

# Curriculum Vitae

## Luca Leonardo Bologna

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**Last name:** Bologna  
**First name:** Luca Leonardo  
**Date of birth:** 01/04/1976  
**Nationality:** Italian  
**Professional address:** Via Ugo La Malfa 153, 90146, Palermo  
**Email:** [lucleonardo.bologna@cnr.it](mailto:lucleonardo.bologna@cnr.it)  
[lucleonardo.bologna@pec.it](mailto:lucleonardo.bologna@pec.it)  
**Current Position:** Researcher (fixed term appointment), CNR  
Computer Science High School Teacher (on leave), Italian  
Ministry of Education and Merit (MEM).

### Résumé

Luca L. Bologna is a **computer science engineer** by training. During his undergraduate studies, at the University of Palermo, he acquired in-depth **programming** skills and **numerical simulation** expertise. Following an undergraduate thesis on **data mining/artificial neural network** he pursued a PhD in **neuroengineering/computational neuroscience**, at the Italian Institute of Technology (IIT)/University of Genoa, which involved the **collection and analysis of experimental data**, the development of **software statistical analysis tools** and the **mathematical modeling** and **computer simulation** of neuronal networks. Throughout his post-doctoral period at the Université Pierre et Marie Curie (UPMC, currently Sorbonne Université) in Paris, Luca L. Bologna has investigated **information neurotransmission** via a **neuromimetic software architecture** comprising two **computational models** of neuronal networks and a classification module based on **machine learning** techniques. He also served as **system administrator** in the host laboratories and was awarded with two grants for the use of **high performance computational resources** on institutional clusters based on **parallel computing architectures**.

He served as a **researcher** and as a **first technologist** at the Institute of Biophysics (IBF) – National Research Council (CNR) in Palermo (Italy) in the framework of the **Human Brain Project/EBRAINS Research Infrastructure**. His main tasks and responsibilities in the project were the **design, implementation and maintenance** of tools, data analysis software packages, services, frontend and backend operations for the **EBRAINS Cellular Level Simulation Workflows and Use Cases**.

He currently serves as a Researcher at the National Research Council (CNR), Institute of Biophysics (IBF), as member of the project EBRAINS Italy - European Brain ReseArch INfrastructureS-Italy (PNRR) - Project IR0000011.

### Educational Background and Professional Experience

May 2023 - onwards **Researcher (fixed-term appointment)**  
*Institution:* Institute of Biophysics (IBF), National Research Council (CNR) – Palermo, Italy

Sep. 2022 – onwards **Computer Science High School Teacher**

- (on leave) *Institution:* I.S. Majorana – Palermo, Italy
- Jan. 2020  
Jul. 2022 **First Technologist (fixed-term appointment)**  
*Institution:* Institute of Biophysics (IBF), National Research Council (CNR) – Palermo, Italy  
*Doc. Ref.:* n. 0000287, date: 07/01/2020  
*Group Leader:* Dr. Michele Migliore
- Jul. 2016  
Dec. 2019 **Researcher (fixed-term appointment)**  
*Institution:* Institute of Biophysics (IBF), National Research Council (CNR) – Palermo, Italy  
*Doc. Ref.:* n. 0044652, date: 24/06/2016  
*Group Leader:* Dr. Michele Migliore
- 2014  
2016 **Research Engineer**  
*Institution:* Aging in Vision and Action Lab, Institut de la Vision, Pierre & Marie Curie University (UPMC), CNRS/Essilor - Paris, France  
*Group Leader:* Dr. Angelo Arleo
- Mar. 2012  
Feb. 2013 **Post-doctoral Researcher**  
*Institution:* Laboratory of Neurobiology of Adaptive Processes, Pierre & Marie Curie University (UPMC) - Paris, France  
*Group Leader:* Dr. Angelo Arleo
- Sept. 2011  
Feb. 2012 **Research Collaborator**  
*Institution:* University of Granada  
*Unit:* Department of Computer Architecture and Technology  
*Group Leader:* Prof. Eduardo Ros
- Feb. 2009  
Jun. 2010 **Post-doctoral Researcher**  
*Institution:* Laboratory of Neurobiology of Adaptive Processes, Pierre & Marie Curie University (UPMC) - Paris, France  
*Group Leader:* Dr. Angelo Arleo
- Dec. 2008  
Feb. 2009 **Research Fellow**  
*Institution:* Italian Institute of Technology - Genoa, Italy  
*Supervisors:* Prof. Sergio Martinoia, Prof. Fabio Benfenati
- Oct. 2005  
Jan. 2009 **PhD Thesis**  
*Institution:* University of Genoa, Italian Institute of Technology – Genoa, Italy  
*Discipline:* Humanoid Technologies  
*Thesis title:* "Spontaneous and stimulus-driven network activity in cortical cultures during development: an experimental and modeling approach"  
*Supervisors:* Prof. Sergio Martinoia, Prof. Fabio Benfenati  
*Doc. Ref.:* 2958936
- 2008 **Visiting PhD student**  
*Institution:* VU University Amsterdam - Amsterdam, Netherlands

