

Athanasia Papoutsis, PhD

Research Scientist, IMBB/FORTH

[IBRO-PERC Affiliated Member](#)

[OCNS Board of Directors](#)

Professional and Research Experience

02/2020 -	Principal Staff Scientist , Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology (FORTH), Greece
03/2020-04/2022	Einstein Visiting Scientist , Larkum Lab, Humboldt University, Germany The role of inhibition in the prefrontal cortex (PFC) for flexible decision making.
11/2018-01/2020	H.F.R.I. Research Associate , IMBB/FORTH, Greece Spine dynamics in the PFC during flexible decision making (<i>in vivo</i> structural imaging in mice) / Neural computations in human neurons.
02/2018-05/2018 & 10/2018-12/2018	NeuroCure Visiting Postdoctoral Researcher , Larkum Lab, Humboldt University, Germany Neural oscillations under anaesthesia (<i>in vivo</i> calcium imaging, <i>in vivo</i> & <i>in vitro</i> electrophysiological recordings in mice).
05/2016-12/2016	Postdoctoral Researcher , Larkum Lab, Humboldt University, Germany Neural oscillations under anaesthesia (<i>in vivo</i> calcium imaging, <i>in vivo</i> & <i>in vitro</i> electrophysiological recordings in mice).
01/2014-04/2016 & 02/2017-10/2018	Postdoctoral Researcher , Poirazi Lab, IMBB/FORTH, Greece Visual information processing in the visual cortex.
04/2015	EMBL Course on Laboratory Animal Science , Italy FELASA Category C accredited.
09/2008-03/2009	Research Assistant , Poirazi Lab, IMBB/FORTH, Greece Computational modeling of working memory.

Education

03/2009-01/2014	PhD in Neuroscience <i>Modeling approaches for analyzing the properties of persistent activity in the prefrontal cortex.</i> Department of Biology, University of Crete (UoC), Advisory committee: Dr. Poirazi (IMBB/FORTH), Prof. Chalepakis (UoC), Prof. Segev (Hebrew University)
12/2006-12/2008	Masters in the Brain and Mind Sciences Interdepartmental Graduate Programme, UOC Grade: 9.06/10 (Excellent, with distinction, Class rank: 1 st)
09/2000-07/2005	Ptychion (BSc) in Biology Faculty of Biology, National and Kapodistrian University of Athens (NKUA) Grade: 6.82/10 (Very Good)
07/2004-07/2005	Graduation Thesis in Neuroscience <i>Study of the protective effect of neurosteroids in neuron cell cultures.</i> Faculty of Biology, NKUA, Supervisor: Prof. Papazafiri, Grade: 10/10
09/1993-07/1999	High School Diploma , Moraitis School, Grade: 18.1/20

Research Funding (Principal Investigator)

2025-2027	Fostering INCLUsive biomedicine gEps in research and higher education institutions - INCLUDE HORIZON-WIDERA-2024-ERA-01, EU Principal Investigator as member of the IMBB Gender Equality Group <i>Development of inclusive actions within biomedical research organisations.</i>
2022-2025	Mechanistic Understanding of Flexible Behavior FORTH Synergy Grant, Greece <i>The role of thalamus in flexible decision making.</i>
2019-2022	Dendritic Spine Dynamics in an Animal Model of Schizophrenia NARSAD Young Investigator Award, Brain and Behavior Foundation, U.S.A. <i>Dysfunctional decision making in an animal model of schizophrenia.</i>
2018-2022	Synaptic engram of Flexible Behavior H.F.R.I. Research Projects for Postdoctoral Researchers, Greece <i>Synaptic engram in prefrontal cortex of flexible decision making.</i>

