

# Privacy and Security for Mobile Cooperative Devices

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**Timetable:** 12 hrs. First Lecture on June 24, 2014, 09:00 (dates already fixed, see the calendar), Torre Archimede, Room 2BC/30.

**Course requirements:** Basic notions of Networking and Security are desirable.

**Examination and grading:** Final project.

**SSD:** INF/01 - Computer Science

**Aim:** the course will provide an introduction to a selection of research topics in privacy and security, with a focus on wireless networks.

**Course contents:** the course will be based mainly on the content of the book by Buttyan et al. [1]:

Part I Introduction

1. Existing Wireless Networks
2. New Wireless Networks and New Challenges
3. Trust

Part II Thwarting Malicious Behavior

4. Naming and Addressing
5. Establishment of Security Associations
6. Securing Neighbor Discovery
7. Secure Routing in Multi-Hop Wireless Networks
8. Privacy Protection

Part III Thwarting Selfish Behavior

9. Selfish Behaviour at the MAC layer of CSMA/CA
10. Selfishness in Packet Forwarding
11. Cooperation among Operators
12. Secure Protocols for Behavior Enforcement

Additional material (recently published research papers on the topic) will be provided during the lectures, and selected also according to students' interest.

[1] *Security and Cooperation in Wireless Networks: Thwarting Malicious and Selfish Behavior in the Age of Ubiquitous Computing*. Levente Buttyán and Jean-Pierre Hubaux. Cambridge University Press New York, NY, USA, 2007. ISBN:0521873711 9780521873710.