

## BIOGRAPHY



### Dr. Kari Heikki Antero Kärkkäinen

Born: 5th April, 1960, Kiuruvesi, Finland.

Affiliation: Centre for Wireless Communications

Radio Technologies Research Unit (CWC-RT)

Faculty of Information Technology and Electrical Engineering

P.O. Box 4500, 90014 University of Oulu, Finland

Internal mail stop: 9-TSTK-CWC-RT

CWC's education web pages: <http://www.oulu.fi/cwc/>

CWC's web pages for the CWC-RT & CWC-NS research units: <http://www.cwc.oulu.fi/home/>

Contacts: Kari.Karkkainen@oulu.fi, Tel (office): +358 29 448 2848, Mobile: +358 40 571 4761

Web home page: <http://www.ee.oulu.fi/~kk/>

Positions: University Lecturer, Adjunct Professor (Docent).

## DEGREES

Matriculation Examination of senior high school, Kiuruvesi, Finland, 1979.

Master of Science [DI, M.Sc.(Tech.)], Electronics, Department of Electrical Engineering, University of Oulu, 1987, thesis title: *Simulation of some units of a spread-spectrum telecommunication system by TOPSIM III.*

Licentiate of Technology [TKL, Lic.Sci.(Tech.)], Telecommunication Engineering, Department of Electrical Engineering, University of Oulu, 1991, thesis title: *Binary direct sequence spreading codes and their simulated correlation and multiple-access properties.*

Doctor of Technology [TKT, Dr.Sci.(Tech.)], Telecommunication Engineering, Department of Electrical Engineering, University of Oulu, 1996, thesis title: *Code families and their performance measures for CDMA and military spread-spectrum systems.*

## RESEARCH INTEREST

Information and coding theories, especially complexity, information security and correlation analysis & design of pseudo-random code sequences for various applications.

## CAREER

1986...1987 Acting teaching assistant of radio engineering, part-time master's thesis worker.

1987...1988 Acting teaching assistant of radio engineering, part-time researcher and post-graduate student.

1988...1997 Researcher of contract research projects from Finnish Air Force, Scientific Committee for National Defence (MATINE), Finnish Defence Forces, Nokia Mobile Phones, Nokia Cellular Systems, Elektrobit, Instrumentointi, Patria and Technology Development Centre of Finland (TEKES).

1992...1993 Deputy associate professor of radio engineering and signal processing

1997...2002 Assistant professor of telecommunication engineering.

2002...2004 Deputy professor of telecommunication engineering (digital transmission theory).

2004...2010 Assistant professor of telecommunication engineering.

1998–2007 Teaching of several telecommunication engineering courses for mature students in career-change and continuing education programmes at UO.

2010...2012 Post-doctoral researcher.

2012... University Lecturer.

2003... Adjunct professor.



## ADMINISTRATION

Programme director, academic coordinator and personal study advisor of UO *Wireless Communications Engineering International Master's Degree programme* (WCE).

Member of UO Electronics and Telecommunications Engineering, and Wireless Communications Engineering degree programme committee.

Member of UO ITEE Faculty's education committee.

Member of UO ITEE Faculty's tenure track committee.

## SERVICE TO SOCIETY

Reviewer of international scientific journals and conferences for the IEEE (USA), IEE (UK), IEICE (Japan) and ACM (USA) professional scientific organizations, and also reviewer for Elsevier, Wiley and Kluwer academic publishers. Session chairman of the IEEE Communications Society (ComSoc) conferences.

Executive secretary of the technical program committee of The IEEE Third International Symposium on Spread Spectrum Techniques and Applications (ISSSTA'94), Finland, 1994. Member of organizing and technical program committees of Finnish IEEE conferences and symposia.

## EVALUATED QUALIFICATIONS

Professor of *Digital Signal Processing Methods in Telecommunication Systems (digitaalinen signaalinkäsittely tietoliikennejärjestelmissä)*, University of Oulu, 1999, ranking: 3<sup>rd</sup> out of 3 applicants.

Professor of *Information Theory (informaatioteoria ja koodausmenetelmät erityisesti ajatellen tietoliikennejärjestelmien tarpeita)*, Helsinki University of Technology (currently part of Aalto University), 1999, ranking: 2<sup>nd</sup> out of 5 applicants.

Professor of *Telecommunication (tietoliikenne)*, University of Jyväskylä, Faculty of Information Technology, 2000, ranking: 2<sup>nd</sup> out of 2 applicants.

Professor of *Telecommunication Theory (tietoliikenneteoria)*, University of Oulu, 2001, ranking: 2<sup>nd</sup> out of 4 applicants.



Adjunct Professor (Docent) of *Coding Methods, Especially Spreading Coding in Wideband Radio Communication Systems (koodausmenetelmät, erityisesti hajotuskoodaus laajakaistaisissa radiotietoliikennejärjestelmissä)*, University of Oulu, 2003.

Passed course: *"Oral Communication for Teaching in the International University"*, 4 ECTS (CEFR level B2C-1), University of Oulu Language Center, 2010-2011.

Passed basic studies module of university pedagogy (YPE25): the study module A251105 of UO courses contained 25 ECTS credits contact education and seminars conducted by the Faculty of Education at University of Oulu. The module qualifies a graduate for teaching office at university level, 2013-2015.

## FAMILY

Spouse Mirja Helena Kärkkäinen (b. 1961), registered nurse, public health nurse.

Children Pekka (b. 1989), Susanna (b. 1991), Antti (b. 1994) and Kirsi (b. 1994) Kärkkäinen.

## HOBBIES

Reading, literature, natural sciences, garage hobbies, construction & repair, cottage hobbies, agriculture & forestry, firearms, real estate investment.