Participation in Research Projects

2024-2025	H.F.R.I. Research Project to support Faculty Members and Researchers: TiCLe - Collaborating Researcher, UoC
2020-2022	Einstein Visiting Grant - Einstein Visiting Scientist, Humboldt University
01/2014-04/2016& 02/2017-10/2018	ERC STG: dEMORY - ERC Postdoctoral Researcher, IMBB/FORTH
01/2013-12/2013	ERC STG: dEMORY - ERC PhD Scholarship, IMBB/FORTH
10/2011-12/2012	NSRF grant: Synergasia - PhD Scholarship, IMBB/FORTH
09/2010-09/2011	FP-7 grant: HP-SEE - PhD Scholarship, IMBB/FORTH

Invited Speaker

04/2026	International Winter Neuroscience Conference , <i>Local knobs for gain modulation of dendritic excitability</i> , Sölden, Austria
12/2025	Alumni of the BRAIN and MIND Sciences Seminar Series , <i>Neurophysiological mechanisms supporting flexible computations, functions, and learning</i> , online, Heraklion, Greece
07/2025	OCNS Workshop , <i>Neurophysiological mechanisms supporting flexible computations and functions</i> , Florence, Italy
05/2024	The CapoCaccia Workshops toward Neuromorphic Intelligence , <i>chalk talk</i> , Alghero, Italy
04/2023	The CapoCaccia Workshops toward Neuromorphic Intelligence , <i>chalk talk</i> , Alghero, Italy
04/2021	OIST Neuroscience Online Seminars (ONOS) , <i>Active Dendritic Processing in the Cerebral Cortex</i> , Okinawa, Japan
01/2020	IBRO-Simons Computational Neuroscience Imbizo , <i>Dendritic Computations</i> , Cape Town, South Africa
01/2019	IBRO-Simons Computational Neuroscience Imbizo , <i>Dendritic Computations</i> , Cape Town, South Africa

- 02/2018 **EITN Workshop**, *Coding orientation preference in dendritic trees of L2/3 pyramidal neurons of the visual cortex*, Paris, France
- 05/2017 **IMBB & ICS Joint Colloquia**, *Visiting dendritic trees*, Heraklion, Greece
- 07/2015 **OCNS Workshop**, *Modeling the interplay of dendritic spikes and network connectivity in persistent activity*, Prague, Czech Republic

Selected Oral Presentations

- 05/2024 *Investigating the Synaptic Dynamics of Adaptive Behavior in the mouse frontal cortex* Pandi I., Oraby H., Nashaat M., Larkum M., Papoutsi A., Poirazi P. **Dendrites EMBO Workshop**, Chania, Greece
- 10/2023 *Investigating the Synaptic Dynamics of Adaptive Behavior in the mouse frontal cortex* Pandi I., Oraby H., Nashaat M., Larkum M., Papoutsi A., Poirazi P. **The Brain Conference: Structuring Knowledge for Flexible Behaviour**, Rungsted Kyst, Denmark
- 10/2019 *Modeling of orientation preference in the apical and basal tress of L2/3 V1 pyramidal neurons* **Hellenic Society for Neuroscience (HSfN)**, Heraklion, Greece (selected junior scientist speaker)
- 12/2017 *A Tale of Two Trees: Modeling Apical and Basal Tree Contribution to L2/3 V1 Pyramidal Cell Orientation Selectivity* Petousakis K.E., Papoutsi A., Poirazi P. **HSfN**, Athens, Greece
- 06/2016 *Contribution of Apical and Basal Dendrites to Orientation Encoding of Pyramidal Neurons in Mouse V1* Park J., Papoutsi A., Marin M.A., Ash R.T., Rasband M.N., Poirazi P., M. Smirnakis S.M., **Dendrites EMBO Workshop**, Heraklion, Greece
- 07/2015 *The role of microcircuits in the pre-frontal cortex in detecting and encoding temporally patterned information* Melachrinou C., Papoutsi A., Poirazi P. **OCNS Workshop**, Prague, Czech Republic
- 07/2011 *Mechanisms underlying the emergence of Up and Down states in a model PFC microcircuit* Krioneriti D., Papoutsi A., Poirazi P. **OCNS**, Stockholm, Sweden

