

Athanasia Papoutsis, PhD

Research Scientist

[IBRO-PERC Affiliated Member](#)

[OCNS Board of Directors](#)

Professional and Research Experience

02/2020-	Principal Staff Scientist , Systems Neuroscience Lab, Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology (FORTH).
03/2020 - 04/2022	Einstein Visiting Scientist , Larkum Lab, Humboldt University. 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. Spine dynamics in the PFC during flexible decision making (<i>in vivo</i> structural imaging in mice) / Study of neural computations in humans.
02/2018 - 05/2018 & 10/2018 - 12/2018	NeuroCure Visiting Postdoctoral Researcher , Larkum Lab, Humboldt University. 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. 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. Visual information processing in the visual cortex.
13 - 24/04/2015	EMBL Course on Laboratory Animal Science . FELASA Category C accredited
09/2008 - 03/2009	Research Assistant , Poirazi Lab, IMBB, FORTH. 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 (University of Crete - 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 Development of inclusive measures within biomedical research organisations.
2022 - 2024	Mechanistic Understanding of Flexible Behavior FORTH Synergy Grant, GR <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, GR <i>Synaptic engram in prefrontal cortex of flexible decision making.</i>

Participation in Research Projects

2024 -	H.F.R.I. Research Projects to support Faculty Members and Researchers: TiCle - Collaborating Researcher, IMBB/FORTH.
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.
07/2025	CNS 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 , <i>Coding orientation preference in dendritic trees of L2/3 pyramidal neurons of the visual cortex</i> , Paris, France.
05/2017	IMBB & ICS Joint Colloquia , <i>Visiting dendritic trees</i> , Heraklion, Greece.
07/2015	CNS Workshop , <i>Modeling the interplay of dendritic spikes and network connectivity in persistent activity</i> , Prague, Czech Republic.

Selected Oral Presentations

05/2024	<i>Investigating the Synaptic Dynamics of Adaptive Behavior in the mouse frontal cortex</i> Pandi I., Oraby H., Nashaat M., Larkum M., Papoutsi A., Poirazi P. Dendrites EMBO Workshop , Chania, Greece.
10/2023	<i>Investigating the Synaptic Dynamics of Adaptive Behavior in the mouse frontal cortex</i> 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	<i>Modeling of orientation preference in the apical and basal tress of L2/3 V1 pyramidal neurons</i> Hellenic Society for Neuroscience (HSfN) , Heraklion, Greece (selected junior scientist speaker).
12/2017	<i>A Tale of Two Trees: Modeling Apical and Basal Tree Contribution to L2/3 V1 Pyramidal Cell Orientation Selectivity</i> Petousakis K.E., Papoutsi A., Poirazi. P. HSfN , Athens, Greece.
06/2016	<i>Contribution of Apical and Basal Dendrites to Orientation Encoding of Pyramidal Neurons in Mouse V1</i> 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	<i>The role of microcircuits in the pre-frontal cortex in detecting and encoding temporally patterned information</i> Melachrinou C., Papoutsi A., Poirazi P. CNS Workshop , Prague, Czech Republic.
07/2011	<i>Mechanisms underlying the emergence of Up and Down states in a model PFC microcircuit</i> Krioneriti D., Papoutsi A., Poirazi P. CNS , 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 22 nd 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 Experience

MSc - level seminars / Courses

2023 / 2025	Lecturer, <i>Reinforcement Learning</i> , Brain and Mind Graduate Programme, Heraklion, Greece.
2020 / 2022 / 2024	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.
2024	Lecturer, <i>Behavioral Modeling</i> , Graduate Program in Cognitive Science , UoA, Athens, Greece.
2023	Lecturer, <i>Behavioral Modeling</i> , Graduate Program in Neurosciences , UoC, Heraklion, Greece.
2023	Lecturer, <i>Control of neural activity with optogenetics</i> , Graduate Program in Neurosciences , UoC, Heraklion, Greece.
2022 / 2023	Lecturer, <i>Synaptic Plasticity Models</i> , Molecular Biology and Biomedicine Program, UoC, Heraklion, 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:

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

2022 -	Wu J., <i>Psychedelics and neuronal circuits</i> , Member of the PhD supervision committee.
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:

03/2025 -	<i>Raos O.N.</i> (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 student), <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>

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, CNS meetings...

Grants Evaluation / Certification

2024 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.

Co-editor

2022 Ishikawa T., Ishikawa A.W., Papoutsis A., Tanimura A. and Yonehara K., *Subcellular Computations and Information Processing*, **Frontiers Research Topic**.

2017 Papoutsis A., Poirazi P., Stefan Remy, **European Journal of Neuroscience Special Issue on Computational Models**.

Conference organizer

2021 - 2024 Member of the OCNS Program Committee for the organization of the **CNS meeting** in Melbourne, Australia (2022), Leipzig, Germany (2023) and Natal, Brazil (2024).

Workshop organizer

2024, 2025, 2026 Organizer of workshops of the **CNS meeting** for Natal, Brazil (2024), Florence, Italy (2025) and Halifax, Canada (2026).

- 2023 Chavlis S., Papoutsi A., Takahashi N., *Dendritic computations and neuro-inspired AI*, **COSYNE**, Montreal, Canada.
- 2015 Poirazi P., Papoutsi A., Melachrinou C., *Evidence For and Against Synaptic Clustering and Its Role in Neuronal Functions*, **COSYNE**, Denver, U.S.A.

