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# Mobile Networks

**2018/2019**

**Course presentation**



**Universidade do Minho**

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# Contacts

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- **Blackboard**
  - <https://elearning.uminho.pt>
  - Materials, exercises, announcements, assessment, ...
- E-mail: [adriano.moreira@dsi.uminho.pt](mailto:adriano.moreira@dsi.uminho.pt)
- Tel: 253 510 305
- Office availability:
  - Tuesday, 17h00 – 19h00
  - Wednesday, 14h00 – 18h00(previous arrangement by e-mail)

# Objectives/learning outcomes

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- Become aware of the fundamentals and technologies used in mobile communication networks, including transmission, propagation and reception of radio signals, network architectures, services, security, and some social implications of mobile networks.
- Understand the architecture of cellular mobile networks, and relate its components with the functionality they provide to the system, with emphasis in European networks.
- Get to know the architecture and services of satellite-based mobile networks.

# Objectives/learning outcomes

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- Describe the architecture, the protocol stack, and the services of wireless personal and local area networks, as well as of other short range wireless links.
- Describe the several types of mobile and wireless networks from the point of view of their functionality, discuss their complementarity, and explain how they evolve over time.
- Select the network services the most appropriate for a particular application in a mobile context.

# Syllabus (top level)

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1. Fundamentals of radio communications
2. Fundamentals of mobile networks architectures
3. Terrestrial cellular mobile networks
4. Other mobile networks
5. New trends in radio-based communication networks

# Assessment

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- Weekly exercises (25%)
- Laboratory project (25%):
  - Report: 25.05.2019
  - Presentation: 28.05.2019
- Written exam (50%,  $\geq 8,0$ ): 21.05.2019