

Curriculum Vitae of Juha E Jääskeläinen

Education and Degrees

- 1977 MD – Medical School / Kuopio University / Kuopio / Finland
 1985 Neurosurgeon – Neurosurgery / HU Helsinki University / Helsinki / Finland
 1986 PhD (4 international peer-reviewed articles) – HU Neurosurgery with Prof Matti Haltia / HU Neuropathology and Prof Timo Hakulinen / Finnish Cancer Registry
 1987–92 Senior Research Fellow (27 mos) – HU Pathology with Docent Tuomo Timonen
 1995 Docent of Neurosurgery (20 international peer-reviewed articles) / HU
 2001–02 Visiting Professor (11 mos) – Neurosurgery with Prof Peter McL Black / Brigham and Women’s Hospital / Harvard Medical School / Boston MA
 1979 Second Lieutenant – Medical Reserve Officer School / Finnish Defense Forces

Present Positions (2004 –) University of Eastern Finland + Kuopio University Hospital

- 2004 – Full Professor of Neurosurgery / Institute of Clinical Medicine / Faculty of Health Sciences / UEF University of Eastern Finland / Kuopio / Finland
 2004 – Chairman of Neurosurgery / KUH NeuroCenter / KUH Kuopio University Hospital / Kuopio / Finland
 2004 – Director of Kuopio Intracranial Aneurysm Database www.uef.fi/ns
 2005 – Director of KUH Neuro-oncology Group (service with Cyber Knife 2012 –)

Previous Positions (1978 – 2004) Neurosurgery of Helsinki University Hospital

- 1978–04 Resident / Staff Neurosurgeon / Lecturer / Head of Department
 2000–04 Director of Neuro-oncology Program
 2000–04 Director of Intracranial Aneurysm Experimental Research Group at Helsinki Biomedicum

Positions of Trust in Finnish Health Care

- Ministry of Social Affairs and Health of Finland
 Member of Organizing Committee for Comprehensive Cancer Center Finland 2012-3
 Member of Organ Donation Committee 2013 -
 Neurosurgical Expert in Patient Complaint / Malpractice cases
 National Supervisory Authority for Welfare and Health (VALVIRA) 2009 -
 National Patient’s Injuries Board 2012 -

Scientific and Academic Reviewer and Member of Boards

- EANS Acta Neurochirurgica / Editorial Board – 450 neuro-oncology manuscript reviews 2009 -
 EANS Research Committee – Young Neurosurgeon’s Research Prize reviewer
 Member of 10 Professorship Evaluation Committees – 7 at UEF / 3 international
 Cancer Society of Finland – about 1500 grant application reviews
 Member / Grant Evaluation Committee for Basic Cancer Research 2009-11
 Chairman / Grant Evaluation for Clinical Cancer Research 2012-15
 Vaajasalo Epilepsy Research Foundation – Member of Assembly of Delegates 2013 -
 Petri Honkanen Research Foundation – Member of Board 2014 -

Annual Lecturer and Board Member in International Research and Clinical Courses

- EANS European Association of Neurosurgical Societies (www.eans.org)
 Member of EANS Research Committee (Research Courses / Aesculap Prizes) 2003 -
 Lecturer in EANS Training Courses for Neurosurgery Residents
 Scandinavian Neurosurgery Resident Training Week – Member of Organizing Committee 2003 -
 Helsinki Annual Live Course Week in Microneurosurgery – Teacher and Faculty Member 2001 -
 UEF Clinical Research School (www.uef.fi/dpcr) – Member of Board 2010 -

Awards – Ludvig Puusepp Honorary Lecture / University of Tartu / Estonia 2014

Publications / Scholarship / Mentoring

H-index 41 (ISI Web of Science) – 18 publications with >100 citations

156 original articles in peer-reviewed international medical journals

11 Neurosurgeons trained (6 yrs program) – M Fraunberg / J Frösen / J Huttunen / T Huttunen / P Karamanakos / S Koponen / O Kämäräinen / V Leinonen / A Lindgren / P Sandell / V Soppi

