

# 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, Globecom '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 Celler 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 Aleksii: 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
- Jauhainen 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 (Design of Remote Health-care Services for Elderly)
- Apajalahti Lauri: Käyttäjäkeskeisen metodiikan valinta eri sovellutuksille (Application Specific Selection of User Centric Design Methodology)
- Arminen Lauri: Femto-cell tekniikka (Overview to Femtocell Techniques)
- Kiiskilä Mikko: Yrityksen intranet työkalun käyttäjäkeskeinen tuotekehitys (User-centric Design for an Intranet-tool)
- Kuikka Sanna: Virtuaaliorganisaation strategian käyttäjäkeskeinen suunnittelu (Design of Strategy for Virtual Organization using User-centric Approach)
- Laaksonen Paavo: Design for all – konseptisuunnittelu (Applying User Centric Design Approach for Design for All)
- Lappalainen Markus: Skenaario ja vuorovaikutuksen kuvaukset lääketieteellisten laitteiden kehityksessä (Usage of Scenarios and Interactions in Development of Medical Equipment)
- Pulkkinen Ilari: Käytettävyytutkimuksen yksiselitteisyys (Uniqueness of User Centric Design)
- Rinne Henri: Sovellutuksen käytettävyyden arviointi ja parantaminen (Usability Evaluation)
- Rinne Pauli: Verkkopalvelujen käyttöliittymien etusivut esteettömän suunnittelun näkökulmasta (Accessibility Design of First Page)
- Rämänen Jussi: Anestesia-laitteen vaatimusten käsittely ja käytettävyytutkimuksen tulosten siirtäminen tuotteeseen (Usability Design of Anesthesia Device)
- Seikola Marko: Node Manager –käyttöliittymän testiautomaatio (Test automation of Node Manager)
- Tulensalo Maria: Virtuaaliorganisaation laatu-järjestelmän kehittäminen (Development of Quality System for Virtual Organization)

## LIST OF PUBLICATIONS

### 1 PERSONAL DATA

Surname: Korhonen  
Given Names: Timo Olavi  
Date of Birth: August 8, 1960  
Nationality: Finnish  
Present Position : adj. Prof/ Docent/Lecturing Researcher in  
Telecommunication Systems, Communications  
Laboratory, Department of Electrical and  
Communications Engineering, Helsinki University of  
Technology, 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/>

### PEER REVIEWED SCIENTIFIC PAPERS

1 X. Wang, and T. Korhonen, "Barriers of Implementing Applicable Remote Health Care System in China" in World Congress on Medical Physics and Biomedical Engineering, (Munich, Germany), IFMBE Proceedings, Springer, 2009, pp. 318–321.

2 Vesa Riihimäki, Timo Korhonen, Tapio Väärämäki: Technoeconomical Inspection of WiMAX Based High Speed Internet Connection for Trains, IET Intelligent Transport Systems, p. 322–331, March 2008

3 Tapio Väärämäki, Timo Korhonen, Edward Mutafungwa: Wireless Telecommunications in Railways – Case Flash-OFDM, Journal of Rail and Rapid Transit '07, pp. 122–129, 2008

4 Jianwei Wang, Timo Korhonen, Yuping Zhao: Cross Layer Optimization for Fairness Balancing Based on Adaptively Weighted Utility Functions in OFDMA System, Int. Journal. of Comp., Information, and Systems Science, and Eng. , Number 4, Vol 1, 2007, p. 262–267.

5 Naser Tarhuni, Timo Korhonen, Edward Mutafungwa, and Mohammed S. Elmusrati, "Multi-Class Optical Orthogonal Codes for Multi-Service Optical CDMA Networks", IEEE/OSA J. Lightwave Technology, Vol. 24, No. 2, February 2006.

6 Naser Tarhuni, M. Elmusrati, and T. Korhonen, "Multi-Class Optical-CDMA Network Using Optical Power Control," Progress in Electromagnetics Research PIER, 64, page 279-292, 2006.

