

# Nikolaos Karalis

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## Current position

### Research fellow

2018 - now Friedrich Miescher Institute for Biomedical Research  
Project: *Neuromodulatory organization of amygdala circuits*  
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  
Thesis: *Neuronal signatures of fear memory* Grade 18/20  
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: 888; h-index: 9)

1. Intercalated amygdala clusters orchestrate a switch in fear state  
Hagihara KM, Bukalo O, Zeller M, Aksoy-Aksel A, **Karalis N**, ..., Lüthi A, Holmes A  
**Nature, 2021**
2. Efficient optogenetic silencing of neurotransmitter release with a mosquito rhodopsin  
Mahn M, Saraf-Sinik I, Patil P, Pulin M, Bitton E, **Karalis N**, ..., Wiegert S, Yizhar O  
**Neuron, 2021**
3. Breathing coordinates limbic network dynamics underlying memory consolidation  
**Karalis N**, Sirota A  
**bioRxiv, 2018**
4. Re-thinking the etiological framework of neurodegeneration  
Castillo X, ..., **Karalis N**, ..., Villringer A, Winek K, Zille M  
**Front. in Neuroscience, 2019**
5. IgSF9b regulates anxiety behaviors through centromedial amygdala inhibitory synapses  
Babaev O, Cruces-Solis H, ..., **Karalis N**, ..., Brose N, Krueger-Burg D  
**Nature Communications, 2018**
6. Prefrontal-periaqueductal gray-projecting neurons mediate context fear discrimination  
Rozeske R, Jercog D, **Karalis N**, Chaudun F, Khoder S, Girard D, Winke N, Herry C  
**Neuron, 2018**
7. Prefrontal neuronal assemblies temporally control fear behavior.  
Dejean C\*, Courtin J\*, **Karalis N\***, Chaudun F, Wurtz H, Thomas Bienvenu, Herry C  
**Nature, 2016**
8. 4 Hz oscillations synchronize prefrontal - amygdala circuits during fear behaviour.  
**Karalis N\***, Dejean C\*, Chaudun F\*, ..., Benchenane K, Sirota A, Courtin J, Herry C  
**Nature Neuroscience, 2016**
9. Prefrontal parvalbumin interneurons shape neuronal activity to drive fear expression.  
Courtin J, Chaudun F, Rozeske R, **Karalis N**, ..., Bienvenu T, Herry C  
**Nature, 2013**
10. Persistence of amygdala gamma oscillations during extinction learning predicts spontaneous fear recovery.  
Courtin J, **Karalis N**, Gonzalez-Campo C, Wurtz H, Herry C  
**Neurobiology of Learning and Memory, 2013**

\*: equal contribution

## Invited Talks

<b>2020</b>	Breathing coordinates cortical network dynamics Breathing coordinates cortical network dynamics	Neurizons – Young Investigator Talks Neuromatch 2.0
<b>2019</b>	Internal clocks for circuit organization	FENS-Hertie Winter School
<b>2017</b>	Neuronal synchrony and oscillatory coupling Neuronal correlates of breathing Respiratory entrainment of memory circuits Respiratory entrainment of prefrontal circuits Prefrontal oscillatory mechanisms of fear behavior	Coupling & Causality in Complex Systems Bernstein Conference PhD Symposium Harvard-LMU Young Scientists' Forum Japan Neuroscience Society meeting British Neuroscience Association meeting
<b>2016</b>	Oscillatory circuit organization during fear behavior Neuronal signatures of fear behavior	LMU lecture series Neurizons – Young Investigator Talks
<b>2015</b>	High-density characterization of network activity	German Neuroscience Society
<b>2014</b>	Neurophysiological correlates of rodent communication	Animal Communication Workshop
<b>2013</b>	Neuronal signatures of fear memory Neuronal signatures of fear memory	Neurasmus Workshop Neurasmus Orientation Week
<b>2011</b>	SSVEP effects of Himalayan tradition meditation	Breaking Convention
<b>2007</b>	Novel graph invariants for fast graph isomorphism Combinatorial and statistical analysis of keno game	Mitacs Industrial Math Summer School Canadian Undergraduate Mathematics Conference

