



**HAL**  
open science

## Two-Dimensional Oscillatory Neural Networks for Energy Efficient Neuromorphic Computing

Aida Todri-Sanial, Thierry Gil, Nadine Azemard, Jérémie Salles, Stefania Carapezzi, Eirini Karachristou, Madeleine Abernot, Siegfried Karg, Elisabetta Corti, Kirsten Moselund, et al.

► **To cite this version:**

Aida Todri-Sanial, Thierry Gil, Nadine Azemard, Jérémie Salles, Stefania Carapezzi, et al.. Two-Dimensional Oscillatory Neural Networks for Energy Efficient Neuromorphic Computing. EU H2020 ICT NEURONN Research Project, 2020. lirmm-02530086

**HAL Id: lirmm-02530086**

**<https://hal-lirmm.ccsd.cnrs.fr/lirmm-02530086v1>**

Submitted on 3 Apr 2020

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# NeurONN

TWO-DIMENSIONAL OSCILLATORY NEURAL NETWORKS FOR ENERGY EFFICIENT NEUROMORPHIC COMPUTING



Thursday 6 February 2020

## Two-dimensional oscillatory neural networks for energy efficient neuromorphic computing

The 4<sup>th</sup> and 5<sup>th</sup> of February 2020, in Montpellier (France), at the premises of LIRMM, CNRS the Kick-off meeting of NeurONN took place. All the Partners of the NeurONN Consortium met and set the ground for the activities along the three-year duration of the EU Project.

NeurONN<sup>1</sup> is a research project funded by H2020 EU's research and innovation programme with core subject "Energy-efficient bio-inspired devices accelerate route to brain-like computing". The project with duration of 36 months (1 January 2020 – 31 December 2022) brings together leading European research and academic institutions.

Neuro-inspired computing employs technologies that enable brain-inspired computing hardware for more efficient and adaptive intelligent systems. Mimicking the human brain and nervous system, these computing architectures are excellent candidates for solving complex and large-scale associative learning problems.

The EU-funded NeurONN project will showcase a novel and alternative neuromorphic computing paradigm based on energy-efficient devices and architectures. In the proposed neuro-inspired computing architecture, information will be encoded in the phase of coupled oscillating neurons or oscillatory neural networks (ONN).

The Consortium of six (6) partners is led by CNRS, the National Centre of Scientific Research (France). The project partners are IBM Research Zurich, Fraunhofer EMFT, CSIC/University of

---

<sup>1</sup> <https://cordis.europa.eu/project/rcn/225607/en>



PRESS RELEASE

Seville, Silvaco, UK and AI Mergence, FR. Furthermore, NeurONN has initiated an Industrial Advisory Board which consists of members from Intel Corporation and Prophesee.



Dr. Aida Todri-Sanial  
Project Coordinator  
CNRS Director of Research  
Email : [aida.todri@lirmm.fr](mailto:aida.todri@lirmm.fr)  
More info: <https://cordis.europa.eu/project/id/871501>

Follow us: [https://twitter.com/EU\\_NeurONN](https://twitter.com/EU_NeurONN)  
LinkedIn: <https://www.linkedin.com/groups/8902015/>



This project has received funding from the European Union's H2020 research and innovation programme under grant agreement No. 871501.