*Supervisor:* Prof. Arjen van Ooyen

2005

**I Level Master Degree (summa cum laude)**

*Institution:* University of Turin, Biotechnology Foundation - Turin, Italy

*Discipline:* Bioinformatics

*Thesis title:* "Analysis of the State Space of a Random Boolean Network with a Biologically Inspired Topology"

*Supervisors:* Prof. Ferdinando Di Cunto, Dr. Mario Giacobini

*Note:* 110/110 cum laude

*Doc. Ref.:* 051007101059

2004

**Professional Engineer Qualification (Habilitation)**

*Institution:* University of Palermo – Palermo, Italy

*Doc. Ref.:* ES2018900048000001

2004

**Laurea Degree (MSc) (summa cum laude)**

*Institution:* University of Palermo – Palermo, Italy

*Discipline:* Computer Science Engineering

*Thesis title:* "Comparative Analysis of the neural networks Deltanet and Single Layer Morphological Perceptron" (in Italian)

*Supervisor:* prof. Salvatore Gaglio

*Note:* 110/110 cum laude

*Doc. Ref.:* 001039 N.048993/T

**International and National Projects**

International Projects:

- 2023 – ongoing: EBRAINS Italy - European Brain ReseArch INfrastructureS-Italy (PNRR) - Project IR0000011: **Researcher**
- 2016-2022: The Human Brain Project: *European Union's Horizon 2020 research and innovation programme*. SAG1 and SGA2: **Researcher/First Technologist**.  
**Main tasks and responsibilities:** design, implementation and maintenance of tools, data analysis software packages, services, frontend and backend operations for the Brain Simulation Platform of the Human Brain Project.
- 2009-2010: EC Project SENSOPAC: SENSORimotor structuring of Perception and Action for emergent Cognition, IST-028056-IP: **Post-doctoral researcher**.  
**Main tasks and responsibilities:** design and development of a neuromimetic architecture for investigating neurotransmission in the human sensorimotor system.

National French Projects:

- 2015-2016: SilverSight Chair. **Scientific Computing Engineer**.  
**Main tasks and responsibilities:** Advancement in the understanding of the factors underlying perceptual and spatial deficits due to visual aging
- 2014: Joint Laboratory Essilor – Vision Institute. **Research Engineer**.  
**Main tasks and responsibilities:** Advancement in the understanding of the factors underlying perceptual and spatial deficits due to visual aging
- UPMC, Emergence 2011, n. EME1114: **Post-doctoral researcher**.  
**Main tasks and responsibilities:** investigation of the neural transmission in the human sensorimotor system

## Talks

- **OCNS\*2023 Workshop: Neuroscience Gateway Enabling Neuroscience Software Dissemination and Large-Scale Neuronal Modeling and Data Processing on Supercomputers** – 19 July, 2023, Leipzig; invited by Dr. Amitava Majumdar
- **EBRAINS Brain Simulation School 2023** – 19 May, 24 May 2023, Genoa, Marseilles, Palma de Maiorca, Barcelona, Italy
- **EBRAINS Brain Simulation School 2022** – 30 May, 3 Jun. 2022, Palermo, Italy
- **CNS\*2022 Satellite tutorial on EBRAINS Hodgkin-Huxley Neuron Builder** – 28 Jun. 2022 – virtual event; invited by Dr. Shailesh Appukuttan
- **HBP Codejam#10 Workshop** – 26-28 Nov. 2019 – Heidelberg, Germany
- **EBRAINS Workshop – a platform for collaboration in digital neuroscience**, 12 Nov 2019, “The HBP Brain Simulation Platform”
- **HBP Training Course: The Brain Simulation Platform of the Human Brain Project** – 7-8 Oct. 2019 – Helsinki, Finland
- **HBP Codejam#8 Workshop** – 13-15 Sept. 2019
- **HBP Brain Simulation Platform School** – 17-21 Sept. 2018, Palermo, Italy
- **Granada University - Departamento de Arquitectura y Tecnología de Computadores**, 18<sup>th</sup> November 2011, Granada, Spain, “Neuromimetic encoding/decoding of first and second order tactile afferents”, Invited by: prof. Eduardo Ros
- **Granada University - Departamento de Arquitectura y Tecnología de Computadores**, 04<sup>th</sup> November 2011, Granada, Spain, “Spontaneous and stimulus-driven network activity in cortical cultures during development”, Invited by: prof. Eduardo Ros
- **“Humanoids09, 9th IEEE-RAS Conference on Humanoid Robots”**, Paris, 7<sup>th</sup> Dec. 2009, “Tactile sensing” workshop, “Context separation of spatiotemporal haptic signals by second order somatosensory neurons”

