

Curriculum Vitae

Alexei Ossadtchi
23 Dibunovskaya str., apt.3
St.Petersburg 197183
Born June 7th, 1974

Tel.+7 (812) 430-1037
+7(921) 916-0574
E-Mail: ossadtchi@gmail.com

Research Interests

Major

Application of signal processing and statistics to the problems of non-invasive brain imaging: Non-invasive cortical connectivity analysis, synchrony detection, solution of ill-posed inverse problems (EEG/MEG/Spectroscopy), time-frequency decomposition, data-driven spatial filtering and beamforming, automatic detection and localization of interictal activity, efficient spike morphology analysis, interaction detection between several potentially epileptogenic brain regions, blind source separation, modeling of MEG/EEG signals, bootstrap statistical analysis of the evoked responses

Minor

Brain-computer interface, applications of adaptive control theory to neurofeedback, cDNA microarray gene expression analysis, non-parametric statistical methods (bootstrap, permutation tests, jackknife etc.) for significance estimation, cDNA microarray design.

Research / Work Experience

2007-Present

Docent at the Div. for Higher Nervous Activity ,
Biology and Soils Department, St. Petersburg State University

2005-Present

Independent Consultant for Source Signal Imaging, San Diego, CA

2003-2005

Scientist. Source Signal Imaging Inc., San Diego, CA

09/1999 – 2003

Research Assistant. Neural Imaging Laboratory at USC.

09/2002 - 2003

Research fellow. MEG unit at Huntington Medical Res. Inst.

06/2001 – 01/2002

Consulting Department of Chemistry, USC

05/2000 – 08/2000

Research Intern. Hughes Research Laboratories, Malibu, CA

09/1998 – 08/1999

Research Assistant. Integrated Media Systems Center (IMSC, USC)

03/1995 – 07/1998

Research Fellow. Research Center 'Module', Moscow.

01/1993 – 03/1995

Research Assistant. Department of autonomous control systems, Bauman Moscow State Technical University.

Teaching Experience

2007 - present

Senior Lecturer St. Petersburg State University

2005-2007

Senior Lecturer at St. Petersburg State Polytechnic University.

09/1998 – 05/2000

Teaching Assistant. Electrical Engineering department, USC

Graduate Supervision

Supervisor for 2 M.S. Defended (2008 and 2010), currently a co-supervisor for 1 Ph.D. Student(2013) and supervisor for 1 M.S. student.(2012)

Selected Graduate

Courses taught

Signal processing in EEG and MEG, Basic mathematical objects and methods in multivariate data analysis, Advanced signal processing, Digital Signal Processing, Adaptive signal processing, Linear Algebra, Matlab for neuroscientists, Analog devices DSP programming lab

Programming Skills

Languages: Matlab, C/C++, Pascal, Basic, LabView
Operating Systems: Windows, MS-DOS, Linux, Unix

Community service

Editor Frontiers in Human Neuroscience

Reviewer for Neuroimage, IEEE Trans. On Signal Processing, Clinical Neurophysiology

Organizer (member of the team): St. Petersburg partially PENS supported Spring school on neuroscience; Non-invasive imaging of non-linear interactions, workshop of CNS*2011 meeting, Stockholm, July, 2011

The head of : Biweekly seminar for computational aspects in Neuroscience @ Biology

International collaboration	<p>and Soils dept of SPBSU, St. Petersburg, Russia</p> <p>Mark Pflieger, President, Source Signal Imaging Inc, San Diego, CA, USA</p> <p>Richard Leahy, Professor, Department of Electrical Engineering, USC, LA, USA</p> <p>Richard Greenblatt, ex-President, Source Signal Imaging Inc, San Diego, CA, USA</p> <p>Kyousuke Kamada, Professor and Chairman, Department of Neurosurgery, Asahikawa Medical University, Japan</p> <p>Yuri Shtyrov, Senior Scientist (PLT), Speech & Language Group; MEG Laboratory Manager, MRC Cognition and Brain Sciences Unit, Cambridge, UK</p> <p>Matias Palva, Docent, Helsinki University, group leader, systems-level mechanisms of perception, cognition, and action in the human brain</p>
Awards, Distinctions	<p><i>Recipient:</i> Best graduate student paper award (in collaboration with V. Dribinski), USC, Department of Chemistry, 2002</p> <p><i>Recipient:</i> Research Assistantship with Neuroimaging Laboratory(USC), 1999-2003</p> <p><i>Recipient:</i> Research Assistantship with Integrated Media Systems Center(USC), 1998-1999</p> <p><i>Recipient:</i> 3rd prize for graduate and post-graduate student paper competition, Department of autonomous control systems, BMSTU, 1997</p> <p><i>Recipient:</i> Best paper award, 'Youth, Science, 3-rd Millennium International Congress', Moscow,1996</p> <p><i>Recipient:</i> Scholarship of Russian Government, 1995-1997</p> <p><i>Recipient:</i> Departmental scholarship, BMSTU, 1994-1997</p>
Education	<p>09/2000 – 09/2003 Ph.D., Electrical Engineering, University of Southern California (USC), Los Angeles. Thesis: Automatic non-invasive detection and analysis of interaction between epileptogenic clusters using MEG/EEG measurements. Advisor: prof. Richard M. Leahy</p> <p>09/1998 – 05/2000 M.S., Electrical Engineering, University of Southern California (USC), Los Angeles Project: Real-time visual tracking of a listener's head for 3-D audio applications. Advisor: prof. C. Kyirakakis</p> <p>09/1991 – 05/1997 M.S., Electrical Engineering, Bauman Moscow State Technical University, Moscow, Thesis: Neural network based system for object recognition in acoustic radar. Advisor: prof. V.K. Khohlov</p>
Publications	21 Journal publications, 1 textbook chapter, h = 11 (Google Scholar, 2013)
Marital status	Married, three kids
References	<p>Mark Pflieger, President, Source Signal Imaging Inc, San Diego, CA, USA</p> <p>Richard M. Leahy, Ph.D., Professor, Department of Electrical Engineering-Systems, University of Southern California, Los Angeles, CA, leahy@sipi.usc.edu</p> <p>Richard Greenblatt, Ph.D., ex-President and founder, Source Signal Imaging Inc, San Diego, California , richard.greenblatt@gmail.com</p> <p>Tatiana Stroganova, D. Sc., Professor, Head of the Moscow Magnetoencephalographic center, Moscow Psycho-Pedagogical University, Moscow, Russia, stroganova56@mail.ru</p> <p>Vladimir Dribinski, Ph.D., Research Scientist, Corporate Technology Group , KLA-Tencor Corporation, vladimir.dribinski@kla-tencor.com</p> <p>Dimitrios Pantazis, Ph.D., Research Scientist, McGovern Institute for brain research, pantazis@mit.edu</p> <p>Sylvain Baillet, Ph.D., Associate Professor, Director of Research, MNI magnetoencephalography imaging program McGill University, sylvain.baillet@mcgill.ca</p> <p>Alexandr Alexandrov, D. Sc., Professor, Head of the Department of Higher Nervous Activity, Biology and Soils Faculty, St. Petersburg State University. alex2004spb@mail.ru</p>
Hobbies	Family, auto-travel, alpine skiing, home construction / improvement, recreational aviation