements
 - Autonomic network management & network virtualization
 - Efficient & scalable network monitoring
 - Definition of network slices and resource orchestration
 - Planning of trials in transportation & aquaculture verticals
 - Feasible planning of 5G network solutions





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THANK YOU

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