## Research Experience

<b>2019 – today</b>	<b>Research Fellow</b>	<b>Friedrich Miescher Institute for Biomedical Research</b>	
	Project: <i>Neuromodulatory organization of amygdala circuits</i> Group leader: Dr. Andreas Lüthi		
<b>2013 – 2018</b>	<b>Ph.D. Thesis</b>	<b>Ludwig-Maximilians-Universität München</b>	Faculty of Medicine
	<i>Mechanisms of memory consolidation across hippocampal and cortical circuits</i> Advisor: Prof. Dr. Anton Sirota		
<b>2012 – 2013</b>	<b>M.Sc. Thesis</b>	<b>Neurocenter Magendie, Bordeaux</b>	INSERM
	<i>Neuronal signatures of fear memory</i> Supervisor: Dr. Cyril Herry		
<b>2009 – 2011</b>	<b>M.Sc. Thesis</b>	<b>National Technical University of Athens</b>	Electrical Engineering Dept.
	<i>EEG Analysis of the neurophysiological effects of meditation on visual evoked potentials</i> Supervisors: Dr. Irene Karanasiou & Dr. Nikolaos Uzunoglou		
<b>2005 – 2009</b>	<b>Research assistance</b>	<b>National Technical University of Athens</b>	High Energy Physics Dept.
	CERN Grid Computing infrastructure - Network development and administration		

## Scholarships and Grants

<b>2019 – 2021</b>	Marie Curie Individual Fellowship	(191.000 EUR)
<b>2019 – 2021</b>	EMBO Long-Term Fellowship	(151.000 CHF)
<b>2014 – 2017</b>	Ludwig-Maximilians-Universität München	
<b>2013 – 2014</b>	Centre for Integrative Neuroscience (CIN) - University of Tübingen	
<b>2011 – 2013</b>	Erasmus Mundus scholarship for the Neurasmus Joint Master degree program in Neuroscience	
<b>2010</b>	University of Pennsylvania Grant	
<b>2009</b>	Erasmus scholarship (Research exchange)	
<b>2007</b>	MITACS scholarship	

## Awards

<b>2010</b>	“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”
<b>2008</b>	“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”

## Selected conferences, summer schools, and workshops

<b>2021</b>	FENS CAJAL course - Biosensors for cellular and circuit neuroscience, Bordeaux
<b>2019</b>	FENS CAJAL course - Biosensors and actuators for cellular and systems neuroscience, Bordeaux Neuromodulation of Neural Microcircuits, Champéry Computational and Systems Neuroscience (Cosyne), Lisbon FENS-Hertie Winter School – Neural Control of Instinctive and Innate Behaviour, Obergurgl
<b>2018</b>	Exploring New Etiological Paths Towards Neurodegeneration, Mexico City 11 <sup>th</sup> FENS forum, Berlin 68 <sup>th</sup> Lindau Nobel Laureate Meeting in Physiology & Medicine
<b>2017</b>	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
<b>2016</b>	Probing neuronal circuits during behavior, Bordeaux Neurizons, Göttingen
<b>2015</b>	Mechanisms of Memory Consolidation, Reconsolidation and Extinction, Lausanne 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 11 <sup>th</sup> Meeting of the German Neuroscience Society, Göttingen
<b>2014</b>	NIN Interneuron Summer School, Amsterdam Optogenetics: controlling the brain with light, University of Oxford Society for Neuroscience Meeting, Washington, DC 9 <sup>th</sup> FENS Forum of Neuroscience, Milan
<b>2013</b>	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
<b>2012</b>	Super Resolution Imaging Techniques Workshop, Bordeaux Imaging Center Mathematical Cell Biology Graduate Summer Course, University of British Columbia, Vancouver 8 <sup>th</sup> FENS Forum of Neuroscience, Barcelona 7 <sup>th</sup> International Symposium on Neuroprotection and Neurorepair, Potsdam
<b>2011</b>	Society of Applied Neuroscience meeting, Thessaloniki Breaking Convention, University of Kent
<b>2010</b>	5th International Summer School on Emerging Technologies in Biomedicine, Patras Summer Program in Computational Neuroscience, University of Pennsylvania, Philadelphia
<b>2008</b>	66th European Study Group with Industry, Technical University of Denmark, Copenhagen Graduate Industrial Mathematics Modeling Camp, University of Regina 2nd Workshop for Drug Design, National Hellenic Research Foundation, Athens
<b>2007</b>	MITACS Industrial Math Summer School, Simon Fraser University, Vancouver
<b>2006</b>	Arizona Winter School “Computational Aspects of Algebra and Arithmetic”, Tucson, Arizona