Distinctions

Scholarships

- 09/2009-09/2010 **IMBB/FORTH**, PhD Scholarship, Heraklion, Greece
- 10/2007-09/2008 **Maria-Michail Manassaki Scholarship**, UoC, Heraklion, Greece
- 09/2007 **Brain and Mind Scholarship**, for ranking in the top 5 (declined due to acceptance of the Manassaki Scholarship), Heraklion, Greece
- 10/2006-09/2007 **Maria-Michail Manassaki Scholarship**, UoC, Heraklion, Greece

Awards

- 10/2008 **Theodor-Theochari Cozzika Award**, Young Greek Neuroscientist Award for the poster presentation during the 22nd conference of HSfN, Athens, Greece
- 01/1996 **Hellenic Mathematical Society Award**, Athens, Greece
- 06/1994 **Greek Ministry of Education Award**, for exceptional performance, Athens, Greece

Teaching Activities

MSc Faculty Member

- 1) Graduate Program in **Neurosciences**, UoC, 2) **Brain and Mind** Graduate Programme, UoC, 3) **Molecular Biology and Biomedicine** Graduate Program, UoC

MSc-level Course Organizer & Lectures

2020, 2022, 2024 & 2026	Course organizer & Lecturer, <i>Principles of Computational Modeling in Neural Circuits</i> , Graduate Program in Neurosciences , UoC (open also for the Brain and Mind and Bioinformatics MSc Programs), Heraklion, Greece
2023 & 2025	Course organizer & Lecturer, <i>Introduction to Computational Neuroscience & Reinforcement Learning</i> , Brain and Mind Graduate Programme, Heraklion, Greece
2023 & 2025	Lecturer, <i>Behavioral Modeling & Control of neural activity with optogenetics</i> , Graduate Program in Neurosciences , UoC, Heraklion, Greece
2022, 2023 & 2025	Lecturer, <i>Synaptic Plasticity Models</i> , & <i>Behavioral Modeling</i> , Molecular Biology and Biomedicine Program, UoC, Heraklion, Greece
2024	Lecturer, <i>Behavioral Modeling</i> , Graduate Program in Cognitive Science , UoA, Athens, Greece
2021	Lecturer, <i>Conduction velocity of action potential</i> , Grundlagen der Physiologie des Neocortex SoSe , Humboldt University, Berlin, Germany
2021	Lecturer, <i>Computational Neuroscience Course</i> , Athens International Master's Programme in Neurosciences , NKUA, Athens, Greece
2016	Lecturer, <i>The role of dendrites in information processing: Insights from computational models</i> , Interdepartmental Postgraduate Programme in Life Sciences Informatics , University of Patras, Patra, Greece

International Schools in Neuroscience

7-28/01/2018	Teaching Assistant, IBRO-Simons Computational Neuroscience Imbizo , Cape Town, South Africa
9-28/01/2017	Teaching Assistant, IBRO-Simons Computational Neuroscience Imbizo , Cape Town, South Africa

Supervision

Post-Doctoral Researchers:

01/2022-12/2024	Dr. Mari M., co-supervision with Dr. Filippidis G., <i>Mechanistic Understanding of behavioral flexibility</i> .
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PhD candidates:

07/2019-03/2022	Petousakis K.E., <i>Dissecting Orientation Selectivity in L2/3 V1 Neurons Using Detailed Computational Models</i> .
07/2019-03/2022	Pandi I., <i>Spine remodeling in an animal model of schizophrenia</i> .

Students:

02 /2026 -	Giannouli O.C. (BSc student), <i>Multitask learning in mice</i> .
03/2025-02/2026	Raos O.N. (MSc student), <i>Development of a behavioral system for the investigation of object representations in the mouse visual system</i> .
10/2023-07/2025	Petsalaki E. A., (BSc student & post-graduate research assistant), <i>Flexible tasks for mice</i> .
10/2022-02/2023	Ntanavara L., (post-graduate research assistant), <i>Mechanistic Understanding of behavioral flexibility</i> .
09/2022-11/2022	Mantouka I., (MSc student), <i>Development of a task for flexible behavior in mice</i> .
05/2019-04/2020	Papadopoulos S., (MSc student), <i>Implementation of the dendritic spikes of human neurons in an artificial neural network</i> .