7 Naser G. Tarhuni and Timo O. Korhonen, Mohammed S. Elmusrati, and Edward Mutafungwa, "Power Control of optical CDMA Star Networks," Elsevier Optic Comm. Journal, 2006. In press, Currently available online at <http://authors.elsevier.com/sd/article/S0030401805010333>.

8 Naser Tarhuni, M. Elmusrati, and T. Korhonen, "Polarized Optical Orthogonal Codes for Optical Code Division Multiple Access Systems", Progress in Electromagnetics Research PIER, 65, page 125-136, 2006.

9 K. Kazaura, K. Omae, T. Suzuki, M. Matsumoto, E. Mutafungwa, T. O. Korhonen, T. Murakami, K. Takahashi, H. Matsumoto, K. Wakamori, Y. Arimoto: Enhancing performance of next generation FSO communication systems using soft computing-based predictions, OSA Optics Express, Vol. 14, Issue 12, June 2006, pp 4958-4968.

10 J. Kivinen, T. Korhonen, P. Aikio, R. Gruber, P. Vainikainen, and S.-G. Häggman, "Wideband Radio Channel Measurements at 2 GHz," IEEE Transactions on Instrumentation and Measurement. vol. 48, pp. 39-44, Feb., 1999

11 T. Korhonen and A. B. Sharma, "Noise performance of optical receivers: a comparison of directional coupler based and resistive-feedback front ends," Electronics Letters, vol. 28, pp. 446-447, June, 1992.

#### **PEER REVIEWED CONFERENCE PAPERS**

1 X. Wang, T. Korhonen, and M. Husso: Medical Cloud Enabled Ubiquitous Health System, submitted to The Eighth International Conference on Pervasive Computing

2 Jantunen, J. Hämäläinen, T. Korhonen, H. Kaaja, S. Boldyrev, and J. Jantunen: System Architecture for Mobile-phone-readable RF Memory Tags, submitted.

3 I. Jantunen, T. Korhonen, J. Hämäläinen, M. Husso, E. Mutafungwa, M. Pekkola, X. Wang, and Z. Zheng, "User-centric design of mobile & remote health care and safety services and supporting technologies for China and Finland", in OASIS 1st International Conference, (Florence, Italy), 2009.

4 J. Wang, Y. Zhao, T. Korhonen: Cross Layer Optimization with Complete Fairness Constraints in OFDMA Relay Networks, IEEE Globcom, 2008  
(ftp://lenst.det.unifi.it/pub/LenLar/proceedings/2008/globecom08/DATA/12-20-05.PDF)

5 Jianwei Wang, Timo Korhonen, Yuping Zhao: Weighted Network Utility Maximization Aided by Combined Queuing Priority in OFDMA Systems, ICC'08, 19-23. May, 2008, Peking, China

6 Jianwei Wang, Dong Wang, Yuping Zhao, Timo Korhonen: Fast Anti-Collision Algorithms in RFID Systems, UbiCOMM '07, Papeete, France, 4-9 Nov. 2007, p. 75-80

7 Jianwei Wang, Timo Korhonen, Yuping Zhao: Performance Evaluation for QoS Oriented Cross Layer Optimization in OFDMA Networks, WiCOM '07, 21-25 Sept. 2007 Peking, China, p. 184 - 187

8 Jianwei Wang, Yuping Zhao, Dong Wang, Timo Korhonen: Collision Avoidance Multiple Access in Wireless Sensor Networks, ICNPCW'07, 18-21 Sept. Peking, China, pp. 529-534

9 Naser Tarhuni, M. Elmusrati, and T. Korhonen, "Nonlinear Power Control for Asynchronous Fiber-optic CDMA Networks," IEEE International Conference on Comm. ICC 2006, Volume 6, Page(s):2782 - 2786, June 2006.