## Travel grants

<b>2019</b>	Travel grant to attend the Neuromodulation of Neural Microcircuits conference Travel grant to attend the Computation and Systems Neuroscience (Cosyne) conference
<b>2018</b>	Onassis Foundation nomination and grant to attend Lindau Nobel Laureate Meeting FENS-IBRO/PERC travel grant to attend FENS Forum 2018
<b>2017</b>	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
<b>2015</b>	University of Tartu – INCF travel grant
<b>2014</b>	British Neuroscience Association travel grant
<b>2013</b>	Hellenic Pasteur Institute travel grant
<b>2011</b>	Thomaideio grant (NTUA) for active participation in conference.
<b>2010</b>	COST Grant (5th International Summer School on Emerging Technologies in Biomedicine) Centrum Wiskunde & Informatica (CWI) (Study group Mathematics with Industry)
<b>2009</b>	Centre de Recherche Cerveau et Cognition
<b>2008</b>	Danish Center for Applied Mathematics and Mechanics (DCAMM) University of Crete travel grant Pacific Institute for the Mathematical Sciences (PIMS) grant
<b>2006</b>	FORTH scholarship, Athens Information Technology (AIT) scholarship, Hellenic NSF scholarship

## Experimental Techniques

<b>Electrophysiology</b>	<i>in vivo</i> extracellular recordings (tetrodes, silicon probes, ECoG) in freely behaving & head-fixed rodents, high-dimensional neural data analysis, human EEG recordings
<b>Imaging</b>	calcium imaging in freely-behaving mice (miniscope), fiber photometry
<b>Circuit manipulation</b>	closed-loop optogenetics, pharmacogenetics & pharmacology
<b>Programming</b>	Matlab, Python, Julia, Java, C++, PHP, HTML, SQLite
<b>Electronics</b>	circuit design and implementation, electrophysiology and behavioral equipment setup, 3D printing
<b>Lab techniques</b>	stereotaxic neurosurgeries, behavioral analysis, immunohistochemistry, microscopy, cell cultures

## Student supervision

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

## Patents

<b>WO/2017/021542</b>	Method and device for modulating fear and/or anxiety
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## Other publications

11. Effects of Himalayan tradition meditation during a SSVEP study. <b>Karalis N</b> , Karanasiou I, Uzunoglu N, & Braboszcz C	<b>Neuroscience Letters, 2011</b>
12. Combinatorial and statistical analysis of keno game. <b>Karalis N</b>	<b>CUMC Annual, 2007</b>
13. Effect of meteorological variables on the incidence of lower urinary tract infections. Falagas ME, Peppas G, Matthaïou DK, Karageorgopoulos DE, <b>Karalis N</b> , Theocharis G	<b>European Journal of Clinical Microbiology and Infectious Diseases, 2009</b>
14. Novel graph invariants for fast graph isomorphism identification. <b>Karalis N</b> , Aliaga R, Arnold R, Wu W	<b>Mitacs Proceedings, 2007</b>

## Academic service & outreach

<b>2020</b>	FENS 2020 Twitter Ambassador
<b>2019 – today</b>	Peer reviewer, Cosyne conference
<b>2016 – today</b>	Administrator of Systems Neuroscience mailing list
<b>2016 – today</b>	Peer reviewer (PLOS, Front. Comp. Neuro, Neurocomputing, Neuroscience Letters, CODY, Cosyne)
<b>2015 – today</b>	Organizer of Neurophysiology Nights seminar series, LMU
<b>2012 – 2015</b>	Writer & editorial board of the “CNS Charité Neuroscience Newsletter”
<b>2012 – 2013</b>	Neurasmus course representative at the Erasmus Mundus Association (EMA)
<b>2012 – today</b>	Scholarpedia Assistant Editor
<b>2011 – 2014</b>	TED talks translator
<b>2008 – 2010</b>	American Mathematical Society's (AMS) poster series “Mathematical Moments” translator
<b>2004 – 2006</b>	Organizer and invigilator - National mathematical competitions - Hellenic Mathematical Society (HMS)
<b>2004</b>	Coordinator, guide and invigilator at the International Mathematical Olympiad (IMO) 2004
<b>2004</b>	Coordinator, guide and invigilator at the International Informatics Olympiad (IOI) 2004