02/2019-01/2020	Soursou G., (MSc student), <i>Anticoincidence detection in the dendrites of human neurons.</i>
10/2018-03/2019	Bentely F., (MSc student), <i>Simulation of pyramidal neurons with the python library Brian.</i>
03/2017-03/2019	Petousakis K.E., (MSc student), <i>The effect of inhibition and receptive field on the orientation tuning of a single L2/3 pyramidal neuron model.</i>
03/2016-09/2016	Kontodimou G., (MSc student), <i>The effect of basal and apical tree biophysical properties on the orientation tuning of a single L2/3 pyramidal neuron model.</i>
11/2015-03/2016	Genitsaridi E., (MSc student), <i>A computational study on the role of the diverse properties (single cell and network related) of projection neurons in the olfactory bulb: Mitral and Tufted cells.</i>
05/2011-06/2011	Georgopoulou D., (BSc internship), <i>Impact of basal dendrites in the emergence of Up and Down states.</i>
05/2010-06/2011	Krioneriti D., (MSc student), <i>Modeling up and down states in a PFC microcircuit.</i>
03/2010-03/2011	Psarrou M., (MSc student), <i>Role of dendritic morphology and ionic mechanisms on bursting activity in pyramidal neurons.</i>

Master thesis 3-member examination committee

Gratsakis Anastasios, Raos Odysseas Nikolaos, Goniotaki Asimenia, Varvouti Dimitra, Morou Sofia

Teacher of Biology

09/2008-06/2014 Epilogi Preparatory School, Heraklion, Greece

Positions of Responsibility

Ad hoc reviewer European Journal of Neuroscience, PLoS Computational Biology, Plos Biology, Journal of Computational Neuroscience, Nature Communications, Nature Neuroscience, Nature Computational Science, Frontiers journals, ELife, OCNS meetings, etc.

Grant evaluations & certifications

2026	Evaluation, "EU Programme Erasmus+", IKY National Agency, EU
2026	Evaluation, Swiss National Science Foundation, Switzerland
2026	Evaluation, "Research - Innovate, Competitiveness 2021-2027' Programme", Managing and Implementation Authority of Research and Innovation, Greece, co-funded by EU
2026	Evaluation, "Researching in Epirus" within the framework of the Epirus 2021-2027 Program, Greece, co-funded by EU
2026	Evaluation, Neuroscience Capacity Accelerator For Mental Health, Wellcome, UK
2025	Evaluation committee, FENS/IBRO-PERC Exchange Fellowships
2024 & 2025	Evaluation, COST-European Cooperation in Science and Technology, EU
2022-2023	Certification, 1st Call for HFRI's Research Projects to Support Faculty Members & Researchers, Greece
2021-2023	Certification, operational program "Competitiveness, Entrepreneurship and Innovation" (EPAnEK), General Secretariat for Research and Innovation, Greece
2021	Evaluation, Research and Innovation Foundation, Cyprus
2020	Evaluation, University of Nicosia Internal Seed Grant Scientific, Cyprus.

Editor in Journals

2022	Ishikawa T., Ishikawa A.W., Papoutsis A., Tanimura A. and Yonehara K., <i>Subcellular Computations and Information Processing</i> , Frontiers Research Topic
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2017 Papoutsi A., Poirazi P., Stefan Remy, **European Journal of Neuroscience Special Issue on Computational Models**

Organization responsibilities

2024-2026 **Workshops Director** for the **OCNS conferences** at Natal, Brazil (2024), Florence, Italy (2025) and Halifax, Canada (2026)

2021-2024 **OCNS Program Committee** for the organization of the **OCNS conferences** at Melbourne, Australia (2022), Leipzig, Germany (2023) and Natal, Brazil (2024)

