Dr. Nikolaos Karalis

Friedrich Miescher Institute for Biomedical Research

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4058, Basel, Switzerland

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nikolaskaralis@gmail.com

+41 779 656 702

Current position

Research fellow

2018 - now Friedrich Miescher Institute for Biomedical Research

Group leader: Dr. Andreas Lüthi

Education

Ph.D. in Neuroscience

2013 - 2018 Faculty of Medicine, Ludwig-Maximilians University Munich

Thesis Oscillatory architecture of memory circuits

Advisor Prof. Dr. Anton Sirota

M.Sc. Neurasmus Joint Master in Neuroscience

2011-2012 Charité University Medicine, Berlin – Medical Neuroscience

2012-2013 University Bordeaux II – Neuroscience and Neuropsychopharmacology Grade 18/20

Thesis Neuronal signatures of fear memory -

Oscillatory synchronization underlying fear memory expression Ranking 1/5

B.Sc. & M.Sc. School of Applied Mathematics and Physical Sciences

2004 – 2011 National Technical University of Athens (NTUA) Grade 7.42/10

Majors Computational Mathematics, Statistics

Thesis EEG signal analysis methods for characterization of meditative states Grade 10/10

Research methods

large-scale *in vivo* electrophysiology, high-dimensional data analysis, silicon probe recordings, closed-loop optogenetics, fiber photometry

Selected Publications (Citations: 457; h-index: 6) ORCID: 0000-0002-1804-9756

Neuron, 2018

 Breathing coordinates limbic network dynamics underlying memory consolidation Karalis N, Sirota A

2. IgSF9b regulates anxiety behaviors through centromedial amygdala inhibitory synapses
Babaev O, Cruces-Solis H, Chatain CP, Hammer M, Wenger S, Ali H, **Karalis N**, de Hoz L, **Communications, 2018**

Schlüter OM, Yanagawa Y, Ehrenreich H, Taschenberger H, Brose N, Krueger-Burg D

3. Prefrontal-periaqueductal gray-projecting neurons mediate context fear discrimination

Dejean C*, Courtin J*, Karalis N*, Chaudun F, Wurtz H, Thomas Bienvenu, Herry C

Rozeske R, Jercog D, Karalis N, Chaudun F, Khoder S, Girard D, Winke N, Herry C

4. Prefrontal neuronal assemblies temporally control fear behavior. Nature, 2016

5. 4 Hz oscillations synchronize prefrontal - amygdala circuits during fear behaviour. **Nature**

Karalis N*, Dejean C*, Chaudun F*, Khoder S, Rozeske R, Wurtz H, Bagur S,

Neuroscience, 2016

Benchenane K, Sirota A, Courtin J, Herry C

6. Prefrontal parvalbumin interneurons shape neuronal activity to drive fear expression. Nature, 2013

Courtin J, Chaudun F, Rozeske R, Karalis N, Gonzalez-Campo C, Wurtz H, Abdi A,

Baufreton J, Bienvenu T, Herry C

7. Persistence of amygdala gamma oscillations during extinction learning

Neurobiology of Learning

predicts spontaneous fear recovery. and Memory, 2013

Courtin J, **Karalis N**, Gonzalez-Campo C, Wurtz H, Herry C

8. Effects of Himalayan tradition meditation during a SSVEP study.

Neuroscience Letters, 2011

Karalis N, Karanasiou I, Uzunoglu N, & Braboszcz C

^{*:} equal contribution

Invited Talks

2019	Internal clocks for circuit organization	FENS-Hertie Winter School
2017	Neuronal synchrony and oscillatory coupling	Coupling & Causality in Complex Systems
	Neuronal correlates of breathing	Bernstein Conference PhD Symposium
	Respiratory entrainment of memory circuits	Harvard-LMU Young Scientists' Forum
	Respiratory entrainment of prefrontal circuits	Japan Neuroscience Society meeting
	Prefrontal oscillatory mechanisms of fear behavior	British Neuroscience Association meeting
2016	Oscillatory circuit organization during fear behavior	LMU lecture series
	Neuronal signatures of fear behavior	Neurizons – Young Investigator Talks
2015	High-density characterization of network activity	German Neuroscience Society
2014	Neurophysiological correlates of rodent communication	Animal Communication Workshop
2013	Neuronal signatures of fear memory	Neurasmus Workshop
	Neuronal signatures of fear memory	Neurasmus Orientation Week
2011	SSVEP effects of Himalayan tradition meditation	Breaking Convention
2007	Novel graph invariants for fast graph isomorphism	Mitacs Industrial Math Summer School
	Combinatorial and statistical analysis of keno game	Canadian Undergraduate Mathematics Conference