10 Naser G. Tarhuni, Mohamed S. Elmusrati, Timo O. Korhonen and Edward Mutafungwa, "Multi-Access-Interference Mitigation using Power Control in Optical-CDMA Star Networks", IEEE International Conference on Communications ICC 2005, Seoul Korea, 16-20 May 2005.

11 Er Liu, Y. Gao, O. Bilal, and Timo O. Korhonen: "Indoor Powerline Channel Measurement and Capacity Analysis", ICC'05, Seoul Korea, 16–20 May 2005

12 Naser G. Tarhuni and Timo O. Korhonen, "Multi-Weight Multi-Length Strict Optical Orthogonal Codes", 6th Nordic Signal Processing Symposium NORSIG 2004, pp.161–164, June 9–11, 2004, Espoo, Finland.

13 Y. Gao, Er Liu, O. Bilal and Timo O. Korhonen: " Channel Modeling and Modem Design for Broadband Powerline Communications" on ISPLC'04, Zaragoza, Spain 2004.

14 O. Bilal, Liu Er, Y. Gao and Timo O. Korhonen: Designs of Broadband Coupling Circuits for Power-Line Communication on ISPLC'04, Zaragoza, Spain 2004.

15 Er Liu, Y. Gao, O. Bilal and Timo O. Korhonen: "Broadband Characterization of Indoor Powerline Channel" on ISPLC'04, Zaragoza, Spain 2004.

16 S. M. Golam, O. Mukhtar, Er Liu, Y. Gao and Timo O. Korhonen: "Recent Development of EMC Regulation in Power-Line Communications" on WPMC'04, Abano Terme, Italy 2004.

17 T. Karhima, P. Lindroos, J. Vesterinen, M. Hall, J. Kantanen, S.-G. Häggman, T. Korhonen: " Performance of a DS-CDMA System under Jamming in an Urban Environment ", Milcom 2003.

18 Naser G. Tarhuni, Timo O. Korhonen and Edward Mutwafunga, "Phase encoded Optical Orthogonal Codes (PE-OOC) for Optical CDMA", Finnish Signal Processing Symposium (FINSIG'03), Tampere, Finland, May 2003.

19 Naser G. Tarhuni and Timo O. Korhonen "Influence of Environment on Capacity of LOS City Street MIMO Channel", URSI/IEEE XXVII convention on radio science, October 2002, pp. 126–128.

20 H. Zhou, T. O. Korhonen, K. Ruttik : "Adaptive OFDM for wideband channels", FWCW'02 Finnish Wireless Communications Workshop, Espoo, Finland, May 2002, p. 17

- 21 H. Zhou, T. O. Korhonen, K. Ruttik : "Adaptive OFDM for wideband channels", FWCW'02 Finnish Wireless Communications Workshop, Espoo, Finland, May 2002, p. 17
- 22 T. Korhonen and S.-G. Häggman, "Novel Recursive Deconvolution Noise Compensation Method for Direct Sequence Radio Channel Sounding," Proceedings of the IEEE Vehicular Technology Conference, Ottawa, Canada, 1998.
- 23 T. Korhonen and S.-G. Häggman, "Location of Subchip Radio Channel Multipath Components from Direct Sequence Sounding Data," Proceedings of the International Conference on Personal Wireless Communications (ICPWC'97) , Mumbai, India, 1997.
- 24 T. Korhonen and S.-G. Häggman, "Cancellation of Deconvolution Noise in DS – Radio Channel Sounding by Gradient Optimization," Proceedings of the Asia-Pacific Conference on Communications (APCC'97), Sydney, Australia, 1997.
- 25 A. Abel, M. D. Restituto, M. P. Kennedy, G. Kolumban, T. Korhonen, V. Porra, and J. Schweizer, "Spread Spectrum Communication Exploiting Chaos," Report, Esprit Project 21103 – INSPECT /LTR, 20 April 1997.
- 26 T. Korhonen, M. Hall, and S.-G. Häggman, "Superresolution Multipath Channel Parameter Estimation by Matched Filter Deconvolution and Sequential Bin Tuning," Proceedings of the IEEE International Workshop on Multi-Dimensional Mobile Communications (MDMC'96), Seoul, Korea, 1996.
- 27 P. Vainikainen, J. Kivinen, T. Korhonen, and J. Hubach, "Fast 2 GHz Sounder for Broadband Radio Channels," Proceedings of the IRC Workshop '95, Espoo, Finland, 1995.
- 28 T. Korhonen, M. Hall, and S.-G. Häggman, "Resolution Enhancement Techniques in Mobile Channel Measurements," Proceedings of the Nordic Radio Symposium (NRS'95), Saltsjöbaden, Sweden, 1995.