2024 **School organizer**, Zito T., Papoutsi A., Diamantaki M., Moberg S., Kalogeropoulou Z., **16th Advanced Scientific Programming in Python**, Heraklion, Greece

2023 **School organizer**, Zito T., Papoutsi A., Froudarakis E., Kalogeropoulou Z., **15th Advanced Scientific Programming in Python**, Heraklion, Greece

2023 **Workshop organizer**, Chavlis S., Papoutsi A., Takahashi N., *Dendritic computations and neuro-inspired AI*, **COSYNE**, Montreal, Canada

2022 **Symposium organizer**, Papoutsi A. and Chavlis S., *Encoding in neurons and beyond: applications in machine learning*, **FENS**, Paris, France

2019 **Tutorial organizer**, Agnes E., Chavlis S., Papoutsi A., Podlaski W., *Simulating dendrites at different levels of abstraction*, **OCNS conference**, Barcelona, Spain

2015 **Workshop organizer**, Poirazi P., Papoutsi A., Melachrinou C., *Evidence For and Against Synaptic Clustering and Its Role in Neuronal Functions*, **COSYNE**, Denver, U.S.A.

Elected or selected positions of responsibility

2025- IBRO-PERC affiliated member

2024- OCNS Board of Directors

2024 IBRO Early Career committee member

2021 Award committee for the Bernstein SmartSteps award

Institutional responsibilities

2023- Member of the working group for Human Resources Strategy for Researchers-FORTH

2020- Member of EU-LIFE workgroup for Gender Equality

2020- Member of IMBB Gender Equality Group

2023 & 2024 IMBB representative for the Researcher's Night & FORTH's 40 years celebration

2021-2025 Member of the Gender Equality and Antidiscrimination Committee, FORTH

Outreach activities

2026 [Article](#) *"50 Reflections on Neuroscience-Greece"*, Global anniversary series celebrating 50 years of the journal Neuroscience and reflecting on major developments in brain research around the world.

2025-2026 [Organizer](#), 3-session online Thematic hub on *Gender & Intersectionality in the Contents and Methods of Biomedical Research*.

2025 [Engagement with Greek MEPs](#) calling for brain health to be embedded as a strategic priority in upcoming EU policies, as part of the European Brain Council event at the European Parliament in Brussels: *Advancing Brain Research in Europe: A call for Collective Action*.

2023 [Invited speaker](#), Event for Women's Day, 2nd Vocational Upper secondary school Rethymno.

Publications

Under submission:

Pandi I., Chavlis S., Oraby H., Nashaat M. A., Larkum M. E., **Papoutsi A.**, Poirazi P. *Dendritic hotspots support switching between competing rules without expanding the cortical engram.*

Under review:

Petsangouraki S., Hasa E., **Papoutsis A.**, Pearlstein E., Karatheodorou E., Bonetto G., Dalezios Y., Theodorakis K., Crepel V., Zoupi L., Faivre-Sarrailh C., Karagogeos D. *Contactin2 Regulates Axonal Organization, Myelination, and Excitability in Hippocampal Somatostatin Interneurons*. Revisions, GLIA

Research articles:

Evangelou, A.*, Diamantaki M.*, Georgelou K., Drakaki Z., Ntanavara L., Gerardos G., Morou S., Chatziris N., Dogani Z., Petsalaki E. A., Raos O. N., Gratsakis A., Aliprantis S., **Papoutsis A.**, Froudarakis E. 2026. [EthoPy provides an accessible platform for reproducible behavioral neuroscience](#). Cell Rep. Methods. 6(6): e101421 doi: [10.1016/j.crmeth.2026.101421](#). *equal first

Nordentoft M.S., Takahashi N., Heltberg M. S., Jensen M. H., Rasmussen R. N.✉, **Papoutsis A.**✉ 2024. [Local changes in potassium ions regulate input integration in active dendrites](#). PLoS Biol. 22(12): e3002935. doi: [10.1371/journal.pbio.3002935](#).