Research Experience

2013 – 2018	PhD candidate Mechanisms of memor Advisor: Prof. Dr. Anto	Ludwig-Maximilians-Universität München y consolidation across hippocampal and cortical circuits on Sirota	Faculty of Medicine
2012 – 2013	M.Sc. Thesis Neuronal signatures of Supervisor: Dr. Cyril H		INSERM
2009 – 2011	•	National Technical University of Athens europhysiological effects of meditation on visual evoked Karanasiou & Dr. Nikolaos Uzunoglou	Electrical Engineering Dept. I potentials
2005 – 2009		National Technical University of Athens g infrastructure - Network development and administrati	High Energy Physics Dept.

Scholarships and Grants

2019 – 2021 2010 – 2021	Marie Curie Individual Fellowship (191.000	· · · · · · · · · · · · · · · · · · ·
$2019 - 2021 \\ 2014 - 2017$	EMBO Long-Term Fellowship (130.000 Ludwig-Maximilians-Universität München	(CHF)
2013 - 2014	Centre for Integrative Neuroscience (CIN) - Univers	ity of Tübingen
2011 - 2013	Erasmus Mundus scholarship for the Neurasmus Join	nt Master degree program in Neuroscience
2010	University of Pennsylvania Grant	
2009	Erasmus scholarship (Research exchange)	
2007	MITACS scholarship	

Awards

2010	"Thomaideio Award" for conference presentation from National Technical University of Athens for the
	presentation "Short term effects of Vipassanā meditation in a single subject SSVEP study"
2008	"Thomaideio Award" for best journal publication from National Technical University of Athens for the
	publication "Effect of meteorological variables on the incidence of lower urinary tract infections"

Experimental Techniques

Electrophysiology	in vivo extracellular recording	s (tetrodes, silicon probe	s, ECoG) in freel	ly behaving & head-fixed
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rodents, high-dimensional neural data analysis, human EEG recordings

Imaging calcium imaging in freely-behaving mice (miniscope), fiber photometry

Circuit manipulation closed-loop optogenetics, pharmacogenetics & pharmacology

Programming Matlab, Python, Julia, Java, C++

Electronics circuit design and implementation, electrophysiology and behavioral equipment setup, 3D printing **Lab techniques** stereotaxic neurosurgeries, behavioral analysis, immunohistochemistry, microscopy, cell cultures

Selected conferences, summer schools, and workshops

National Science Foundation (NSF)

