NOD2024

Time	Wednesday Oct 9		Time	Thursday Oct 10		Time	Friday Oct 11	
8:30-8:45	Welcome (Laurie Calvet & Gaia Tomasello - pitch for papers)		8:30-8:55	Ian Forbes (IOP): How to get published		8:30-10:00	Modeling and Simulations for Organic Neuromorphic Computing (chair: Lina Kadura)	
8:45-10:15	Devices for Organic Neuromorphic Computing (Chair: Hans Kleemann)		8:55-10:30	Optical Organic Neuromorphic Devices, Systems, Hardware and Modeling (chair: Simone Fabiano)		8:30-8:55	Benjamin Iniguez: Low frequency noise physics and modeling in Organic Thin Film Transistors	
8:45-9:10	Laurie Calvet: Organic electronics for probabilistic computing		8:55-9:20	Sylvain Barbay, " Ultrafast spike-based digits recognition with micropillar lasers" (online)		8:55-9:20	Ghader Darbandy: Simulation and Compact Modeling of OECTs	
9:10-9:35	Simone Fabiano: Organic Electrochemical Neurons as Primitives for Neuromorphic Perception		9:20-9:45	Yusheng Chen: Towards Artificial Brain: Neuromorphic Memory Optocoupler Module		9:20-9:35	Christian Matthus "Contrary approaches for SPICE model implementation of OECTs for analog circuit design" (TUD student not Hans)	
9:35-10:00	Nicolas Lobato-Dauzier: Neural coding of temperature with a DNA-based spiking chemical neuron		9:45-10:00	Amir Handelman "Organic optical waveguides and organic optical logic gates for neuromorphic computing"		9:35-11:50 -with pause	Organic Devices (chair: Scott Keene)	
10:00-10:15	Richard Kantelberg: Reservoir computing and reinforcement learning using organic semiconducting fiber networks		10:00-10:15	Yazhou Wang: An Ion-tunable Optogenetics-inspired Synapse based on the Single-component N-type Mixed Conductor		9:35-10:00	Shunsuke Yamamoto: Operation speed control of OECT-based neuromorphic devices	
10:15-10:45	Pause		10:15-10:30	Laura Teuerle: Using UV light to shift the Threshold Voltage in Organic Electrochemical Transistors		10:00-10:30	Pause	
10:45-12:35	Organic Neuromorphic Sensors (Chair: Olivier Bardagot)					10:30-11:00	Interlude: Gaia Tomasello (Wiley): The use of Generative Artificial Intelligence tools in scientific publishing with Wiley (10 min questions)	
10:45-11:10	Fabrizio Torricelli: Organic Artificial Neurons for Neuromorphic Biosensing		10:30-11:00	Pause		11:00-11:25	Hans Kleeman: Integrated Top-Gate Organic Electrochemical Transistor - A scalable OECT Architecture for Efficient Circuit Design	
			11:00-12:40	Organic neuromorphic devices for neural applications (chair: Fabrizio Torricelli)				
11:10-11:35	Sébastien Pecqueur: Transience and Disorder of Organic Semiconductors for Future-Emerging Sensing		11:00-11:25	Francesca Santori: Neuromorphic vs. neural probes: where are we standing?		11:25-11:50	Giovanni Ligorio: Two terminal neuromorphic devices based on mixed ionic electronic polymers	
11:35-11:50	Robbert Huisman: Soft Robots and Neuromorphic Circuits - Utilizing Reinforcement learning to move towards all-embracing intelligence		11:25-11:50	Alexander Boys: Bioelectronic Devices for Dispersed Neural Recording		11:50-12:30	Wrap-up, prize awarding ceremony, group photo(?)	
11:50-12:05	Kevin Lengefeld: Organic neuromorphic electrodes for bioelectronic applications		11:50-12:15	Viviana Rincón Montes: Advancing bidirectional visual prosthesis: in vitro and cadaveric validation of intraretinal implant				
12:05-12:20	Pei Zhang: Liquid crystal elastomers as trainable artificial muscles		12:15-12:40	Esma Ismailova: Organic Bioelectronics for sustainable biomonitoring: from the fabrication to the heath monitoring				
12:20-12:30	Ian Forbes (IOP): Pitch neuromorphic computing							
12:35-14:00	Lunch		12:40-14:00	Lunch		12:30-14:00	Lunch	
14:00-16:00	Organic Devices and Hardware (chair: Francesca Santori)		14:00-16:00	Material Design for Neuromorphic Devices and Neural Networks (chair: Giovanni Ligorio)		14:00-18:00	BAYFLEX MEETING (BAYFLEX Members only	
14:00:14:25	Yoeri van de Burgt: Local and autonomous learning with organic neuromorphic electronics		14:00:14:25	Scott Keene: Operando optical tracking of mixed ionic-electronic transport in conjugated polymers				
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14:25-14:50	Marco Fattori: Online in Hardware Multilayer Neural Network Training based on Progressive Backpropagation		14:25-14:50	Sahika Inal: Designing polymeric mixed conductors for photoelectrochemical transistors with a memory (online)
14:50-15:15	Michele di Lauro: Neuromorphic Organic Devices in Translational Neuroscience: possibilities and open questions		14:50-15:15	Olivier Bardagot: Balancing Electroactive Backbone and Oligo(Ethylene Oxy) Side-Chain Content Improves Stability and Performance of Soluble PEDOT Copolymers in Organic Electrochemical Transistors
15:15-15:30	Charles-Théophile Coen: Photopatternable solid-state OECTs for monolithic and advanced organic electronics		15:15-15:40	Shashi Paul: Creation of Internal Electric Field and Its use in Polymer Nano-composite Memory Devices
15:30-15:45	Federico Rondelli: Ambipolar rGO-EGOT for Neuromorphic and Signal Processing Applications		15h40-15h55	Rafael Furlan de Oliveria: Organic Transistors based on Melanin/PEDOT:PSS Blends: Operational Characteristics and Neuromorphic Functions
			16h-18h	Posters, Discussions around refreshments
			17h30-18h30	NOD Steering committee
16h-18h	Posters, Discussions around refreshments			
19h	Dinner		19h	Dinner