29 Kivinen, T. Korhonen, J. Hubach, and P. Vainikainen, "Fast Sounding of Broadband Radio Channel at 2 GHz Frequency Range," in Proceedings of the Nordic Radio Symposium (NRS'95). Saltsjöbaden, Sweden, 1995.

30 M. Hall, T. Korhonen, F. Mullany, and S.-G. Häggman, "Determination of Envelope Probability Distributions for a Wideband Mobile Radio Channel Model," Proceedings of the Nordic Radio Symposium (NRS'95), Saltsjöbaden, Sweden, 1995.

31 T. Korhonen and A.B. Sharma, "A Wide Band High Sensitivity Directional Coupler-Based Front-End for Optical Receivers," Proceedings of the 6th European Conference on Optical Communication (ECOC'90), Amsterdam, The Netherlands, 1990.

32 T. Korhonen and A.B. Sharma, "A Wide Band High Sensitivity Directional Coupler-Based Front-End for Optical Receivers," Proceedings of the URSI/IEEE XV Convention on Radio Science, Espoo, Finland, 1989.

33 T. Korhonen and A.B. Sharma, "Simulation, Design and Construction of a High Speed Optical FSK Transmitter and Receiver," Proceedings of the URSI/IEEE XV Convention on Radio Science, Espoo, Finland, 1989.

## **PUBLISHED MONOGRAPHS**

1 T. Korhonen: Measuring and Estimating Instantaneous Wideband Radio Channel by Regularized Deconvolution, Doctoral Thesis, Communications Laboratory, Department of Electrical and Communications Engineering, Helsinki University of Technology, Espoo, 1999. (<http://www.comlab.hut.fi/users/tko/thesis1.zip>)

2 T. Korhonen: A 565/140 Mbit/s Coherent Optical FSK-Heterodyne System for 1.55 $\mu$ m Wavelength Region, Master's Thesis, Communications Laboratory, Department of Electrical Engineering, Tampere 1990.



## TEXTBOOKS AND BOOK CHAPTERS

1 T. Korhonen, A. Ainamo: Handbook of Product and Service Development in Communication and Information Technology, Kluwer Academic Press 2003.

2 T. Korhonen: Development of High-tech Products and Services, A Person Custom Publication, 2007.

3 Sathish Chandran (Editor): Adaptive Antennas Algorithms and Application, McGraw Hill, 2003. Book chapter: Multi-channel adaptive beamforming by Risto Wichman, Jyri Hämäläinen and Timo O. Korhonen. Springer-Verlag, 2004.

## CONSULTATION WORKS

1 Arto Karila, Timo Korhonen, Reijo Salminen, Tapio Väärämäki: Broadband in Public Transportation Vehicles (feasibility study of applicable services/technologies), ÄLLI-publications 01/2008. Consultation Study funded by Uusimaa Regional Council (<http://www.ytv.fi/ENG/facts/frontpage.htm>). Study is available at: [alliohjelma.info/?action=file&id=19&file=19.pdf](http://alliohjelma.info/?action=file&id=19&file=19.pdf))