***selected** [PLOS Biology Issue Image | Vol. 22\(12\) January 2025](#)

Petousakis, K.-E., Park, J., **Papoutsis, A.**, Smirnakis, S., Poirazi, P. 2023. [Modeling apical and basal tree contribution to orientation selectivity in a mouse primary visual cortex layer 2/3 pyramidal cell](#). Elife. 12: e91627. doi: [10.7554/eLife.91627](#).

Gidon A., Zolnik T.A., Fidzinski P., Bolduan F., **Papoutsis A.**, Poirazi P., Holtkamp M., Vida I., Larkum M.E. 2020. [Dendritic action potentials and computation in human layer 2/3 cortical neurons](#). Science. 367(6473):83-87. doi: [10.1126/science.aax6239](#).

***highlighted one of the 6 big stories in Biology from Quanta magazine.**

Park J.*, **Papoutsis A.***, Ash R.T., Marin M.A., Poirazi P.***, Smirnakis S.M.**. 2019. [Contribution of Apical and Basal Dendrites of L2/3 Pyramidal Neurons to Orientation Encoding in Mouse V1](#). Nat Commun 10(1):5372. doi: [10.1038/s41467-019-13029-0](#).

***equal first, **equal last**

Ebner C., Ledderose J., Zolnik T.A., Dominiak S.E., Turko P., **Papoutsis A.**, Poirazi P., Britta J.E., Vida I., Larkum M.E., Sachdev R.N.S. 2019. [Optically Induced Calcium-Dependent Gene Activation and Labeling of Active Neurons Using CaMPARI and Cal-Light](#). Front Synaptic Neurosci. 11:16. doi: [10.3389/fnsyn.2019.00016](#).

Papoutsis A., Kastellakis G., Poirazi P. 2017. [Basal tree complexity shapes functional pathways in the prefrontal cortex](#). J Neurophysiol. 118(4):1970-1983. doi: [10.1152/jn.00099.2017](#)

Psarrou M., Stefanou S. S., **Papoutsis A.**, Tzivilaki A., Cutsuridis V., Poirazi P. 2014. [A Simulation Study on the Effects of Dendritic Morphology on Layer V PFC Pyramidal Cell Firing Behavior](#). Front Cell Neurosci. 8:287. doi: [10.3389/fncel.2014.00287](#)

Papoutsis A., Sidiropoulou K., Poirazi P. 2014. [Dendritic nonlinearities reduce size requirements and mediate ON and OFF states of persistent activity in a PFC microcircuit model](#). PLoS Comput Biol. 10(7): e1003764. doi: [10.1371/journal.pcbi.1003764](#)

Konstantoudaki X., **Papoutsis A.**, Chalkiadaki K., Poirazi P., Sidiropoulou K. 2014. [Modulatory effects of inhibition on persistent activity in a cortical microcircuit model](#). Front Neural Circuits 8: 7. doi: [10.3389/fncir.2014.00007](#)

Papoutsis A., Sidiropoulou K., Cutsuridis V., Poirazi P. 2013. [Induction and modulation of persistent activity in a layer V PFC microcircuit model](#). Front Neural Circuits 7: 161. doi: [10.3389/fncir.2013.00161](#)

Reviews:

Poirazi P, **Papoutsis A.** 2020. [Illuminating dendritic function with computational models](#). Nat Rev Neurosci. 21(6):303-321. doi: [10.1038/s41583-020-0301-7](#)

Papoutsis A., Kastellakis G., Psarrou M., Anastasakis S., Poirazi P. 2014. [Coding and decoding with dendrites](#). Journal of Physiology Paris, 108(1): 18–27. doi: [10.1016/j.jphysparis.2013.05.003](#)

Conference publications:

Detorakis G., **Papoutsis A.** 2026. *Neural Representations in Sequential & Interleaved Training*. Accepted in proceedings “From Animals to Animats 18. SAB 2026.” Lecture Notes in Artificial Intelligence, Springer Nature

