

# CURRICULUM VITAE

## 1 PERSONAL DATA

Surname: Korhonen  
Given Names: Timo Olavi  
Date of Birth: August 8, 1960  
Nationality: Finnish  
Present Position : Adj. Prof/ Docent/Lecturing Researcher,  
Department of Communications and Networking  
(Comnet), Faculty of Electronics, Communications  
and Automation (ETA), Helsinki University of  
Technology (TKK), Espoo, Finland  
Academic Degree: Adj. Prof/Docent, TKK '05  
D. Tech , TKK '99  
MSc Eng, Tampere University of Technology '90  
BSc Eng, Technical Institute of Turku '86  
Homepage: <http://www.comlab.hut.fi/users/tko/>

## 2 MORE SIGNIFICANT POSTS IN BRIEF

All listed posts include supervision/instructing of MSc and PhD students and teaching as detailed in this CV.

**1999(1.7)–2001(31.12)** Associate Professor of Telecomm. (TKK)  
Research in RF channel modeling algorithms and measurements in SYTE–  
project funded by TEKES. Project board member and leader in  
Communications Laboratory.

**2002(1.1)–2004(31.12)** Associate Professor of Radio Comms. (TKK)  
**2005(1.1)–2005(31.12)** Docent of Telecommunication Systems (TKK)  
Leading power–line communication project: LED/PLC–Project, funded by  
Academy of Finland in Communications Lab. Research work in optical  
communications: OCDMA– project funded by Academy of Finland.

**2006(1.1)–2006(31.7)** Associate Professor of Radio Comms. (TKK)  
**2006(31.7) –** Adj. prof of Telecommunication Systems (TKK)  
Leading research work in user centric design in Communications Lab:  
WomEqual–project funding by ESR and CHI–FIN UBI–SERV (User–centric  
Design of Ubiquitous Welfare and Safety Services and Supporting  
Technologies for China and Finland) 2009–2011, Power–line– and optical  
communications (LED–PLC Project leader in Communications Lab)

### 3 SUPERVISION OF DOCTORAL THESIS

- Naser Tarhuni: Fiber-Optic Code Division Multiple Access: Multi-Class Optical Orthogonal Codes, Optical Power Control, and Polarization Encoding. Completed 2007
- Jianwei Wang: Studies in Cross-Layer Design, Peking University, Completed 2008
- Liu Er: Capacity and MAC-layer Realizations for PLC-networking, about 40% completed.
- Marita Seppänen, Argumentation in Pedagogy about 60 % completed

### 4 PROJECTS

- ACCESS 1999-2000 (Architectures of Access Networks)
- SYTE 1999-2002 (System Technologies for Future Telecommunications)
- LED/PLC 2003-2006 (Modular LED-PLC Lighting System)
- WOMEQUAL 2006-2007 (Web-community for Women Equality)
- CHI-FIN UBI-SERV 2009-2011 (User-centric Design of Ubiquitous Welfare and Safety Services and Supporting Technologies for China and Finland )

### 5 SIGNIFICANT TASKS OF SCIENTIFIC EXPERTISE

#### REVIEWER AND OPPONENT FOR PHD THESIS

2000 Haifeng Wang: Advanced Multiuser Receiver for CDMA Communications, Tampere University of Technology

2005 Vinh V. Phan: Smart Packet Access and Call Admission Control for Efficient Resource Management in Advanced Wireless Networks, University of Oulu

#### EXPERT EVALUATIONS

-2006 Expert Evaluator & Rapporteur for EU in FP6

#### CONFERENCE SESSION CHAIRING AND COMPARABLE TASKS

- WPMC'00 Invited Mobile IP Panelist
- ICC'01 **TPC vice chair**, session chair and session organizer
- ICC'02 session chair (OFDM-technologies)
- WPMC'02 Session organizing and chairing for two sessions
- FWCW'02 **TPC chair** and session organizer
- WPMC'04 session chair (CDMA-technologies)

- PIMRC'06 session chair
- ICC'06 Round Table Panelist: Challenging ahead in Wireless Sensor Networks
- UBI-HEALTH'10 TPC Chair

#### SCIENTIFIC BOARD ACTIVITIES

- 2001 – Wireless Personal Communications (editorial board member)
- 2002 – Swedish Research Council (reviewer)
- 2005 – IEEE P1901 PLC Standardization Workgroup
- 2005 – IEEE ComSoc Emerging Technical Committee  
Broadband Over Power Lines (<http://www.comsoc.org/bopl/>)

