Letizia Zullo, PhD

Current position

2023-2028	**Researcher** at the IRCCS Ospedale Policlinico San Martino, Genova
2018 – present	**Contract professor** at the Medical-pharmaceutical Biotechnology, University of Genova

Academic qualification

2012- 2023	Researcher at the IIT, Italian Institute of Technology, Genoa, Italy
2021- 2022	**Visiting Professor** at The Alexander Silberman Institute for Life Sciences, Hebrew University of Jerusalem, Jerusalem, Israel
2021-2030	ASN: National Scientific Habilitation **-II Fascia-**, in Phisiology (SSD 05/D1, Fisiologia; BIO/09) (2021-2030)
2007-2012	Post Doctorate at the IIT, Italian Institute of Technology, Genoa, Italy
2005-2007	Post Doctorate at the Hebrew University of Jerusalem, Jerusalem, Israel
2001-2004	PhD in Applied Biology at the Federico II University, Naples, Italy and Stazione Zoologica "Anton Dohrn", Naples, Italy. Title of the project: "Functional organization of the sensory-motor areas in the SNC of *Octopus vulgaris*". Supervisor: Dr. Binyamin Hochner, Department of Neurobiology, Hebrew University of Jerusalem, Jerusalem, Israel. Tutor: Prof. Claudio Agnisola, Federico II University, Naples, Italy.
March 2005-May 2005	Exchange program in Computational Neuroscience, ICNC, Hebrew University, Jerusalem, Israel.
May 2004-July 2004	Research collaboration at the Department of Neurobiology, Life Science Institute, Hebrew University of Jerusalem, Jerusalem, Israel under the supervision of Dr. Binyamin Hochner.

June 2003-Sept 2003	Exchange program in Computational Neuroscience, ICNC, Hebrew University, Jerusalem, Israel.
2001	Habilitation as 'Biologist' received in the third session from the University of Naples, Federico II
1994-2001	Bachelor in Biological Sciences at Federico II University, Naples, with a final evaluation of 110/110 *cum laude*. Thesis title "Central and peripheral control of "patterning" of the cromatophores in *Loligo vulgaris*". Supervisor Dr. Euan Brown, Laboratory of Neurobiology, Stazione Zoologica "Anton Dohrn", Naples, Italy Tutor Prof. Pietro Battaglini, Federico II University, Naples, Italy.
1989-1994	Antonio Genovesi, School of Classical Studies, Naples, Italy.

Competences and Experience

Technical competences
In vivo and in vitro electrophysiology; neuronal cell culture; bioinformatics; muscle biomechanics; imaging and high resolution microscopy; motion reconstruction and kinematics, soft-robotics.

I've developed dedicated set-up to investigate the neurophysiology and biomechanics of both zebrafish larvae and adult, and in vitro brain and nervous system slices by employing (i) MEA based EEG recordings (ii) Muscle physiology and biomechanics systems and (iii) High resolution microscopy, in WT and transgenic animals.

Set-up of Animal facilities for aquatic research animals and animal care
I've a long lasting experience in setting-up aquatic animal maintenance facilities.
In 2008 I established a *de-novo* facility for the maintenance of adult Octopuses (*Octopus vulgaris*) in a closed-circuit system Stabularium. This facility is located at the IRCCS San Martino Hospital in Genoa, and is authorized by the Italian Ministry of Health.

In 2021 I've been involved in the design and establishment of a stabularium for maintenance and reproduction of zebrafish (*Danio rerio*) at the IRCCS San Martino Hospital in Genoa to be used in the context of human pathologies, pharmacology and comparative neuroscience.

Procedures and Legislation for the use of animals in scientific research
I've long-lasting experience in all the procedural aspects involved in the request for authorization of animal experiments following the Directive 2010/63/EU (Italian D. Lgs. no. 26/2014) and more in general in ethical regulation for animal research.
In 2018, I joined the Body for the Protection of Animals (OPBA) of the IRCCS San Martino Hospital of Genoa and since then I'm actively involved in the revision of researcher application for animal experimentation to the Italian Ministry of Health (the National Competent Authority).

I hold IZLER training certificates for: 'ELEMENTI BASE PER L'APPROCCIO DEI RICERCATORI ALL'UTILIZZO DEGLI ANIMALI AI FINI SCIENTIFICI'(since 2021) and 'ZEBRAFISH COME ORGANISMO MODELLO: APPROCCI SPERIMENTALI IN VITRO E IN VIVO NELLA RICERCA SCIENTIFICA' (since 2022).