Kousanakis E., Dollas A., Sotiriades E., Papaefstathiou I., Pnevmatikatos D. N., **Papoutsis A.**, Petrantonakis P. C., Poirazi P., Chavlis S. Kastellakis G. 2017. [An architecture for the acceleration of a hybrid leaky integrate and fire SNN on the convey HC-2ex FPGA-based processor](#). Proceedings - IEEE 25th Annual International Symposium on Field-Programmable Custom Computing Machines, FCCM 2017, pp. 56–63, 7966649. doi: [10.1109/FCCM.2017.51](#)

Petrantonakis, P.C., **Papoutsis, A.**, Poirazi, P. 2013. [Towards predicting persistent activity of neurons by statistical and fractal dimension-based features](#). Proceedings of the International Joint Conference on Neural Networks, 2013, 6707083. doi: [10.1109/IJCNN.2013.6707083](#)

Book Chapter:

Papoutsis, A., Sidiropoulou, K., Poirazi, P. 2012. *Memory beyond synaptic plasticity: The role of intrinsic neuronal excitability*, in Memory Mechanisms in Health and Disease: Mechanistic Basis of Memory, pp. 53–80. doi: [10.1142/9789814366700_0003](#)

Editorials & Commentaries:

Diamantaki M., **Papoutsis A.** 2024. [Gather your neurons and model together: Community times ahead](#). PLoS Biol. 22(11): e3002839. doi: [10.1371/journal.pbio.3002839](#).

Ishikawa T, Ishikawa AW, **Papoutsis A**, Tanimura A, Yonehara K. 2023. [Subcellular computations and information processing](#). Front Synaptic Neurosci. 15: 1169671. doi: [10.3389/fnsyn.2023.1169671](#).

Remy, S., Poirazi, P., **Papoutsis, A.** 2017. [Introduction to the Computational Neuroscience Special Section](#). Eur J Neurosci. 45(8): 998-999. doi: [10.1111/ejn.13562](#).

Articles in bioRxiv:

Stefanou S. Σ., **Papoutsis A.**, Poirazi P. 2019. *Structured connectivity exploits NMDA non-linearities to enable flexible encoding of multiple memoranda in a PFC circuit model*. bioRxiv 733519. doi: [10.1101/733519](#)

Posters

EthoPy: Reproducible Behavioral Neuroscience Diamantaki M., Evangelou, A., Georgelou K., Drakaki Z., Ntanavara L., Gerardos G., Morou S., Chatziris N., Dogani Z., Petsalaki E. A., Raos O. N., Gratsakis A., Aliprantis S., Papoutsis A., Froudarakis E. **FENS (2026)**, Barcelona, Spain

EthoPy: Reproducible Behavioral Neuroscience Diamantaki M., Evangelou, A., Georgelou K., Drakaki Z., Ntanavara L., Gerardos G., Morou S., Chatziris N., Dogani Z., Petsalaki E. A., Raos O. N., Gratsakis A., Aliprantis S., Papoutsis A., Froudarakis E. **AREADNE (2026)**, Research in Encoding and Decoding of Neural Ensembles, Mylos, Greece

Development and investigation of the flexible behavioral phenotype in rodents Petsalaki E. A., Evangelou A., Froudarakis E., Papoutsis A. **Hellenic & Paris Pasteur Institute Young Scientists Joint Conference (2025)**, Athens, Greece

Extracellular K⁺ hotspots regulate synaptic integration in the dendrites of pyramidal neurons Nordentoft M.S., Takahashi N., Heltberg M.S., Jensen M.H., Rasmussen R. N., Papoutsis A. **OCNS (2025)**, Florence, Italy

Development and investigation of the flexible behavioral phenotype in rodents Petsalaki E. A., Evangelou A., Froudarakis E., Papoutsi A. **MNS (2025)**, Chania, Greece

Dynamic spine turnover and clustering in the mouse frontal cortex facilitate behavioral flexibility, Pandi I., Oraby H., Nashaat M., Larkum M., Papoutsi A., Poirazi P. **MNS (2025)**, Chania, Greece

[K⁺]_o hotspots regulate input integration in active dendrites Nordentoft M.S., Takahashi N., Heltberg M.S., Jensen M.H., Rasmussen R. N., Papoutsi A. **Gordon Research Conference (2025)**, Ventura, U.S.A.