## Teaching experience

<b>2019</b>	Tutoring at FENS CAJAL course - Biosensors and actuators for cellular and systems neuroscience, Bordeaux
<b>2017</b>	Assistance at Miniscope Workshop Munich
<b>2015 - 2017</b>	Student supervision
<b>2015</b>	Tutor at the 7th G-Node Winter Course in Neural Data Analysis
<b>2012</b>	“Speaking to the public” (M.Sc. course), Charité University Hospital, Berlin
<b>2004 – 2012</b>	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
- 2008              Internship on Biostatistics - Alfa Institute of Biomedical Sciences (AIBS)**  
Supervisors: Dr. Matthew E. Falagas - Dr. Dimitrios Matthaiou
- 2007              Graph theory research for MapleSoft – Simon Fraser University (SFU)**  
“Algorithmic graph isomorphism determination”  
Centre for Experimental and Constructive Mathematics (CECM)  
Supervisors: Dr. Michael Monagan - Mohammad Ghebleh

## Languages

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

## Professional memberships

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

## Soft skills courses

2020	Project Management – a Toolbox for Scientists, Basel
2020	Learning How to Lead and to Build a Successful Work Environment, Basel
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

## Conference abstracts

- 2020** Breathing coordinates cortical and subcortical network dynamics  
**Karalis N, Sirota A** [Neuromatch 2.0]  
Breathing coordinates cortical and subcortical network dynamics  
**Karalis N, Sirota A** [Neurizons 2020]
- 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]
- 2018** Dynamic organization of limbic circuit dynamics by breathing  
**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]
- 2014** Synchronized prefrontal-amygdala 4Hz oscillations mediate fear behavior  
**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** [4<sup>th</sup> Congress for Electr. Engin. Students]
- 2006** Grid Computing [TEE Research and Technology Days]

## Conference and workshop participation

<b>2020</b>	Neuromatch 2.0 Neurizons
<b>2019</b>	Fear Learning – From Neuronal Circuits to Translation, Lausanne The Sleeping Brain, Paris Neuromodulation of Neural Microcircuits, Champéry 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
<b>2018</b>	68 <sup>th</sup> Lindau Nobel Laureate Meeting in Physiology & Medicine 11 <sup>th</sup> FENS forum, Berlin Exploring New Etiological Paths Towards Neurodegeneration, Mexico City
<b>2017</b>	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 37 <sup>th</sup> Blankenese Conference on Synaptic plasticity & stability, Hamburg British Neuroscience Association festival, Birmingham Swiss Society for Neuroscience annual Meeting, Basel
<b>2016</b>	Probing neuronal circuits during behavior, Bordeaux Neurizons, Göttingen Bernstein Retreat and Multichannel Electrophysiology Workshop, Tutzing
<b>2015</b>	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 11 <sup>th</sup> Meeting of the German Neuroscience Society, Göttingen Center of Competence on Neuroengineering Meeting, Technical University of Munich
<b>2014</b>	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 9 <sup>th</sup> FENS Forum of Neuroscience, Milan
<b>2013</b>	Models of Synaptic Plasticity Doctoral Course, University of Tübingen 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
<b>2012</b>	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 8 <sup>th</sup> FENS Forum of Neuroscience, Barcelona ENC Network Annual Joint Meeting, Barcelona Erasmus Mundus Association General Assembly, Prague 7 <sup>th</sup> International Symposium on Neuroprotection and Neurorepair, Potsdam
<b>2011</b>	Berlin Brain Days 22 <sup>nd</sup> European Students Conference on Regenerative Medicine, Berlin Society of Applied Neuroscience meeting, Thessaloniki Breaking Convention, University of Kent 34 <sup>th</sup> European Conference on Visual Perception, Toulouse 25 <sup>th</sup> Annual Hellenic Congress of Neurosurgery, Athens 25 <sup>th</sup> 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  
4<sup>th</sup> 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

**2006** 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