Posters

Wei-Ting Ting, Esma Ismailov	P1 Tailoring Organic Electrochemical Transistor Geometry for Sustainable and High-Performance Wearable Bioelectronics		Benn Proper, Irene Kuling, Yoeri Van de Burgt	P7 Rigid, Soft, and Neuromorphic Robotics: A Multidisciplinary approach to Adaptive Gripping		Ermias Telahun Teka, Ghader Darbandy, Hans Kleemann, Yeohoon Yoon, Benjamin Iniguez	P13 A Transient TCAD model of an Organic Electrochemical Transistor
Nikita Prudnikov, Hans Kleemann, Karl Leo	P2 OECT-based neuron circuit with a spike frequency adaptation unit		Gibaek Kim	P8 Complex Image Classification Using Micro-Laser Neurons Trained with a MLP-assisted Genetic Algorithm		Wentao Shan Padinhare Cholakkal Harikesh, Simone Fabiano, and Sahika Inal	P14 Organic Photo-Electrochemical Transistor (OPECT) based Spiking Neuron for Retinal Pathway and Neuromorphic System
Vijay Basavaraj Banakar, Leonard. J. Prins	P3 Electrochemically triggered self-assembly within monolayer on gold nanoparticles		Yerin Kim	P9 Optimizing a Multi-Layer Perceptron Regression Model for Organic Thin Film Transistors		BAYFLEX consortium	P15 BAYFLEX poster
Guilherme Selmi, et al	P4 Reduced Graphene Oxide Electrolytic Transistors under Multi-type Voltage Stimuli Towards Memory Applications		Sami El-Nakouzi	P10 Empirical Modeling of Organic Thin Film Transistors Using a Multi-layer Perceptron			
Amer ZAIBI, Benjamin Iniguez	P5 Advanced Techniques for Analyzing Source and Drain Resistances in Organic Thin Film Transistors		Patryk Golec	P11 Physical Compact Model for Multi-Modal Transistors			student
Niels Burghoorn, Yoeri Van de Burgt	P6 Milestones in the Evolution of OECT Device Physics		Janic Tox:	P12 Development of PEDOT-Crown-based Organic Electrochemical Transistors towards Ionotronic neurohybrid Synapses			postdoc
							contributed
							invited

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Neuromorphic Organic Devices
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