#### REVIEWER FOR SCIENTIFIC PUBLICATIONS

- 1999 – IEE Communications Proceedings
- 2000 – IEEE Transactions on Communications
- 2001 – Wireless Personal Communications
- 2002 – IEE Electronics Letters
- 2002 – IEEE Transactions on Wireless Communications
- 2006 – International Journal of Communication Systems (Editorial board)
- 2008 – IEEE Journal on Selected Areas in Communications

#### TECHNICAL PROGRAM COMMITTEE MEMBERSHIPS IN INTERNATIONAL CONFERENCES

ISCAS '00, FWCW'01,'02, ISPLC'05–'07, ICC'01–'07, Globecomm '01, '02,'05–'09, WPMC '00,'01, '02 '05, '09; IWS'05, WCNC'05

### 6 LECTURED COURSES 1992–2009

- S-72.227 Digital Communication Systems
- S-72.244 Modulation and Coding Methods
- S-72.700 Code Division and Orthogonal Multiplexed Systems
- S-72.1130 Telecommunication Systems (S-72.423) \*
- S-72 1140 Transmission Methods in Telecommunication Systems (S-72.245) \*
- S-72.1510 Human Centric Telecommunications \*
- S-72.2510 User Centric Design of Telecommunication Services \*
- S-72.2530 Acceptability and Quality of Service (responsible teacher and participated to course design)
- S-72.3510 Product Development of Telecommunication Systems (S-72.124) \*

\* Running currently

## 7 MSC THESIS INSTRUCTION AND SUPERVISION 1999–2009

*TKK/Communications Laboratory*

*(I: Instructor, S: Supervisor)*

- Aari Aino: Improving a Traffic Generator and Analyzer Test Tool for Media Gateway (S), Themes = network technology
- Aarnikoivu Samiseppo: Performance evaluation of DSP real-time operating systems in UMTS network (S), Themes = signal processing, network technology
- Abdel-rahman Muawieh: Network Management System Support for Traffic Balancing for WCDMA (S), Themes = network management
- Ahopelto Jaakko: Web Bank's Usability (S), Themes = webbank, user-centered design, usability
- Alho Ville-matti: IP-based video surveillance (S), Themes = network technology, video surveillance
- Alonso Sergio Alvir: Performance of Decision Feedback Equalizer for Wideband TDMA (S), Themes = network technology
- Bilal Osama: Interface and Modem Technology in PLC-networks, PhD study (S,I), Themes = network technology
- Bourges Vincent: Using Bluetooth Technology for Crane Controls (S), Themes = network technology
- Chomchuen Nitayaruk: 3G-GPRS GTP Protocol Robustness Testing (S), Themes = network technology
- Efe Baris: DSP Echo Canceller for a Media Gateway (S), Themes = network technology
- Ehoniemi Sami: Performance Of Multimedia Services In Mobile Networks (S), Themes = network service testing
- Eisenmann Gerald: Simulation Model for an Optical, Exponentially Modulated Spread Spectrum System (I), Themes = signal processing, network technology
- Elemo Henri: Defining Software Configuration Management for Product Development (S), Themes = Software Change and Configuration Management, Version Control System

- Erke Tuomas: Failure Spread in Redundant UMTS Core Network (S), Themes = mobile network
- Fernandez Anna: Meeting Users Requirements in Virtual Organizations (S,I), Themes = Virtual Organizations, Knowledge Management, Collaboration Tools, Metadata, Usability
- Forsten Mikael: Optimizing Ethernet Access Network for Internet Protocol Multi-Service Architecture (I), Themes = network technology
- Gao Peng: Rake Reception for WCDMA, Lich. Tech. study (S), Themes = mobile network
- Gao Yangpo: Measuring and Characterizing properties of PLC-networks (S,I), Themes = power-line communications, network technology
- Grüber Ralf: Planning and Programming Data Acquisition Equipment for a Wideband Mobile Channel Measurement System (I), Themes = signal processing, wideband channel modeling
- Harju Marita: Benchmarking Process as a Part of Risk Identification (S), Themes = risk management, usability testing, mobile devices
- Heino Aleksi: Battery Life Time Measurements Techniques and System for GPRS and WCDMA (S), Themes = mobile network
- Helsten Tiina: Testing Audio-visual Quality of Smart phones (S), Themes = audio-visual quality, software testing, smart phones, subjective quality, objective quality, audio quality, image quality, video quality
- Henttonen Teppo: Telecommunication Network Planning Guides for Paper and Pulp Industry Sites (S), Themes = industrial network planning
- Horani Hafeth: Software Integration on Network Platform (S), Themes = software integration
- Hyytiäinen Maria: User experience and development in network community (S,I), Themes = user experience in communities
- Isotalo Niko: Proactive fault management in mobile core network (S), Themes = network fault management
- Jauhiainen Juha-Pekka: Network service related studies (S), Themes = network services