Symposium organizer

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

School organizer

- 2024 Zito T., Papoutsi A., Diamantaki M., Moberg S., Kalogeropoulou Z., **16th Advanced Scientific Programming in Python**, Heraklion, Greece.
- 2023 Zito T., Papoutsi A., Froudarakis E., Kalogeropoulou Z., **15th Advanced Scientific Programming in Python**, Heraklion, Greece.

Tutorial organizer

- 2019 Agnes E., Chavlis S., Papoutsi A., Podlaski W., *Simulating dendrites at different levels of abstraction*, **CNS**, Barcelona, Spain.

Other Positions of Responsibility / Institutional Responsibilities

- 2024- IBRO - PERC Committee affiliated member.
- 2024- Board of Directors, Organization for Computational Neuroscience.
- 2023 - Member of the working group for Human Resources Strategy for Researchers, FORTH.
- 2023 & 2024 Representative of IMBB/FORTH for the organization of Researcher's Night and FORTH's 40 years celebration.
- 2021 - Member of the ALBA network.
- 2021 - Member of the Gender Equality Committee, FORTH.
- 2020 - Member of EU-LIFE workgroup for Gender Equality.
- 2020 - Member of IMBB Gender Equality Group.
- 2021 Selection committee of the Bernstein SmartSteps award.

Publications

Submitted for review:

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., **Papoutsi A.**, Froudarakis E. 2025. *EthoPy: Reproducible Behavioral Neuroscience Made Simple*. *bioRxiv*, submitted for review.

Research articles:

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

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

Petousakis, K.-E., Park, J., **Papoutsi, 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](https://doi.org/10.7554/eLife.91627). *Elife.* 12: e91627. doi: [10.7554/eLife.91627](https://doi.org/10.7554/eLife.91627).

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

Kousanakis E., Dolas 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, **Papoutsi 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., **Papoutsi, 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., **Papoutsi 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

Development and investigation of the flexible behavioral phenotype in rodents Petsalaki E. A., Evangelou A., Froudarakis E., Papoutsi 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., Papoutsi 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.

$[K^+]_o$ 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. **CNS (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. **CNS (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.

An Architecture for the Acceleration of the Hodgkin and Huxley Spiking Neural Network Model on the Convey HC-2ex FPGA-Based Processor Kousanakis E., Dollas A., Sotiriades E., Papaefstathiou I., Pnevmatikatos D., Papoutsi A., Petrantonakis P.C., Poirazi P. **WRC 2016**, Prague, Czech Republic.

The effect of basal and apical tree biophysical properties on the orientation tuning of a single L2/3 pyramidal neuron Kontodimou G., Papoutsi A., Poirazi P. **Dendrites EMBO Workshop (2016)**, Heraklion, Greece.

The role of microcircuits in the pre-frontal cortex in detecting and encoding temporally patterned information Melachrinou C., Papoutsi A., Poirazi P. **CNS (2015)**, Prague, Czech Republic.

Interplay of dendritic non-linearities and network size mediate persistent activity in a PFC microcircuit model Papoutsi A., Sidiropoulou K., Poirazi P. *Front. Syst. Neurosci.* **4th NAMASEN Training Workshop - Dendrites (2014)**, Heraklion, Greece.

Structured Connectivity Shapes Microcircuit Function in the Prefrontal Cortex Stamatiadis S.S., Papoutsi A., Poirazi P. *Front. Syst. Neurosci.* **4th NAMASEN Training Workshop - Dendrites (2014)**, Heraklion, Greece.

A simulation study on the effects of dendritic morphology on layer V PFC pyramidal cell firing behavior Psarrou M., Stefanou S.S., Tziliavaki A., Papoutsi A., Cutsuridis V., Poirazi P. *Front. Syst. Neurosci.* **4th NAMASEN Training Workshop-Dendrites (2014)**, Heraklion, Greece.

A simulation study on the effects of dendritic morphology on layer V PFC pyramidal cell firing behavior Psarrou M., Stefanou S.S., Tziliavaki A., Papoutsi A., Cutsuridis V., Poirazi P. **AREADNE (2014)**, Research in Encoding and Decoding of Neural Ensembles, Santorini, Greece.

Non-random microcircuits shape prefrontal function Stefanou S.S., Papoutsi A., Poirazi P. **AREADNE (2014)**, Research in Encoding and Decoding of Neural Ensembles, Santorini, Greece.

Dendritic nonlinearities enable PFC microcircuits to serve as predictive modules of persistent activity Papoutsi A., Petrantonakis P., Poirazi P. **CNS (2013)**, Paris, France.

Influence of dendritic morphology on single neuron arithmetic Psarrou M., Papoutsi A., Poirazi P. **AREADNE (2012)**, Research in Encoding and Decoding of Neural Ensembles, Santorini, Greece.

Single-neuron integration of background activity generates prolonged depolarizations in a PFC model cell Papoutsi A., Georgopoulou D., Poirazi P. **FENS (2012)**, Barcelona, Spain.

Influence of dendritic morphology on single neuron arithmetic Psarrou M., Papoutsi A., Poirazi P. **The 8th FENS (2012)**, Barcelona, Spain.

Mechanisms underlying the emergence of Up and Down states and their transition to persistent firing in a model PFC microcircuit Krioneriti, D, Papoutsi, A., Poirazi, P, **EMBO Conference, The Assembly and Function of Neuronal Circuits (2011)**, Ascona, Switzerland.

Microcircuits in the prefrontal cortex: In silico investigation of their role in the emergence, maintenance and termination of persistent activity Papoutsi A., Sidiropoulou K. Poirazi P. **AREADNE (2010)**, Research in Encoding and Decoding of Neural Ensembles, Santorini, Greece.

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