## Committees

- 2021 - HBP Codejam#12 Workshop
- 2020 - HBP Codejam#11 Workshop
- 2019 - HBP Codejam#10 Workshop
- 2018 - HBP Codejam#9 Workshop
- 2017 - HBP Codejam#8 Workshop

## **Grants**

- 2012            CASPUR High-Performance Computing (HPC) Grant for the use of high performance computing resources on the HPC cluster. Prot. 394/12
- 2011            CASPUR High-Performance Computing (HPC) Grant for the use of high performance computing resources on the HPC cluster. Prot. 487/11

## **Patents**

**Device for simulating a physiological behaviour of a mammal using a virtual mammal, process and computer program**, Denis Sheynikhovich, Richard Carrillo, Luca Leonardo Bologna, Youssouf Cherifi, Tiany LI, Angelo Arleo, Konogan Baranton, Anne-catherine Scherlen, Delphine Tranvouez-bernardin, 2022/6/23, US Patent App. 17/441,564, 2022

## **Certificates**

2015 - Data Scientist - Ensaie-Ensaie Formation Continue (Cepe)

2004 - Professional Engineer Qualification (Habilitation)

## **Programming/software environment/technology Expertise:**

Programming: C, C++, Python, Java, Perl, SQL, PhP, HTML5, Javascript, Css, Prolog, Lisp, Matlab, Django; Web application design, implementation, maintenance

Scientific programming: design, implementation and maintenance of tools for neuroscientific simulations and data analysis

Operating Systems: Linux, Mac OS, Windows (including bash scripting)

Web server: Apache, Nginx, uwsgi

System administration: Linux, Mac OS, Windows

Version control: git

Github memberships: [github.com/lbologna](https://github.com/lbologna), [/HumanBrainProject](https://github.com/HumanBrainProject), [/cnr-ibf-pa](https://github.com/cnr-ibf-pa), [/ebrains-cls-interactive](https://github.com/ebrains-cls-interactive), [/hippocampusub](https://github.com/hippocampusub)

## **Scientific Expertise**

Neuro-engineering, Data analysis, Computational modelling, Full-stack web development

## **Language Skills**

**Italian:** mother tongue

**English:** fluent

CPE C2 [Certificate of Proficiency in English - CEFR Level C2]

Issue date: Jul 2019 – Expiration date: no expiration date

**French:** fluent

DALF C2 - [Diplôme approfondi de langue française - Niveau CEFR C2]

Issue date: Jun 2018 – Expiration date: no expiration date

**Spanish:** fluent (1-year study and work experience in Spain)

### **Reference List**

Dr. Michele Migliore

Institute of Biophysics (IBF), National Research Council (CNR), Palermo Unit, via U. La Malfa 153, 90146 Palermo, Italy, *e-mail: michele.migliore@cnr.it*

Dr. Angelo Arleo

Institute of Vision, Aging in Vision and Action Lab, CNRS – INSERM – University Pierre&Marie Curie, 17, rue Moreau F-75012, Paris, France; email: *angelo.arleo@inserm.fr*

Prof. Sergio Martinoia

University of Genoa, Dipartimento di Ingegneria Biofisica ed Elettronica, Via Opera Pia, 11 A, 16145 Genoa, Italy; email: *sergio.martinoia@unige.it*

Prof. Fabio Benfenati

Department of Neuroscience and Brain Technologies, Italian Institute of Technology, Via Morego, 30, 16163 Genoa, Italy; email: *fabio.benfenati@iit.it*