- Jossas Juha: Managing organizational change in enterprise resource planning system implementation (S), Themes = organizational change management
- Jääskeläinen Jukka: Performance Evaluation of Software ciphering in UMTS radio network controller (S), Themes = network security
- Kariola Mikko: Defining the Horizontal Customer Interface of the DX 200 Platform (S), Themes = horizontal business models, production management, DX 200 development
- Koivuniemi Kari: The Effect of Virtual Enterprises on Business-to-Business Integration (I,S), Themes = Virtual enterprise, business-to-business integration, intelligent routing solution
- Kolm Tanja: Early Fault Finding in Mobile Media Gateway (S), Themes = fault management, telecommunication technology
- Kuivalainen Mats: Interfacing product data management system (S), Themes = product data management, product data exchange
- Kuusinen Anni: Human stereopsis, stereoacuity and web-based test for assessing stereo threshold (S), Themes = usability studies
- Kuusinen Kati: Integrating Human-centered Design into Product Development Process (S), Themes = product development process, user centric design
- Laine Janne: Evaluating The Business Value of Information Technology (I), Themes = evaluation and management of the value in ICT investments, business analysis
- Liu Er: Capacity and MAC-layer Realizations for PLC-networking, PhD study (S,I), Themes = network technology
- Makipezele Gibson, Simulation of Optical Networks, Lich Tech study (I,S), Themes = network technology
- Mattila Henri: Increasing Web Site's Conversion Rate By Fixing Usability Problems (I,S), Themes = usability, e-business, e-commerce, user experience, Internet marketing, web analytics, web site optimization
- Mikkola Jyrki: Planning GSM for Intranets (S), Themes = network technology
- Nevalainen Jouni: Design of User Interface for Net Supported Educational Environment of Statistics (S), Themes = usability

- Nordström Kari: Security in Application Integration (S), Themes = business-to-business integration, enterprise application Integration
- Nykänen Mikko: Innovative Design of General Lighting LED Luminaries (I,S), Themes = product concept creation and verification, business value, ideation techniques, LED, PLC
- Ore Ivan: Investigations on Indoor WLAN Handover Algorithms (S), Themes = signal processing, network technology
- Orrainen Antti: Communications Design for Relay Elevators and Escalators in a Distributed Monitoring and Control System (S), Themes = network technology
- Pahkala Severi: Media Galleries in Mobile Devices – Guidelines for Aiding Future Products Decisions (S), Themes = user centric design
- Paichard Yoann: Modeling WCDMA Radio Resource Management using Measured Topology Maps (S), Themes = radio resource management
- Pesonen Mikko: Efficiency of Regression Testing (S), Themes = software testing, network technology, media gateway
- Pietarinen Lauri: Wireless LANs in Broadband Access (S), Themes = network technology
- Pohja Leena: Distributed Licensing Framework For 3G Core Networks (S), Themes = network security
- Punkari Paavo: Developing offshored incident management process (S), Themes = outsourcing, offshored incidence management
- Qi Yulin: Indoor Network Planning for IEEE 802.11 Based WLANs (S), Themes = network technology
- Rahman M. Abdel: Network Management System Support for Traffic balancing in WCDMA (S), Themes = network management
- Raitakari Ilona: Unified Communications (UC); Converging ICT Infrastructures for Enterprise e-collaboration (S), Themes = unified communications, session initiation protocol, user centric design
- Ran He: E-leadership Strategy in Virtual Organizations and Virtual Teams (I,S), Themes = virtual organization, leadership

