



<b>Thesis Topic</b>	<b>Network Resilience (in cooperation with WEXNET)</b>
<b>Motivation</b>	New wireless area networks are shaping the future of urban innovation in smart-cities, enabling seamless connectivity and service-oriented paradigms supported by a strong infrastructure. However, service disruptions are possible when network infrastructure links fail for any reasons. Failure detection, reconfiguration and service restoration is a manual procedure that can be error-prone and time consuming. Therefore, approaches to (semi)automate such a procedure are needed to help minimize service down-time (e.g. MDT, Mean Down Time). Those approaches will ultimately enable smart-monitoring and management of network failures.
<b>Tasks</b>	The thesis will address how to deal with switched and routed network failures in dynamic meshed network topologies (network discovery, fault detection, reconfiguration to mitigate network failures, etc.), in order to minimize the downtime, considering both automatic and semi-automatic recovery procedures. The student will survey the related literature and develop methods, models and tools required to solve the issue. He/she will also have the opportunity to work in a lab on real equipment.
<b>Prerequisites *</b>	Basic courses on computer science and network engineering. Good grades achieved in related exams. Availability to work in Wexnet lab (Växjö) part of the time. Good motivation and ability to work on real equipment. Knowledge of current network protocols would be a plus.
<b>We offer you</b>	<ul style="list-style-type: none"><li>• <u>Preliminary meeting to clarify objectives and requirements.</u></li><li>• Support materials and lab equipment necessary to perform the required tasks.</li><li>• Fruitful industry cooperation opportunity.</li></ul>
<b>Time frame</b>	-
<b>Supervisor(s)</b>	LNU supervisors TBD. Industry co-supervisors from WEXNET.  For further information, please contact: <ul style="list-style-type: none"><li>• Dr. Francesco Flammini, Master Thesis Coordinator, <a href="mailto:francesco.flammini@lnu.se">francesco.flammini@lnu.se</a></li><li>• Dr. Diego Perez Palacin, Bachelor Thesis Coordinator, <a href="mailto:diego.perez@lnu.se">diego.perez@lnu.se</a></li></ul> Department of Computer Science and Media Technology