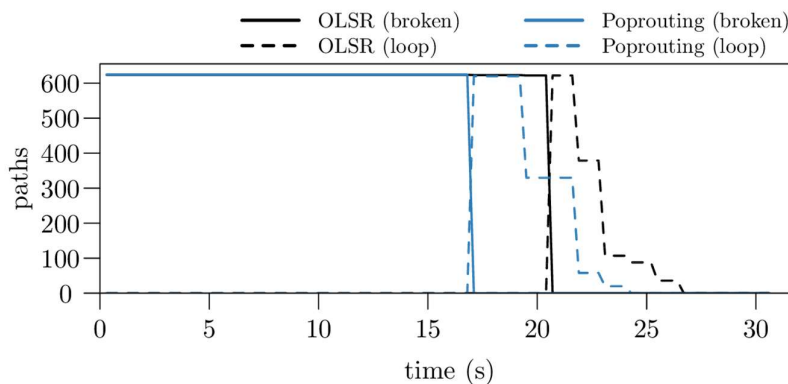
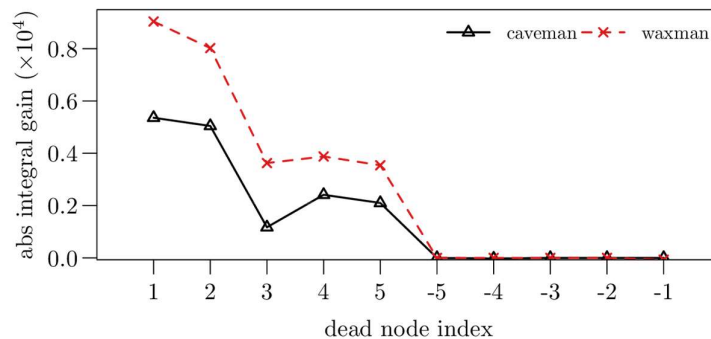


### POPROW: Pop-Routing on WiSHFUL

- Advanced Networking Systems lab, Department of Computer Science and Information Engineering, University of Trento: <http://ans.disi.unitn.it>.
- Goals: The goal of POPROW is to test and enhance “Pop-Routing”, a technique for wireless mesh link-state routing protocols that tunes the generation frequency of control messages independently for each node as the result of real-time graph analysis performed on the network topology. Pop-Routing makes it possible to reduce the routing tables convergence time after a failure, and represents a novel approach to guarantee network scalability in mesh networks.
- Main Challenges: To deploy Pop-Routing in a real network environment after it was previously tested in emulated environment. To verify the effectiveness of Pop-Routing in a context that presents all the complex interaction of a real network, and are hidden in an emulated one. To stabilize the code in order to make it suitable for production networks.
- Main Results:



The convergence time of shortest paths for OLSR and Pop-Routing upon node failure.



The Gain in convergence time averaged on multiple failures on the several nodes.

- Conclusions: WiSHFUL has been essential to make the code-base of Pop-Routing more stable, spot several bugs that were present in the code and make it close to production-state. It also raised several issues and opened new research directions that would have been otherwise not possible to foresee. The results are at the base of three publications submitted and under revision at the end of the project.
- Feedback: The step from emulation/simulation to a real-world solution is extremely challenging and requires resources. WiSHFUL was important for our research because it made it possible for us to do a key step in this direction sparing us the tremendous effort needed to set-up a real testbed.