2019 Computational and Systems Neuroscience (Cosyne), Lisbon FENS CAJAL course - Biosensors and actuators for cellular and systems neuroscience, Bordeaux FENS-Hertie Winter School - Neural Control of Instinctive and Innate Behaviour, Obergurgl 2018 Exploring New Etiological Paths Towards Neurodegeneration, Mexico City 11th FENS forum, Berlin 68th Lindau Nobel Laureate Meeting in Physiology & Medicine 2017 Junior Scientist Workshop on Neural Circuits and Behavior, Janelia Farm, Washington Society for Neuroscience Meeting, Washington, DC Bernstein Conference, Göttingen Harvard-LMU Young Scientists' Forum, Munich Japan Neuroscience Society annual meeting, Tokyo EMBL Symposium Neural Circuits in the Past, Present and Future, Heidelberg 37th Blankenese Conference on Synaptic plasticity & stability, Hamburg British Neuroscience Association festival, Birmingham 2016 Probing neuronal circuits during behavior, Bordeaux Neurizons, Göttingen Mechanisms of Memory Consolidation, Reconsolidation and Extinction, Lausanne 2015 3rd Baltic-Nordic Summer School on Neuroinformatics, University of Tartu Optogenetics Workshop SPP1665, Ruhr University Bochum 7th G-Node Winter Course in Neural Data Analysis, LMU Bernstein Conference, Heidelberg 11th Meeting of the German Neuroscience Society, Göttingen 2014 NIN Interneuron Summer School, Amsterdam Optogenetics: controlling the brain with light, University of Oxford Society for Neuroscience Meeting, Washington, DC 9th FENS Forum of Neuroscience, Milan 2013 1st Live Cell Imaging and Electrophysiology Workshop, Pasteur Institute, Athens 11th Summer Course on Computational Neuroscience, Göttingen 5th G-Node Winter Course in Neural Data Analysis, LMU Bernstein Conference, Tübingen 2012 Super Resolution Imaging Techniques Workshop, Bordeaux Imaging Center Mathematical Cell Biology Graduate Summer Course, University of British Columbia, Vancouver 8th FENS Forum of Neuroscience, Barcelona 7th International Symposium on Neuroprotection and Neurorepair, Potsdam Society of Applied Neuroscience meeting, Thessaloniki 2011 Breaking Convention, University of Kent 5th International Summer School on Emerging Technologies in Biomedicine, Patras 2010 Summer Program in Computational Neuroscience, University of Pennsylvania, Philadelphia 66th European Study Group with Industry, Technical University of Denmark, Copenhagen 2008 Graduate Industrial Mathematics Modeling Camp, University of Regina 2nd Workshop for Drug Design, National Hellenic Research Foundation, Athens 2007 MITACS Industrial Math Summer School, Simon Fraser University, Vancouver 2006 Arizona Winter School "Computational Aspects of Algebra and Arithmetic", Tucson, Arizona Travel grants 2019 Travel grant to attend the Computation and Systems Neuroscience (Cosyne) conference Onassis Foundation nomination and grant to attend Lindau Nobel Laureate Meeting 2018 FENS-IBRO/PERC travel grant to attend FENS Forum 2018 2017 BCCN travel grant to attend Bernstein Conference Janelia Farm travel grant to attend Junior Scientist Workshop on Neural Circuits and Behavior FENS travel grant to attend JNS Annual Meeting Travel grant to attend EMBL Symposium on Neural Circuits Travel grant to attend 37th Blankenese Conference 2015 University of Tartu – INCF travel grant British Neuroscience Association travel grant 2014 2013 Hellenic Pasteur Institute travel grant Thomaideio grant (NTUA) for active participation in conference. 2011 COST Grant (5th International Summer School on Emerging Technologies in Biomedicine) 2010 Centrum Wiskunde & Informatica (CWI) (Study group Mathematics with Industry) 2009 Centre de Recherche Cerveau et Cognition 2008 Danish Center for Applied Mathematics and Mechanics (DCAMM) University of Crete Pacific Institute for the Mathematical Sciences (PIMS) grant 2006 FORTH scholarship Athens Information Technology (AIT)

Student supervision

2016 - 2017	Jialiang Lu	M.Sc. Thesis	Currently: Graduate student at Caltech
2017	Auguste Schulz	Research Internship	Currently: M.Sc. student at TUM
2016	Sandra Reinert	Research Internship	Currently: Graduate student at LMU
2015 - 2016	Elena Itzcovich	Research Internship	Currently: Graduate student at LMU
2015 - 2016	Amar Roy	M.Sc. Thesis	Currently: Industry
2015 - 2016	Felix Brechtmann	Research Internship	Currently: Industry

Scientific outreach

2016 – today	Administrator of Systems Neuroscience mailing list
2016 – today	Peer reviewer
2015 – today	Organizer of Neurophysiology Nights seminar series, LMU
2012 - 2015	Writer & editorial board of the "CNS Charité Neuroscience Newsletter"
2012 - 2013	Neurasmus course representative at the Erasmus Mundus Association (EMA)
2012 – today	Scholarpedia Assistant Editor
2011 - 2014	TED talks translator
2008 - 2010	American Mathematical Society's (AMS) poster series "Mathematical Moments" translator
2004 - 2006	Organizer and invigilator - National mathematical competitions - Hellenic Mathematical Society (HMS)
2004	Coordinator, guide and invigilator at the International Mathematical Olympiad (IMO) 2004
2004	Coordinator, guide and invigilator at the International Informatics Olympiad (IOI) 2004

Teaching experience

2019	Tutoring FENS CAJAL course - Biosensors and actuators for cellular and systems neuroscience, Bordeaux
2017	Assistance at Miniscope Workshop Munich
2015 - 2017	Student supervision
2015	Tutor at the 7th G-Node Winter Course in Neural Data Analysis
2012	"Speaking to the public" (M.Sc. course), Charité University Hospital, Berlin
2004 - 2012	Private and group tutor (university and high school students), Athens