# Publication list

## Journals

h-index: 8

- J1. **Bologna L.L.**, Tocco A., Smiriglia R., Romani A., Schürmann F., Migliore M., Online Interoperable Resources For Building Hippocampal Neuron Models Via The Hippocampus Hub. *Front Neuroinform. Vol. 17, 2023, doi: 10.3389/fninf.2023.1271059. In press*
- J2. **Bologna L.L.**, Smiriglia R., Lupascu C.A., Appukuttan S., Davison A.P., Ivaska G., Courcol JD, Migliore M., The EBRAINS Hodgkin-Huxley Neuron Builder: An online resource for building data-driven neuron models. *Front Neuroinform. 2022 Sep 26. doi: 10.3389/fninf.2022.991609*
- J3. Appukuttan S., **Bologna L.L.**, Schuermann F., Migliore M., Davison A.P., EBRAINS Live Papers-Interactive resource sheets for computational studies in neuroscience. *2023 Jan;21(1):101-113. doi: 10.1007/s12021-022-09598-z. Epub 2022 Aug 20.*
- J4. **Bologna L.L.**, Smiriglia R., Curreri D., Migliore M., The EBRAINS NeuroFeatureExtract: An Online Resource for the Extraction of Neural Activity Features From Electrophysiological Data. *Front Neuroinform. 2021 Aug 26;15:713899. doi: 10.3389/fninf.2021.713899. eCollection 2021.*
- J5. Sáray S., Rössert C.A., Appukuttan S., Migliore R., Vitale P., Lupascu C.A., **Bologna L.L.**, Van Geit W., Romani A., Davison A.P., Muller E., Freund T.F., Káli S., HippoUnit: A software tool for the automated testing and systematic comparison of detailed models of hippocampal neurons based on electrophysiological data. *PLoS Comput Biol. 2021 Jan 29;17(1):e1008114. doi: 10.1371/journal.pcbi.1008114. eCollection 2021*
- J6. Bécu M.; Sheynikhovich D.; Tatur G.; Agathos C.; **Bologna L.L.**; Sahel J-A; Angelo Arleo. Age-related preference for geometric spatial cues during real-world navigation. *Nat. Hum. Behav. 2019 Sep 23; doi: https://doi.org/10.1038/s41562-019-0718-z*
- J7. Migliore R.; Lupascu CA.; **Bologna L.L.**; Romani A.; Courcol JD.; Antonel S.; Van Geit WAH.; Thomson AM.; Mercer A.; Lange S.; Falck J.; Rössert CA.; Shi Y.; Hagens O.; Pezzoli M.; Freund TF.; Kali S.; Muller EB.; Schürmann F.; Markram H.; Migliore M. The physiological variability of channel density in hippocampal CA1 pyramidal cells and interneurons explored using a unified data-driven modeling workflow. *PLoS Comput Biol. 2018 Sep 17;14(9):e1006423. doi: 10.1371/journal.pcbi.1006423. eCollection 2018 Sep.*
- J8. Korotchenko S.; Cingolani L.A.; Kuznetsova T.; **Bologna L.L.**; Chiappalone M.; Dityatev A. Modulation of network activity and induction of homeostatic synaptic plasticity by enzymatic removal of heparan sulfates. *Philos Trans R Soc Lond B Biol Sci. 2014 Oct 19;369(1654). pii: 20140134. doi: 10.1098.*
- J9. **Bologna, L. L.\***; Pinoteau, J\*.; Passot, J-B.; Garrido, J. A.; Vogel, J.; Ros Vidal, E. and Arleo, A. A closed-loop neurobotic system for fine touch sensing. *Journal of Neural Engineering, 10 (4): 046019, 2013. (\*equal contribution; article selected as one of Journal of Neural Engineering's Highlights of 2013).*

- J10. **Bologna, L. L.**; Pinoteau, J.; Brasselet, R.; Maggiali, M. and Arleo, A. Encoding/decoding of first and second order tactile afferents in a neurorobotic application. *Journal of Physiology P*, 105 (1-3): 25-35, 2011.
- J11. **Bologna, L. L.**; Pasquale, V.; Garofalo, M.; Gandolfo, M.; Baljon, P. L.; Maccione, A.; Martinoia, S. and Chiappalone, M. Investigating neuronal activity by SPYCODE multichannel data analyzer. *Neural Networks*, 23 (6): 685-697, 2010.
- J12. **Bologna, L. L.**; Nieuws, T; Tedesco, M; Chiappalone, M; Benfenati, F and Martinoia, S. Low-frequency stimulation enhances burst activity in cortical cultures during development. *Neuroscience*, 165 (3): 692-704, 2010.
- J13. Pasquale, V; Massobrio, P; **Bologna, L.L.**; Chiappalone, M and Martinoia, S. Self-organization and neuronal avalanches in networks of dissociated cortical neurons. *Neuroscience*, 153 (4): 1354-1369, 2008.

