

LIST OF PUBLICATIONS

1 PERSONAL DATA

Surname: Korhonen
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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 μ 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)

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