Internships

2011 – 2012	Lab Rotations - Charité - Universitätsmedizin Berlin "Comparison of cell counting techniques for the assessment of cell death in tissue slices" "Effects of PEDF on primary neuronal cells after oxygen-glucose deprivation" Departments of Experimental Neurosurgery & Experimental Neurology Supervisors: Dr. Ana Luisa Piña – Dr. Marietta Zille
2010	Summer research scholar - University of Pennsylvania Department of Psychiatry, Supervisor: Dr. Ruben Gur
2009	M.Sc. Thesis - Université Paul Sabatier, Toulouse Centre de Recherche Cerveau et Cognition (CERCO), Supervisor: Dr. Arnaud Delorme

Internship on Biostatistics - Alfa Institute of Biomedical Sciences (AIBS)

Supervisors: Dr. Matthew E. Falagas - Dr. Dimitrios Matthaiou

Graph theory research for MapleSoft – Simon Fraser University (SFU) 2007

"Algorithmic graph isomorphism determination"

Centre for Experimental and Constructive Mathematics (CECM) Supervisors: Dr. Michael Monagan - Mohammad Ghebleh

Patents

2008

WO/2017/021542 Method and device for modulating fear and/or anxiety

Other publications

9. Combinatorial and statistical analysis of keno game.

Karalis N

10. Effect of meteorological variables on the incidence of lower urinary tract infections. Falagas ME, Peppas G, Matthaiou DK, Karageorgopoulos DE, Karalis N, Theocharis G

11. Novel graph invariants for fast graph isomorphism identification.

Karalis N, Aliaga R, Arnold R, Wu W

CUMC Annual, 2007

European Journal of Clinical Microbiology and Infectious

Diseases, 2009

Mitacs Proceedings, 2007

Languages

Language	Level		Certification
Greek	First language		
English	Fluent	C2	Cambridge First Certificate in English (2001)
German	Intermediate	C1	Zentrale Mittelstufenprufung (2002) Zertifikat Deutsch als Fremdsprache (2000)
Spanish	Intermediate	B2	
French	Intermediate	B2	

Soft skills courses

2017	Patent and IP workshop, Center for Nanoscience, Munich
2015	Project management workshop, LMU Graduate School, Munich
2015	Grant writing workshop, LMU Graduate School, Munich
2015	Academic presentation workshop, LMU Graduate School, Munich
2014	Educational course on manuscript and grant writing, Milan

Professional memberships

2018 – today 2017 – today	Lindau Alumni Network Japan Neuroscience Association
2014 – today	Society for Neuroscience
2013 – today 2013 – today	Bernstein Center for Computational Neuroscience Neurasmus Alumni Association
2013 – today 2012 – today	Neuroscience in Bordeaux Association
2012 – today	Federation of European Neuroscience Societies
2012 – today 2011 – today	Hellenic Society for Neurosciences "School of Applied Mathematics and Physics" Alumni Association
2011 – today 2004 – today	Hellenic Mathematical Society

Volunteering work

2011	Volunteering for EDASA (Forest Wildfire Protection), Athens
2010	JeffHOPE student-run free clinics, Philadelphia, PA
2010	Books Through Bars, Philadelphia, PA
2009 - 2012	Photographer in various artistic events
2007	Teaching computer skills to immigrants at the Underground Free University, Athens
2005	European Youth Week 2005, Athens

Non-academic work experience

2011 - 2012	Civic Consulting (Research assistance), Berlin, Germany
2011	Greek Population Census
2010 - 2012	Founder of tutoring and career counseling organization
2009 - 2011	Photographer (freelance, Demotix agency)
2007 - 2011	Animateur
2004 - 2012	Web development (PHP, HTML, CSS, Javascript, LaTeX, SQL)
2010	Hellenic Post
2004	Hellenic Telecommunications Organization (OTE)
2004	Athens Urban Transportation Organization (OASA)