National Habilitation
In 2021 I received the National Scientific Habilitation **-II Fascia-**, in Phisiology (SSD 05/D1, Fisiologia; BIO/09) (2021-2030)

Ordine Nazionale dei Biologi
Since 15/06/2022 I'm registered in the 'Ordine Nazionale dei Biologi', Albo Professionale Sezione A with number: AA_093364

Main research topics

My work is oriented toward the investigation of aquatic animal neurophysiology, biomechanics and development, in particular working in the area of **Animal model for human genetic pathologies, Neuroscience, Development, Regeneration, and Bio-robotics for human health and surgery**.

I'm using animal model alternative to rodents (in particular the zebrafish *Danio rerio*) to study **Human Genetic Neuropathology and Neuroscience**. I'm setting up a Behavioral and Neurophysiology platform to perform studies in particular on the **genetic aspects of Epilepsy** and neural diseases like **Multiple sclerosis and Glioblastoma**.

Using the Cephalopods (*Octopus vulgaris*) as animal models I'm a carrying on two main research lines: (i) studying the **octopus sensory-motor system** and their possible implementation in a bio-robotic environment with the aim of **building soft-robotic structures for human surgery and prosthetics**; (ii) deciphering cellular and molecular mechanisms of tissue morphogenesis, proteomic profile and molecular markers involved in **nervous system and musculature development and regeneration** relevant to **neuroscience and human regenerative medicine.**

Grants and Fellows

2023-2025	5 x 1000 funds 2021 - Italian Ministry of Health - (5M-2021-23683850), 'Messa a punto di una piattaforma integrata per l'analisi fisiologica e comportamentale di animali acquatici modello per le neuroscienze e la neuropatologia' ***Role:*** **PI**
2023-2026	MAECI, Dextrous, strong yet soft robots - DESTRO ***Role:*** **Co-Investigator**
2023-2026	ONR (N00014-23-1-2083), 'Proprioception in motion: role of muscle proprioceptive inputs in arm movements' ***Role:*** **PI**
2021-2024	ONR (N00014-20-S-B001), 'Deciphering the novel principles of the octopus neuromuscular systems control using a bottom-up approach' ***Role:*** **PI**

2013-2017	COST 015/13 (COST Action FA1301), A network for improvement of cephalopod welfare and husbandry in research, aquaculture and fisheries (CephsInAction) ***Role:*** **Consortium member & Management committee**
2013-2015	IIT Interdisciplinary/Interdepartmental projects "Investigation on the octopus sucker properties" ***Role:*** **PI**
July 2014	SYRMEP beamline allocation grant from the Elettra Sincrotrone Trieste within the program for Italian Users ***Role:*** **Awarded**
2009-2013	SEVENTH FRAMEWORK PROGRAMME, THEME: ICT 2007.8.5 Future and Emerging Technologies (FET), Embodied Intelligence; Grant agreement no.: 231608 "Novel Design Principles and Technologies for a New Generation of High Dexterity Soft-bodied Robots Inspired by the Morphology and Behaviour of the Octopus" ***Role:*** **PI**
2005- 2007	Fellow under the DARPA project BIODYNOTICS ***Role: Post doc fellow, Component of the HUJI Institution***
March 2005-May 2005	Fellow by the 'Exchange program in Computational Neuroscience', ICNC, Hebrew University, Jerusalem, Israel ***Role:*** **Awarded**
May 2004-July 2004	Fellow under the DARPA project BIODYNOTICS ***Role: PhD fellow, Component of the HUJI Institution***
June 2003-Sept 2003	Fellow by the 'Exchange program in Computational Neuroscience', ICNC, Hebrew University, Jerusalem, Israel ***Role:*** **Awarded**

Editorial activities

- 2021 Guest Associate Editor of Frontiers in Physiology. Topic Editor of Cognitive Mechanisms and Circuits Across Different Taxa: An Integrative View.
- 2020-to date, Review Editor on the Editorial Board of Cellular Neurophysiology, Frontiers in Cellular Neuroscience
- 2017 Guest Associate Editor of Frontiers in Cell and Developmental Biology, Stem Cell Research. Topic Editor of the Research Topic "Metazoan muscle re-generation: what can we learn from diversity?"
- Peer reviewer for Scientific international journals.

