

# Telecommunication

Scott Fowler

Mobile Telecommunications  
Department of Science and Technology  
Linköping University, Norrköping, Sweden  
Email:scott.fowler@liu.se

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# Outline of Talk

- ▶ Little about me
- ▶ Little About Key people
- ▶ Present Research - Division Mobile Telecommunication (MT)
- ▶ Possible Research

# About Me

- ▶ I am Associate Professor
- ▶ I am Canadian
- ▶ Studied in North America
- ▶ PostDoc in England
- ▶ Now I am living in Sweden!!! 🎵🎵



# Key People



Figure: George Baravdish –  
Mathematics



Figure: Fredrik Persson  
– Production  
Econ./Constr.  
Logistics



Figure: Tobias Andersson Granberg –  
Quantitative Logistics

# Research Topics at MT

- 5G
- Reliability
- Scalable network management
- Indoor/Outdoor Wireless Networks
- Smart Objects' M2M-based Networking
- Real-time Vehicle Traffic Estimation via Wireless Communications
- Network Planning and Optimization in Broadband Mobile & HetNets
- Energy-efficient Network Design in LTE with QoS Assurance
- Optical Wireless Communications
- Fundamental Capacity Optimization of Wireless Communications
- LTE Tracking Area Optimization
- Real-Time Monitoring of Available Bandwidth in Core Networks
- Resource Optimization in Ad Hoc and Wireless Mesh Networks
- Opportunistic Probabilistic Forwarding in Ad Hoc Networking

2016

2006

# Research Funding - National



- Swedish Research Council (VR)
- Swedish Governmental Agency for Innovation Systems (VINNOVA)
- Swedish Foundation of Strategic Research (SSF)
- Swedish Transport Administration (TRAFIKVERKET)
- Excellence Center in Linköping-Lund in Information Technology (ELLIIT)

# Research Funding - National



- RERUM
- SOrBet
- MESH-WISE

IoT / Smart Objects  
Smart Cities apps  
MESH/Smart Cities

- COST Actions (IC1101, IC0902, 2100, 293)

- WINDOW
- DETERMINE

Top quality internationalization:  
2 of the C9 League Universities

- FUTURE MOBILITY
- MODE
- MMS

Smart Cities  
Transport Analytics

- DECADE
- WIVI
- ACT5G

NEW H2020 Grants for PhD training

- LTE-BE-IT – Scott Fowler
- Career-LTE – Di Yuan

EU Marie Curie Personal, Excellence-based grants

# Top International Collaborations (w. joint paper/project)

- Politecnico di Milano (Italy)
  - Zuse Institute Berlin (Germany)
  - Institut Telecom, Telecom Bretagne (France)
  - University of Bergen (Norway)
  - Foundation for Research and Technology (FORTH) (Greece)
  - Technical University of Warsaw (Poland)
  - University of Paris-Est Creteil (France)
  - Instituto de Optica Daza de Valdes, C.S.I.C., (Spain)
  - Aston University (UK)
  - University of Sheffield (UK)
  - University of Murcia (Spain)
  - University of Parma (Italy)
- Europe
- University of California Berkley
  - University of Maryland
  - University of Kentucky
- USA
- Xi'an Jiaotong University (China)
  - Huazhong University of Science and Technology (China)
  - Institute for Infocomm Research (Singapore)
- Asia



# Present Research at MT

- ▶ Investigate Green Network - Energy/Power
- ▶ Evaluate protocols - Network Behaviour
- ▶ Intelligent Transportation Systems - ITS
- ▶ Optimization: Routing, Allocation of Resources
- ▶ Cloud
- ▶ QoS/QoE
- ▶ Wireless, WMN, Adhoc
- ▶ Cognitive radio
- ▶ IoT
- ▶ Tracking

# Possible Research funding agency

- ▶ Horizon 2020
  - ▶ EU-JAPAN initiative
  - ▶ Industrial–SME or bigger
  - ▶ Societies–Ex. Border Security and External Security (BES)
- ▶ MSB
- ▶ Vinnova

Thank you for your attention  
Questions or Comments?