- Relas Asko: Developing Intranet Portals: A Usability Perspective (I), Themes = usability, user interfaces
- Rong Guo: OFDM Techniques in MIMO Systems (I,S), Themes = signal processing, network technology
- Saarenpää Jouni: E-learning course production process analysis (S), Themes = e-learning, user centric design
- Sainio Jaska: Impact of Evolving 3GPP Specifications on WCDMA base transceiver station protocol testing (S), Themes = network technology
- Salminen Juha: Feasibility of Quality of Service in GPRS Network (S), Themes = network technology
- Salonen Antti: Video Broadcasting Using Digital Subscriber Line Technology (S), Themes = video transmission, network technology
- Samdani Golam: Power-line Communications in Home Networking (S,I), Themes = power-line communications, network technology
- Savolainen Ilmo: Benchmark-Testing of Network Management System (S), Themes = network management
- Sen Nie: Performance Tests for SCTP Stream Control Transmission (S), Themes = network technology, protocol study
- Siiki Sami: Studies in GPRS EMC Problems (S), Themes = network security, network technology
- Smura Timo: Economic Feasibility Of Point-To-Multipoint Fixed Wireless Access Networks (S), Themes = economic modeling
- Stjerna Jori: The Destination Control System in Japan And China (S), Themes = system economics, service feasibility, cultural service adaptation
- Sällström Jan: Redundant corporate intranet realization (S), Themes = network technology
- Sääntti:Petra: Developing Corporate Knowledge Management Through Social Media (S), Themes = organizational development, social media
- Tarhuni Naser: Fiber-optical Code Division Multiple Access, Lich Tech study (I,S), Themes = network technology
- Tarhuni Naser: Optical Networking by CDMA, PhD study (I,S), Themes = network technology



- Timonen Jussi; Applying Security To User Plane Traffic In Mobile Communications Networks (S), Themes = network security
- Triebel Guido: Data Processing and Analysis Software of a Wideband Mobile Channel Sounder (I), Themes = signal processing, wideband channel modeling
- Törrönen Heikki: Investigations on Fiber Optic Cable cut-off Wavelength Measurements (S), Themes = signal processing, network technology
- Utriainen Juha: Universal Terrestrial Radio Access Network Operation System Security (S), Themes = mobile network
- Wallström Magnus: Automation of Mobile Radio Network Performance and Fault Management (S), Themes = mobile network
- Valtanen Jukka: Transport Formats in UMTS Radio Network Controller's Software Implementation (S), Themes = mobile network
- Valtonen Miia: Designing a self care application for subscriber services on converging networks (S), Themes = network service design, usability
- Vartiainen Juha: Progressive ICT-Services on Trains (S,I), Themes = telecommunication service development, intelligent transport systems
- Winter Juha: Integrating Echo Cancellation Software with DSP Hardware for Mobile Switching Center (S), Themes = network technology
- Väkiparta Iikka: Design of easy to use and safe multi-user web application (Helppokäyttöinen, tietoturvallinen monikäyttäjäjärjestelmä), CASE: Veturin Cup Finland Intranet (S), Themes = user centric design, network security
- Xiao Li: Multi-Channel MAC for Power Line Communication Ad Hoc Networks (S), Themes = power-line communications, network technology
- Xu Jing: Comparing GSM, UWB and DMT Techniques for RF-LANs and Next Generation Networks (S), Themes = network technology
- Xueli Jin: Mobile emulator technology: S60 Platform Software Development Kit for Symbian OS (S), Themes = signal processing, network technology
- Zhou Hui: Discrete Multitone Link Adaptation, Lich. Tech. study (S,I), Themes = signal processing, network technology

- Öörni Risto: Economic feasibility of road and public transport ITS applications in Finnish conditions (S), Themes = economic feasibility, intelligent transport systems

## 8 BSC THESIS INSTRUCTION 2008–2009

- Aaltonen Atte: Käyttäjäkeskeisten etäterveydenhuoltopalvelujen suunnittelu ikäihmisille
- Apajalahti Lauri: Käyttäjäkeskeisen metodiikan valinta eri sovellutuksille
- Arminen Lauri: Femto-cell tekniikka
- Kiiskilä Mikko: Yrityksen intranet työkalun käyttäjäkeskeinen tuotekehitys
- Kuikka Sanna: Virtuaaliorganisaation strategian käyttäjäkeskeinen suunnittelu
- Laaksonen Paavo: Design for all – konseptisuunnittelu
- Lappalainen Markus: Skenaario ja vuorovaikutuksen kuvaukset lääketieteellisten laitteiden kehityksessä
- Pulkkinen Ilari: Käytettävyydestutkimuksen yksiselitteisyys
- Rinne Henri: Sovellutuksen käytettävyyden arviointi ja parantaminen
- Rinne Pauli: Verkkopalvelujen käyttöliittymien etusivut esteettömän suunnittelun näkökulmasta
- Rämänen Jussi: Anestesia-laitteen vaatimusten käsittely ja käytettävyydestutkimuksen tulosten siirtäminen tuotteeseen
- Seikola Marko: Node Manager –käyttöliittymän testiautomaatio
- Tulensalo Maria: Virtuaaliorganisaation laatujärjestelmän kehittäminen