



### PhD topic #10: **Security in future SDN and NFV-enabled communication systems**

Experts in networks and information systems estimate that traditional networks can no longer handle next generation technologies such as 5G, Big Data, IoT, Mobility and Cloud Computing. To meet the growing needs in terms of services, new technologies such as Network function virtualization (NFV) and Software-defined networking (SDN) have emerged. Software defined networks (SDNs) represent new centralized network architecture that facilitates the deployment of services, applications and policies. However, SDN architectures suffer from many security issues. The aim of this thesis is to focus on SDN's security issues and to explore the new SDN paradigms associated with these future communication technologies. To do so, the candidate must perform intrusion and attacks analysis on future communication infrastructure enabled by SDN and NFV and propose suitable detection and protection mechanisms.

- The doctoral candidate will be supervised by Dr Mohammed Boulmalf and Dr Karim Zkik.
- Applicants must have a Master (or equivalent) in information system security, telecoms, computer science or equivalent field.
- Good skills in networking and security and a good command of English are required. Basic knowledge of machine learning and prior research experience are viewed positively but are not necessary.
- Applications should be emailed to [ticladmin@uir.ac.ma](mailto:ticladmin@uir.ac.ma) and [doctorat@uir.ac.ma](mailto:doctorat@uir.ac.ma)