

CURRICULUM VITAE

Name Jyrki Kalervo **Kauppinen**

Date and place of birth

May 29, 1944; Haapajärvi, Finland

Nationality Finnish

Marital status

Married, two children

Contact Kyypellontie 1, 21350 ILMARINEN
Tel. (02) 333 5670 (home 02-4870 407)
Jyrki.Kauppinen@utu.fi
fax (02) 333 5070

Education Student Matriculation Examination, Lyceum of Oulu, 1964
Bachelor's degree in Physics, University of Oulu, 1967
Master's degree in Physics, University of Oulu 1968
Licentiate in Philosophy (Physics), University of Oulu, 1972
Doctoral dissertation approved by the University of Oulu 1975
Degree of Doctor of Philosophy, University of Oulu, 1975
Docent in Physics, University of Oulu, 1978-
Docent in Optical Measurement Technology, Helsinki University of Technology, 1979-

Present Position

Professor in Physics, Department of Physics, University of Turku, 1986-

Fields of Research

- 1. High-resolution Fourier transform spectroscopy**
 - a) Development of very-high-resolution interferometers
 - the old model: resolution 0.001 cm^{-1} , highest in the world
 - the new one, now under construction: resolution 0.0004 cm^{-1}
 - b) Infrared wavenumber standards (in two standards books)
 - c) Conventional rotation-vibration molecular spectroscopy with high resolution and accuracy

- 2. Low-resolution interferometers**
 - a) Wavemeter
 - b) Gauge measuring interferometer for the Finnish standard of length
 - c) Near infrared (NIR) and ultraviolet (UV) interferometers
 - d) Stationary interferometers (no moving parts)

- e) Carousel interferometer (US patent and 9 patents in other countries), Pendium interferometer (patent application) and Shoebox interferometer (patent application)

3. Data treatment

- a) Multicomponent analysis (US patent)
- b) Fourier Self-Deconvolution (FSD, more than 1000 citations in SCI, installed to nearly all commercial FT-IR spectrometers)
- c) Resolution enhancement by linear prediction (LOMEP, US patent)
- d) Extrapolation of audio signals and other discrete signals

4. Development of commercial spectrometers

- a) Commercial FT-IR automatic gas analysers
- b) Analysers for UV and NIR
- c) Use of gas analysers in practical problems.
- d) High sensitive photoacoustic detectors (three patent applications, highest sensitivity in the world)

Previous Positions

Acting as assistant, senior assistant, lecturer, laboratory engineer and associate professor, Department of Physics, University of Oulu, 1966-1979 (except Military service 11 months)

Lecturer in Technical Thermodynamics and acting professor in Technical Mechanics, Department of Mechanical Engineering, University of Oulu, 1968-1985 (except Military service 11 months)

Senior fellow in Academy of Finland, Research Council for the Natural Sciences, 1981-85

Senior scientist's grant, Academy of Finland, academic year 1990-91

Special researcher, Technical Research Centre of Finland, 1984-88

Special researcher, Metrology Research Institute, Helsinki University of Technology, 1988-91

Head of the Department of Physical Sciences, 1987-1990

Head of the Department of Applied Physics, 1993-2001

Previous Positions abroad

Research fellowship of National Research Council of Canada, Ottawa, Ontario, 1980

Visiting scientist, National Research Council of Canada, Ottawa, Ontario and the Kansas State University, Manhattan, Kansas, academic year 1990

Declared qualified for

Associate Professorship in Physics, particularly in Electronics, University of Kuopio, 1978

Professorship in Physics, Helsinki University of Technology, 1980

Professorship in Physics, University of Oulu 1982

Associate Professorship in Physics, University of Turku, 1985

Associate Professorship in Physics, University of Oulu, 1986

Publication and scientific activities

Book: Fourier Transforms in Spectroscopy, (Wiley-VCH, 2001, 271 pages)

145 refereed papers in international scientific journals

About 160 conference presentations

About 45 invited lectures, many in international conferences, and several invited papers like the article "Spectrometers, Infrared" in the Encyclopedia of Applied Physics

23 patents or patent applications

Member of the working group of IUPAC for Unified Wavenumber Standards

Member of the Editorial Board of Applied Spectroscopy Review

Member of Finish Academy of Science and Letters

Chairman of the program committee and the host for the First International Conference of Advanced Vibrational Spectroscopy ICAVS-1, Aug. 19-24, 2001 Turku, Finland

Member of the steering committee of ICAVS conference series

Member of the steering committee of the graduate school of modern optics and photonics

Many other activities such as member and chairman in scientific and other committees and societies; opponent and reviewer of several dissertations; referee for many scientific papers, professorships.

Prizes

International Bomem- Michelson Award 1992

Innovation award of the Foundation of New Technology 1999

Innovation award of the Foundation of New Technology 2005