### Peer-reviewed conferences

- C1. **Bologna, L.L.\***; Pinoteau, J.\*; Garrido, J. and Arleo, A. Active tactile sensing in a neurorobotic Braille-reading system. In *Proceedings of the 4th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob 2012)*, pages 1925-1930, Rome, Italy, 2012 (\*equal contribution).
- C2. Pinoteau, J.\*; **Bologna, L.L.\***; Garrido, J. and Arleo, A. A Closed-loop neurorobotic system for investigating Braille-reading finger kinematics. In Isokoski, P. and Springare, J., editors, *LNCS - Haptics: Perception, Devices, Mobility, and Communication*, vol. 7282, pages 407-418, Springer, 2012 (\*equal contribution).
- C3. **Bologna, L. L.**; Brasselet, R.; Maggiali, M. and Arleo, A. Effective encoding/decoding of spiking signals from an artificial touch sensor. In *Gervais, R. et al., editors, Proceedings of the Fifth french conference on computational neuroscience (Neurocomp)*, pages 120-125, 2010.
- C4. **Bologna, L. L.**; Brasselet, R.; Maggiali, M. and Arleo, A. Neuromimetic encoding/decoding of spatiotemporal spiking from an artificial touch sensor. In *Proceedings of the International Joint Conference on Neural Networks (IJCNN) (in press)*, 2010.

### Abstracts/Posters

- P1. Migliore R; Lupascu C. A.; **Bologna L.L.**; Romani A.; Courcol JD; Van Geit W; Thomson AM; Mercer A; Lange S; Rössert CA; Shi Y; Hagens O; Pezzoli M; Freund T; Muller E; Schuermann F; Markram H; Migliore M; Antonel S; Falck J; Kali S (2019) Degeneracy in hippocampal CA1 neurons. In *CNS (Computational Neuroscience) 2019, Barcellona, Spain*.
- P2. Vitale P; Lupascu C.A.; **Bologna L.L.**; Shah M; Romani A; Courcol JD; Antonel S; Van Geit W; Shi Y; Budd J.M.L, Gulyas A; Kali S; Migliore M; Migliore R; Pezzoli M; Sáray S; Tar L; Schlingloff D; Berki P; Freund T.F. (2019) Data-driven modeling of mouse CA1 and DG neurons. In *CNS (Computational Neuroscience) 2019, Barcellona, Spain*.