Dynamic spine turnover and clustering in the mouse frontal cortex facilitate behavioral flexibility Pandi I., Oraby H., Nashaat M., Larkum M., Papoutsi A., Poirazi P. **Gordon Research Conference (2025)**, Ventura, U.S.A.

Investigating the Synaptic Dynamics of Adaptive Behavior in the mouse frontal cortex Pandi I., Oraby H., Nashaat M., Larkum M., Papoutsi A., Poirazi P. **FENS (2024)**, Vienna, Austria

Investigating the Synaptic Dynamics of Adaptive Behavior in the mouse frontal cortex Pandi I., Oraby H., Nashaat M., Larkum M., Papoutsi A., Poirazi P. **Dendrites (2024)**, Chania, Greece

PyMouse: A low cost, automated, high-throughput behavioral training system for mice Diamantaki M., Evangelou A., Ntanavara L., Chatziris N., Gerardos G., Drakaki Z., Dimaki E., Papoutsi A., Froudarakis E. **HSfN (2023)**, Athens, Greece

Investigating the Synaptic Dynamics of Adaptive Behavior in the mouse frontal cortex Pandi I., Oraby H., Nashaat M., Larkum M., Papoutsi A., Poirazi P. **HSfN (2023)**, Athens, Greece

Investigating the Synaptic Dynamics of Adaptive Behavior in the mouse frontal cortex Pandi I., Oraby H., Nashaat M., Larkum M., Papoutsi A., Poirazi P. **FRM (2023)**, Algarve, Portugal

Effects of biologically inspired activation functions on Artificial Neural Networks Nouli G., Chavlis S., Papoutsi A., Poirazi P. **Dendrites EMBO Workshop (2022)**, Heraklion, Greece

Orientation preference in dendritic trees of L2/3 pyramidal neurons of the visual cortex Papoutsi A., Park J., Ash R.T., Smirnakis S.M., Poirazi P. **AREADNE (2020)**, Research in Encoding and Decoding of Neural Ensembles, Santorini, Greece.

The Boolean dendrite: Intrinsic computation of wide range of Boolean functions by dendritic branches Papadopoulos S., Papoutsi A., Gidon A., Larkum M.E., Poirazi P. **AREADNE (2020)**, Research in Encoding and Decoding of Neural Ensembles, Santorini, Greece

Structured connectivity exploits NMDA-non-linearities to induce diverse responses in a PFC Circuit Stefanou S.S., Papoutsi A., Poirazi P. **OCNS (2019)**, Barcelona, Spain

Biological realistic connectivity and NMDA nonlinearities increase PFC response dimensionality during working memory Stefanou S.S., Papoutsi A., Poirazi P. **Dendrites EMBO Workshop (2018)**, Heraklion, Greece

A tale of two trees: Modeling apical and basal tree contribution to L2/3 V1 pyramidal cell orientation selectivity Petousakis K.E., Papoutsi A., Poirazi P. **AREADNE (2018)**, Research in Encoding and Decoding of Neural Ensembles, Santorini, Greece

Modeling orientation preference in the apical and basal trees of L2/3 V1 neurons Papoutsi A., Park J., Ash R.T., Smirnakis S.M., Poirazi P. **OCNS (2017)**, Antwerp, Belgium

Structured Connectivity Shapes Network Function in the Prefrontal Cortex Stefanou S. S., Petrantonakis P., Papoutsi A., Poirazi P. **FENS (2016)**, Copenhagen, Denmark

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