2 J. Klus, M. Sinko, M. Söderqvist, M. Hirvikallio, M. Jones, T. Korhonen, P. Montesinos, and A. Soeiro: TKK Dipoli International Peer review report 30.11.2007 (EFQM modeling of Dipoli Adult Education Center functions, customers and products)

## INVITED LECTURING

- Aalto University – Invited presentation to Naoki Murata, Executive Director, Japan Society for the Promotion of Science (JSPS), TKK 2009
- “Dimensions of User Centric Design” (invited speech), MIC-CSC ’08 Conference, Amman, Jordan, 2008
- “Frontiers of Aalto University: Scientific Research, Teaching and Product Development in Multidisciplinary Framework”, Visit of Vietnamese ICR delegation to Finland, 26 – 31 October, 2008
- “Workshop of Innovations in Product Development”, Peking University (PKU), 2007. One-day workshop that was organized by PKU and TEKES. Planning and Presenter for the whole workshop.

- “Advanced Telecommunications for Wireless Systems”, TKK, 2007. A three-day workshop organized jointly by TKK and Peking University, China (PKU). Presenter for 1,5 day (OFDM).
- "Telecommunications Technology", Nokia Booster Training Program, Dipoli Education Center with Nokia Networks, several lectures in 2004–2005.
- "Optical Networking", AEL Ltd., several lectures in 2004–2005
- "Kiinteän televerkon kehittymisen suuntaviivoja" (Development Trends in Fixed Telecommunication Networks), Verkkopäivät, Finnet Focus 26.1.2005
- "ABC of Telecommunications Technology", Dipoli Education Center in cooperation with Finland Post Group, 16.11.2004
- "Telecommunication Systems: Terminals, Portals, and Transmission Technologies", Dipoli Education Center in cooperation with Finland Post Group, 16.11.2004
- "Industry–University Cooperation in Finland and Otaniemi Cluster", Lifelong Education Center Dipoli. Presentation for ITU MM 2003 Japan's Industry Delegation Visit in Dipoli, 7.10.2003.
- "Telecommunication Technology" in Nokia's Professional Purchaser – course Lifelong Education Center Dipoli, 25.10.2003.
- "4G Networks" in The Path to 4G Mobile, 22 – 24 October 2002, London. Organized by IIR Telecommunications & Technology, London (TPC member and lecturer)
- “Next Generation Networks” in MobiConnect 2002, 20.22.5.2002, The Radisson SAS Hesperia Hotel, Helsinki, Organized by IIR Finland Ltd.
- “Overview to 4G Development” in Tulevaisuuden Teletekniikka (Telecommunications of the Future), 13.3.2002, Hotel Kalastajatorppa, Helsinki, Organized by IIR Finland Ltd.
- “Migration Paths to 4G mobile” in The Path to 4G Mobile, 13–14.9.2001, The Strand InterContinental Hotel, Helsinki. Opening speech and session chairmanship. Organized by IIR Telecommunications & Technology, London
- “Evolving Internet Access” in Kehittyvät tietoliikenneverkot (Developing Telecommunication Networks), 29–30.8.2001 Marina Congress Center, Helsinki, Organized by kontakti.net

- Overall course planning and giving a lecture in Telecommunication Market Trends and Technologies, 29.11.2000–14.3.2001, Diana Auditorium, Helsinki, ArosMaizels Ltd. The course included the following lectures: 2G Technologies in 3G era, Media convergence , The I-Mode and next generation WAP technologies, New business models for 3G services, Evolving internet access (This lecture was given by the author), Mobile IP, Location tracking following WAP-forum recommendations, Location tracking application and market opportunities, Voice over IP, Home communications: The next technology revolution, Portal-services, WAP - technology and markets, New economy and e-commerce, Technology and market outlook for future networks.
- “Codes in CDMA and Spread Spectrum Systems” in CDMA/WCDMA Technologies, 23.–24.4 2000, Hotel Matinlahti, Espoo, Finland, Organized by Merito Forum International, Helsinki