- P3. **Bologna L.L.**; Lupascu C.A.; Migliore R.; Courcol J-D.; Schürmann F.; Davison A.P.; Migliore M. (2018) The Brain Simulation Platform of the Human Brain Project - v2.0: building brain models in a collaborative environment. In *SfN (Society of Neuroscience) 2018, San Diego, USA*
- P4. Bécu M; Tatur G; Sheynikhovich D; Agathos C; **Bologna L.L.**; Arleo A (2018) Age-related preference for geometric cues during real-world navigation. In *Poster presented at Forum of Neuroscience (FENS), Berlin, Germany, pages 345.*
- P5. Lupascu CA.; **Bologna L.L.**, Migliore R.; Antonel S. M.; Courcol J-D.; Migliore M. (2017) A user-friendly interactive pipeline for single cell model building. In *SfN (Society of Neuroscience) 2017, Washington, USA*
- P6. Romani R.; Antille N.; **Bologna L. L.**; Courcol J.-D.; Devresse A.; Ecker A.; Falck J. H.; Favreau C. P.; Gevaert M.; Gulyas A.; Hernando J. V.; Jimenez S.; Kali S.; Kanari L.; King J. G.; Lange S.; Lupascu C.A.; Mercer A.; Migliore M.; Migliore R.; Povolotskiy A.; Ramaswamy S.; Reimann M. W.; Rossert C. A.; Shi Y.; Thomson A. M.; Van Geit W.; Vanherpe L.; Markram H.; Muller E. B. (2017) Reconstruction and simulation of a full-scale model of rat hippocampus CA1 In *SfN (Society of Neuroscience) 2017, Washington, USA*
- P7. Bécu M.; Tatur G.; Bourefis A.; **Bologna L.L.**; Sheynikhovich D.; Arleo A. (2017) Age-related changes in gaze dynamics during real-world navigation. In *Journal of Vision, vol. 17(10), pages 540.*
- P8. Migliore M.; Lupascu C.A.; Morabito A.; Merenda E.; Marinelli S.; Marchetti C.; Migliore R.; **Bologna L.L.**; Franchina F.; Cherubini E. (2016) An automatic pipeline to optimize subcellular models of transynaptic signaling at inhibitory synapses In *SfN (Society of Neuroscience) 2016, San Diego, USA*
- P9. Arleo, A.; Brasselet, R.; **Bologna, L.L.**; Pinoteau, J.; Jörntell, H. and Johansson, R. S. (2011) Neural coding in the early stages of the somatosensory pathway: a metrical information theory analysis of human microneurography data. In *Proceedings of the 10th French Society for Neuroscience Meeting, Marseille, France, 2011.*
- P10. Nieuws, T; **Bologna, L.L.** and Martinoia, S. Complex dynamics in neural growth. In *Computational and Systems Neuroscience Meeting, (Cosyne), 24th - 28th, February 2011, Salt Lake City, (Utah, Usa), 2011.*
- P11. **Bologna, L.L.**; Pasquale, V.; Garofalo, M.; Gandolfo, M.; Baljon, P. L.; Maccione, A.; Martinoia, S. and Chiappalone, M. Investigating neuronal activity by SPYCODE data analyzer. In *Proceedings of Mea-Meeting, 7th International Meeting on Substrate Integrated Micro-Electrode Arrays, 29 June - 2 July 2010, Reutlingen (Germany) (in press), 2010.*
- P12. **Bologna, L.L.**; Maggiali, M.; Sandini, G. and Arleo, A. Encoding/Decoding of spatiotemporal signals from an artificial touch sensor. In *Proceedings of the Humanoids Conference, Paris, France, 2009.*
- P13. **Bologna, L. L.**; Nieuws, T. and Martinoia, S. A mixed excitatory/inhibitory model of neural growth reproduces cortical cultures' activity during development. In *Renaud, S. and Saighi, S., editors, Proceedings of the Conference NeuroComp, vol. 4, pages 4, 2009.*
- P14. **Bologna, L. L.**; Chiappalone, M; Tedesco, M; Nieuws, T and Martinoia, S. Constant low frequency stimulation shows long-term response changes in in-vitro cortical cultures during development. In *Proceedings of Mea-Meeting, 6th International Meeting on Substrate Integrated Micro-Electrode Arrays, 8-11 July 2008, Reutlingen (Germany), pag. 43, 2008.*

- P15. **Bologna, L.L.**; M; Chiappalone, N.; Nieuwenhuis, T and Martinoia, S. Constant low frequency stimulation shows changes in response of in-vitro cortical cultures during development. In *Molecular Mechanisms in Neuroscience, 19-20 June 2008, Milan (Italy), 2008*.
- P16. Massobrio, P; Pasquale, V; Chiappalone, M; **Bologna, L.L.** and Martinoia, S. Self-organization in network of dissociated cortical neurons: an experimental and modeling approach. In *5th Computational and Systems Neuroscience Meeting, (Cosyne), 28th, February - 2nd March, 2008, Salt Lake City, (Utah, Usa), 2008*.
- P17. Pasquale, V; Massobrio, P; **Bologna, L.L.**; Chiappalone, M; Maccione, M; Berdondini, L and Martinoia, S. Scale-free dynamics and neuronal avalanches in networks of neurons cultured onto micro-electrode arrays. In *Society For Neuroscience, (Sfn 2008) -15-19 November 2008, Washington dc (Usa), 2008*.
- P18. Pasquale, V; Massobrio, P; Chiappalone, M; **Bologna, L.L.** and Martinoia, S. Self-organization and neuronal avalanches in networks of dissociated cortical neurons, Complexity in Neural Network Dynamics. In *Tauc Conference In Neurobiology 2007, 13-14 December 2007, Gif-sur-Yvette (France), 2007*.