Conference abstracts

2019 Breathing coordinates network dynamics underlying memory consolidation Karalis N, Sirota A [Cosyne 2019] Breathing coordinates network dynamics underlying memory consolidation Karalis N, Sirota A [FENS-Hertie Winter School] Dynamic organization of limbic circuit dynamics by breathing 2018 Karalis N, Sirota A [FENS forum 2018] 2017 Respiratory entrainment of memory circuits Karalis N, Sirota A [Junior Scientist Workshop on Neural Circuits and Behavior] Respiratory entrainment of memory circuits Karalis N, Sirota A [SfN Meeting 2017] Neuronal synchrony and oscillatory coupling - Functional role and implementation **Karalis N**, Sirota A [Coupling and Causality in Complex Systems Conference] Respiratory entrainment of prefrontal circuits Karalis N, Sirota A [Bernstein Conference 2017] Respiratory entrainment of prefrontal circuits Karalis N, Sirota A [40th Meeting of Japan Neuroscience Society] Respiratory entrainment of prefrontal circuits Karalis N, Sirota A [Causation, Explanation, Conditionals workshop] Respiratory entrainment of prefrontal circuits Karalis N, Sirota A [EMBL Symposium Neural Circuits in the Past, Present and Future] Respiratory entrainment of prefrontal circuits Karalis N, Sirota A [37th Blankenese Conference on Synaptic plasticity & stability] 2016 Manipulating and interpreting fast oscillatory dynamics using optogenetics Karalis N, Lu J, Sirota A [3rd Bordeaux Neurocampus Conference] Manipulating and interpreting network dynamics using optogenetics Karalis N, Lu J, Sirota A [Bernstein Retreat - 10th Sparks Workshop] Oscillatory circuit organization during fear behavior Karalis N, Courtin, J, Dejean C, Chaudun F, Rozeske R, Wurtz H, Herry C [Neurizons] 2015 High-density electrophysiological characterization of the hippocampal and cortical network activity Karalis N, Blanco-Hernandez E, Sirota A [11th Meeting of the German Neuroscience Society 2015] Multichannel extracellular recordings in freely behaving rodents Resnik E, Karalis N, Schwesig G, Sirota A [Center of Competence in Neuroengineering Meeting 2015] Synchronized prefrontal-amygdala 4Hz oscillations mediate fear behavior 2014 Karalis N, Courtin, J, Dejean C, Chaudun F, Rozeske R, Wurtz H, Herry C [SfN Meeting 2014] Prefrontal circuits of contextual fear discrimination and generalization Rozeske R, Khoder S, Chaudun F, Karalis N, Wurtz H, Herry C [SfN Meeting 2014] Towards the dissection of the olfactory sampling strategies during exploratory activity Blanco-Hernandez E, Graboski J, Karalis N, Sirota A [Olfaction SPP 5th Annual Meeting]. Long-range synchronization of prefrontal-amygdala neuronal circuits during fear behavior Karalis N, Courtin, J, Dejean C, Chaudun F, Rozeske R, Wurtz H, Herry C [FENS Meeting 2014] Prefrontal Circuits of Contextual Fear Discrimination Rozeske R, Chaudun F, Khoder S, Karalis N, Wurtz H, Herry C [FENS Meeting 2014] Medial prefrontal cortex neuronal ensembles encode conditioned fear behavior Dejean C, Courtin, J, Karalis N, Wurtz H, Herry C [FENS Meeting 2014] Synchronized prefrontal-amygdala 4Hz oscillations mediate fear behavior Karalis N, Courtin, J, Dejean C, Chaudun F, Rozeske R, Wurtz H, Herry C [NIN Interneurons Summer School] 2013 Increased prelimbic neuronal activity is associated with contextual fear discrimination Rozeske R, Karalis N, Khoder S, Herry C [4th GDR Congress] 2011 Effects of Himalayan tradition meditation during a SSVEP study Karalis N, Karanasiou I, Uzunoglu N [Meeting of the Society of Applied Neurosciences 2011] 2010 Short term effects of Vipassanā meditation in a single subject SSVEP study Karalis N, Karanasiou I, Uzunoglu N [4th Congress for Electr. Engin. Students] 2006 Grid Computing [TEE Research and Technology Days]

