

Ville Raatikainen

Oulu

Finland

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Born 16.8.1987, Lievestuore, Finland

CV

04.12.2014



EDUCATION

Master of Science (Tech.), Tampere University of Technology, 2012-2013

Major: Medical Physics, Minor: Signal Processing and Multimedia

M.Sc. Thesis: Connectivity Measures for In Vitro Neuronal Cell Networks

Bachelor of Science (Tech.), Tampere University of Technology, Finland, 2006-2012

Programme: Electrical Engineering, Major: Biomedical Engineering, Minor: Electronics

Bachelor's thesis: Preprocessing of Functional MRI Data Using FSL, Aedes and NeuRoi Software.

Exchange student, Loughborough University, England, 09/2010-06/2011

Studies in Sports Technology (25 ECTS) and Electrical Engineering (15 ECTS)

Matriculation examination, Lievestuoreen lukio (high school), spring 2006

WORK EXPERIENCE

Research Scientist, Oulu University Hospital / University of Oulu – Department of Radiology, 1.11.2014-

Working in Oulu Functional Neuroimaging (OFNI) group.

Research trainee, VTT Technical Research Centre of Finland, Tampere, 16.6.2014-24.10.2014

I worked as a research trainee at Systems Medicine group (ICT for Health and well-being) at VTT Technical Research Centre of Finland. I worked with ADNI data (The Alzheimer's Disease Neuroimaging Initiative) and my main responsibilities were in data visualization, statistical analysis (heatmaps, correlation, regression) and programming in Matlab in a project called VPH Dementia Research Enabled by IT.

Research assistant, Master Thesis Worker, Department of Electronics and Communications Engineering, Tampere University of Technology, BioMediTech, 1.5.2012-31.5.2013

I worked as M.Sc. thesis worker and research assistant at the Department of Electronics and Communications Engineering at Tampere University of Technology. I worked in an EU funded project called 3DNeuroN – Biomimicking the Brain Towards 3D Neuronal Networks Dynamics. My work was related to programming and signal processing in Matlab. I worked with the data obtained from human embryonic stem cell derived neuronal cell (hESC) networks which were cultured on microelectrode array (MEA) technology. My responsibility was to explore connectivity measures and find out how applicable they are for the analysis of neuronal cell network data. I worked closely with Matlab and the research was concentrated to Phase Lock Value (PLV), generalized Partial Directed Coherence (gPDC) and Transfer Entropy (TE) connectivity measures.

Research assistant (summer placement), The Department of Radiological and Imaging Sciences, School of Clinical Sciences, Faculty of Medicine and Health, The University of Nottingham / Queen's Medical Centre, 27.6.2011-19.8.2011

I studied and applied the fundamentals of Magnetic Resonance Imaging and image processing methods for functional and structural data. Practical skills acquired include imaging parameter optimization and independent operation of a high field 9.4T magnetic resonance imaging system, but also programming in Matlab and the application of a range of image processing tools (NeuRoi, FSL and Aedes) for coregistration and analysis of functional data sets.

COURSES

HealthTechPro –training programme, 6/2014-10/2014

- Quality management systems - ISO 13485 and USA QSR (FiHTA)
- Safety at electrical work SFS 6002 (Amiedu)
- Electronics: Measurements and troubleshooting (Amiedu)
- Intrapreneurship (Eduhouse)
- Customer service and interaction skills (Eduhouse)
- Regulatory background for health technology systems and devices (FiHTA)
- Customers and users of Healthcare and Welfare technology (Clinius)
- Signs of life - Human vital functions and their monitoring (Clinius)
- GEMINI - enterprise resource planning system for medical service (Amiedu)
- Controlled Execution of Product Development Projects- Input Information and Design Planning (FiHTA)

CERTIFICATIONS

Safety at electrical work SFS 6002 certificate

LANGUAGES

Finnish mother tongue

Swedish limited working proficiency

English full professional proficiency

German limited working proficiency

PUBLICATIONS

J. M. A. Tanskanen, V. Raatikainen, S. Narkilahti, and J. A. K. Hyttinen, "**Phase lock analysis of signals from neuronal networks on multi-well microelectrode array with a common group/reference,**" abstract (poster WeET8.16) presented at *The 6th International IEEE/EMBS Conference on Neural Engineering*, Nov. 5-8, 2013, San Diego, CA, USA. Linkki: <https://nishe.info/posters/original/554.jpg?1385049463>

PROJECTS

Virtual Physiological Human: Dementia Research Enabled by IT. <http://www.vph-dare.eu/>

During June 2014 – October 2014

3DNeuroN – Biomimicking the Brain – Towards 3D Neuronal Networks Dynamics. <http://www.3dneuron.eu/>

During May 2012 – May 2013

MILITARY SERVICE

Keuruu Pioneer Regiment, 2007

INTERESTS

Sports, Healthcare, Science and Technology, Medical Science, Anatomy and Physiology, Reading