CENTRE FOR WIRELESS COMMUNICATIONS
- Networks and Systems (NS) -
- Radio Technologies (RT) -

Prof. Jari Iinatti
Head of CWC – NS (Networks and Systems)
CWC in Brief

- Research and teaching staff: ~ 130
- Total funding ~ 9 M€ / year:
  - 75% external research funding
  - 25% university budget funding
- Research organised under the Centre for Wireless Communications (CWC) – CWC since 1995
  - CWC – Radio Technologies (Prof. Matti Latva-aho)
  - CWC – Networks and Systems (Prof. Jari Iinatti)
- An international research and working environment
  - High-quality theses and dissertations
  - Peer-reviewed publications
  - Research results to be utilised by research partners in their R&D
  - IPRs
- Master- and doctoral-level training in Wireless Communications Engineering (WCE)
Wireless Medical Communications (WiMeC) for “Challenges and Future Directions in Medical Device Regulatory Science (MDRS)”

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Wireless Medical Communication: WiMeC

**Research Contributions:**
- Dual use in homes and institutions
- Assumptions and channel models for WBAN
- Performance evaluation of ultra wideband receivers
- Low-power MAC protocols for low data rate WBANs
- Dependable WSN networks
- Robustness, security and secrecy
- Antennas, including in on-body and implanted
- Body tissues and radio frequency
- Thermal effects and safety margin
- Environmental challenges in medical WBANs
- Occupancy measurements and modelling
- On-body and in-body communications
- Overall access from WBAN to database
- Location tracking
- Nanoscale communications
- Mobile clouds for medical ICT
- Visible light communication for medical ICT
- Contribution to ETSI TC SmartBAN

**Future Trends**
- Continuing the basic forms
- Boost for WBANs (and UWB)
- Small particles (inside human)
- Large (dense) networks

⇒ Effects for regulations with medical experts

WBAN is the key element
Thank You