10 supervised PhD Theses

HU – A Mäenpää 1997 / M Seppälä 1998 / J Antinheimo 1999 / M Sainio 2000 / M Niemelä 2000 / J Frösen 2006

UEF – T Huttunen 2012 / A Lindgren 2013 / M Kurki 2013 / K Coco 2014

10 on-going PhD supervisions

UEF – J Björkman / J Halonen / J Huttunen / J Kolivuori / M Meklin / M Nissen / S Räisänen / H Tattari / I Tiihonen; HU – H Andrade

25 other PhD Theses supported as co-author of Thesis articles

Promoted Post Doc periods at highest ranking universities – Harvard (Niemelä 2001-2 / Antinheimo 2001-2 / Frösen 2009 / Kurki 2014 -) – Cambridge UK (T Huttunen 2013) – Macquarie Australia (T Koivisto 2006-7)

Mentored until Docentship – Fraunberg / Frösen / Koivisto / Leinonen / Niemelä / Savolainen

Future Professorships in Neurosurgery – Fraunberg / Frösen / Leinonen / Niemelä

Fraunberg / Leinonen / Niemelä applied HU Professorship in Neurosurgery in May 2015

UEF Professorship in Clinical Epileptology – Reetta Kälviäinen granted by Vaajasalo Foundation

Personal Competed External Research Funding (received)

1.621 million euros personal competed external research funding received by 22 August 2015

Clinical and Translational Research on Saccular Intracranial aneurysm (sIA) Disease 2000 -

2000 – 4 Director of Intracranial Aneurysm Experimental Research Group at Helsinki Biomedicum
Creation of sIA Family Registry of Helsinki Neurosurgery

Creation of Helsinki Neurosurgery Human sIA Tissue Bank (n >700)

Creation of microvascular laboratory and experimental rodent aneurysm model

2004 – Director of Kuopio Intracranial Aneurysm Database and Family Registry www.uef.fi/ns

Previous Research 1982–2000 – Molecular Biology and Longterm Outcome of Inherited Central Nervous System Tumor Traits at HU Pathology and Finnish Cancer Registry

Post Doc and Senior Researcher 1986 – 1992 / HU Pathology and Finnish Cancer Registry

Co-PI of Ezrin-Merlin Study Group 1992 – 00 / HU Pathology and Virology

PI of Feasibility of Boron Neutron Capture Therapy (BNCT) in Neurofibromatosis 2

10 publications of my PhD Students – now Researchers in my Kuopio sIA Group

Jukka Huttunen is my PhD Student (on-going) and Trainee in Neurosurgery (completed)

* Huttunen J et al. Epilepsy after aneurysmal subarachnoid haemorrhage – a population based long-term follow up study. *Neurology* 2015 epub IF=8.3

Antti Lindren is my PhD Student (completed) and Trainee in Neurosurgery (ongoing)

* Lindgren AE et al. Hypertension predisposes to the formation of saccular intracranial aneurysms in 467 unruptured and 1053 ruptured patients in Eastern Finland. *Ann Med* 46:169-76, 2014 IF=4.7

* Lindgren AE, et al. Type 2 diabetes and risk of rupture of saccular intracranial aneurysm in Eastern Finland. *Diabetes Care* 36:2020-6, 2013 IF=8.6

Mitja Kurki is my PhD Student (completed) and Post Doc (2014 -) at Broad Institute, Boston

* Kurki MI et al. High risk population isolate reveals low frequency variants predisposing to intracranial aneurysms. *PLoS Genet* 2014 IF=8.2

* Kurki MI et al. Upregulated signaling pathways in ruptured human saccular intracranial aneurysm wall: an emerging regulative role of Toll-like receptor signaling and nuclear factor- κ B, hypoxia-inducible factor-1A, and ETS transcription factors. *Neurosurgery* 68:1667-75, 2011 IF=3.0

Petros Karamanakos is my Trainee in Neurosurgery (completed)