Conference and workshop participation

2019 Computational and Systems Neuroscience (Cosyne), Lisbon FENS CAJAL course - Biosensors and actuators for cellular and systems neuroscience, Bordeaux FENS-Hertie Winter School - Neural Control of Instinctive and Innate Behaviour, Obergurgl 2018 68th Lindau Nobel Laureate Meeting in Physiology & Medicine 11th FENS forum, Berlin Exploring New Etiological Paths Towards Neurodegeneration, Mexico City 2017 Junior Scientist Workshop on Neural Circuits and Behavior, Janelia Farm, Washington Society for Neuroscience Meeting, Washington, DC Bernstein Conference 2017, Göttingen Coupling & Causality in Complex Systems, Cologne Harvard-LMU Young Scientists' Forum, Munich Japan Neuroscience Society annual meeting, Tokyo Bernstein Retreat and Causation, Explanation, Conditionals Workshop, Tutzing EMBL Symposium Neural Circuits in the Past, Present and Future, Heidelberg 37th Blankenese Conference on Synaptic plasticity & stability, Hamburg British Neuroscience Association festival, Birmingham Swiss Society for Neuroscience annual Meeting, Basel 2016 Probing neuronal circuits during behavior, Bordeaux Neurizons, Göttingen Bernstein Retreat and Multichannel Electrophysiology Workshop, Tutzing 2015 Mechanisms of Memory Consolidation, Reconsolidation and Extinction, Lausanne Why trust a theory? – Modern Physics Scientific Methodology, LMU 3rd Baltic-Nordic Summer School on Neuroinformatics, University of Tartu Optogenetics Workshop SPP1665, Ruhr University Bochum 7th G-Node Winter Course in Neural Data Analysis, LMU Bernstein Conference, Heidelberg Cutting Edge Technologies, Munich Bernstein Retreat and Virtual Reality Workshop, Tutzing 11th Meeting of the German Neuroscience Society, Göttingen Center of Competence on Neuroengineering Meeting, Technical University of Munich 2014 NIN Interneuron Summer School, Amsterdam Understanding Sleep: Novel Perspectives in Neurosciences, European Sleep Research Society, Milan Optogenetics: controlling the brain with light, University of Oxford International Course on Animal Communication, University of Tübingen Practical course optical imaging in Neuroscience, University of Tübingen Society for Neuroscience Meeting, Washington, DC 9th FENS Forum of Neuroscience, Milan Models of Synaptic Plasticity Doctoral Course, University of Tübingen 2013 1st Live Cell Imaging and Electrophysiology Workshop, Pasteur Institute, Athens 11th Summer Course on Computational Neuroscience, Göttingen Neurasmus Workshop, Coimbra 5th G-Node Winter Course in Neural Data Analysis, LMU Brain-Computer Interface workshop and hands-on seminar, INRIA, Bordeaux Bernstein Conference, Tübingen 1st European Neuroscience Conference by Doctoral Students, Bordeaux European Neuroscience Campus Annual Meeting, Bordeaux 2012 Super Resolution Imaging Techniques Workshop, Bordeaux Imaging Center Neurasmus Workshop, Barcelona Mathematical Cell Biology Graduate Summer Course, University of British Columbia, Vancouver Cerebral Ischemia: in vivo and in vitro models (Methods Course), Dept. Of Exp. Neurology, Charité, Berlin FELASA category B training (License for experimentation on living animals), Charité, Berlin 8th FENS Forum of Neuroscience, Barcelona ENC Network Annual Joint Meeting, Barcelona Erasmus Mundus Association General Assembly, Prague 7th International Symposium on Neuroprotection and Neurorepair, Potsdam 2011 Berlin Brain Days 22nd European Students Conference on Regenerative Medicine, Berlin

Society of Applied Neuroscience meeting, Thessaloniki

Breaking Convention, University of Kent

34th European Conference on Visual Perception, Toulouse 25th Annual Hellenic Congress of Neurosurgery, Athens 25th Annual Hellenic Congress of Neurology, Athens

2010 5th International Summer School on Emerging Technologies in Biomedicine, Patras Summer Program in Computational Neuroscience, University of Pennsylvania, Philadelphia Study Group Mathematics with Industry, Amsterdam 4th Congress for Electrical Engineering Students, Patras 2009 8th EEGLAB Workshop, Aspet The Brain: Function, Imaging and Repair, Athens 2008 Modern Methods in Industrial Mathematics Ph.D. Course, Technical University of Denmark, Copenhagen 66th European Study Group with Industry, Technical University of Denmark, Copenhagen Mathematics Summer School, University of Crete Graduate Industrial Mathematics Modeling Camp, University of Regina Industrial Problem Solving Workshop, University of Regina 2nd Workshop for Drug Design, National Hellenic Research Foundation, Athens 2007 Canadian Undergraduate Mathematics Conference, Simon Fraser University, Vancouver MITACS Industrial Math Summer School, Simon Fraser University, Vancouver

Arizona Winter School "Computational Aspects of Algebra and Arithmetic", Tucson, Arizona

Introduction to Grid Computing, Athens

Next Generation Computing Systems - AIT Summer School, Athens

BEST Robotics Summer School, Athens

Which mathematics for biology?, FORTH, University of Crete

2001 – 2004 Participation in national mathematical competitions