* Karamanakos PN et al. Risk Factors for Three Phases of 12-Month Mortality in 1657 Patients from a Defined Population After Acute Aneurysmal Subarachnoid Hemorrhage. *World Neurosurg* 78:631-9, 2012 IF=2.4

Terhi Huttunen is my PhD Student (completed) and Trainee in Neurosurgery (on-going)

* Huttunen T et al. Long-term excess mortality of 244 familial and 1502 sporadic one-year survivors of aneurysmal subarachnoid hemorrhage compared with a matched Eastern Finnish catchment population. *Neurosurgery* 68:20-7, 2011 IF=3.0

* Huttunen T et al. Saccular intracranial aneurysm disease: distribution of site, size, and age suggests different etiologies for aneurysm formation and rupture in 316 familial and 1454 sporadic Eastern Finnish patients. *Neurosurgery* 66:631-8, 2010 IF=3.0

Docent Juhana Frösen is my PhD Student (completed) and Trainee in Neurosurgery (completed)

* Frösen J et al. Contribution of mural and bone marrow-derived neointimal cells to thrombus organization and wall remodeling in a microsurgical murine saccular aneurysm model. *Neurosurgery* 2006;58:936-44 IF=3.0 Cited 25

* Frösen J et al. Growth factor receptor expression and remodeling of saccular cerebral artery aneurysm walls: implications for biological therapy preventing rupture. *Neurosurgery* 2006;58:534-41 IF=3.0 Cited 49

Co-Organizer of Infrastructure for Population-Based Neurocare at KUH NeuroCenter

KUH NeuroCenter (Neurosurgery + Neurology + Kuopio Epilepsy Center) 2010 -

KUH NeuroGroups – Neuro-oncology + CyberKnife / Neurovascular / Epilepsy / Normal Pressure Hydrocephalus / Spine / Neuromodulation / Brain Mapping and Intraoperative Monitoring / etc

KUH Neurodisease Databases for Eastern Finnish catchment population – Intracranial Aneurysms / Normal Pressure Hydrocephalus / Degenerative Cervical Spine Surgery / Spinal Cord Stimulation

Introduction of New Methods and Technologies for Neuro-oncology in Finland

Preoperative functional brain mapping (fMRI MEG nTMS) and data integration into navigated operation microscope – awake craniotomies – intraoperative electric cortical and white matter stimulation mapping – brachytherapy with stereotactic isotope implantation – stereotactic radiotherapy with linear accelerator and CyberKnife – multidisciplinary Neuro-Oncology Group

Clinical Advisor and Co-Developer of Medical Technologies for Clinical Neurocare

MEG brain mapping for neurosurgery – Clinical Advisor to NeuroMag (Elekta Neuromag) (ended)

Navigated Transcranial Magnetic Stimulation (nTMS) mapping for neurosurgery and radiosurgery

* Clinical Advisor of NexStim (www.nexstim.com) / Henri Hannula Vice President Sales Europe

* with KUH Neurophysiology Brain Mapping and Intraoperative Monitoring / Prof Esa Mervaala awake craniotomies with intraoperative cortical and white matter stimulation mapping

* 1st installation of NexStim device 2006 – mapping of motor and speech cortical areas / transfer of data into navigated operation microscope and CyberKnife dose planning

* PI of KUH Partner (NeuroCenter + Neurophysiology) in PAMSCAN (multifocal nTMS device) PI Academy Professor Risto Ilmoniemi / Horizon 2020 Health (pending)

Creation of novel EEG electrodes with UEF Applied Physics and KUH Neurophysiology

* High-density cortical grids for EEG analysis in rodents

* Disposable scalp electrodes for acute neurocare (vendor Mega Electronics / Kuopio Finland)

Development of advanced intraoperative photonics for neurosurgical microscopes and endoscopes

* Creation of spectral analysis work station for operative microscope and endoscope with Prof Markku Hautakasari PhD / UEF Institute of Photonics (www.uef.fi/spectral)

* Creation of gaze tracking and gaze command systems for neurosurgical microscope with Docent Roman Bednarik PhD / UEF Interactive Technologies (www.cs.joensuu.fi)