Congress chairing and organization

- Session chair at the 17th IIM Meeting 2021, Virtual Event
- Session organizer: "Marine metazoa session", EFOR Meeting 2021 – Virtual Event

- Focused-on session organizer: Cephalopod Neurophysiology, CephRes2020 Virtual Event
- Focused-on session organizer: Regeneration in cephalopods: past approaches, present trends and future directions, CephRes2020 Virtual Event
- Workshop organizer: New direction in interdisciplinary cephalopod research from practical to metaphysical and its social implication. CIAC 2017, Crete, Greece
- Workshop organizer: Novel biomimetic models: materials, soft robots and artificial intelligence, CIAC 2015, Hakodate, Japan.

Meeting and conferences

November 2023	SFN2023, Washington, USA (*incoming)*
September 2023	Brayn conference, Naples, Italy (*incoming)*
August 2023	EMC2023, Florence
July 2023	SEB2023, Edinbourgh, UK
July 2023	Living Machines, Genoa, Italy
September 2022	Workshop 'Comparative Neurobiology of Higher Cognitive Functions', Ettore Majorana Foundation, Erice, Italy
September 2022	SIF 2022, Bari, Italy
September 2022	Workshop - Comparative Neurobiology of Higher Cognitive Functions, Erice, Italy
July 2022	SEB 2022, Montpellier
April 2022	Robosoft conference, Edinburgh, UK
March 2022	CIAC meeting, Sesimbra, Portugal
October 2021	18th IIM Meeting, Virtual Event
September 2021	EMC 2021, Virtual event
September 2021	71st SIF National Congress, Milan (online)
July 2021	SEB 2021 ANNUAL CONFERENCE, Online
May 2021	EFOR Meeting 2021, Virtual Event
October 2020	17th IIM Meeting, Virtual Event
September 2020	CephRes2020, Virtual Event
July 2019	SEB 2019, Seville, Spain
November 2018	Aquatic research models to study regeneration & aging, Nice, France
April 2018	RoboSoft2018, Livorno, Italy
August 2018	EMC 2018, 47th European Muscle Conference, Budapest, Hungary
July 2018	SEB 2018, Firenze, Italy
November 2017	Regeneration 2017, Nature conferences, Milan, Italy
October 2017	XIV IIM - Myology Meeting, Assisi, Italy
March 2017	CIAC meeting, Crete, Greece
November 2016	SFN 46th annual meeting, San Diego, CA, USA
October 2016	XIII IIM - Myology Meeting, Assisi, Italy
July 2016	MED 2016, Athens, Greece
April 2016	RoboSoft meeting, Livorno, Italy
November 2015	CIAC 2015, Hakodate, Japan
September 2015	66° Congresso Nazionale SIF, Genoa, Italy
November 2014	SFN 44th annual meeting, Washington, DC, USA
September 2014	EMC 2014, 43rd European Muscle Conference, Salzburg, Austria
July 2014	9th FENS Forum of Neuroscience, Milan, Italy
September 2013	Cephalopods as Models for Tissue Regeneration: a Workshop. Naples, Italy

April 2012	EuroCeph meeting: Meeting of Technical Experts to develop Guidelines on Care and Welfare of Cephalopods in Research. Vico Equense, Naples, Italy
April 2012	EuroCeph meeting: European Proposal of a Consortium for genome sequencing of Octopus vulgaris. Vico Equense, Naples, Italy
April 2011	EuroCeph meeting: Cephalopod biology research in the 21st century "A European perspective". Vico Equense, Naples, Italy
November 2010	SFN 40th annual meeting, San Diego, CA, USA
November 2009	ISFN, Annual Meeting of the Israel Society for Neuroscience. Eilat, Israel.
July 2008	6th MEA meeting, Reutlingen, Germany
June 2008	Molecular Mechanisms in Neuroscience, Milan, Italy
November 2007	IIT workshop, Genova, Italy
September 2007	SINS 2007, Annual meeting of the Italian Society of Neuroscience, Verona, Italy
June 2007	A journey through computation, Genova, Italy
October 2006	The node and the network: the fundamental contribution of Camillo Golgi to Modern Neuroscience, Pavia, Italy.
July 2006	5th FENS Forum of Neuroscience, Vienna, Austria.
June 2006	Second Computational Motor Control Workshop, Ben Gurion University, Israel.
February 2006	Invited speaker at the 'Ein Gedi Meeting'. Ein Gedi, Israel.
February 2006	'The Rythmic Brain', Eilat, Israel
December 2005	ISFN, Annual Meeting of the Israel Society for Neuroscience. Eilat, Israel.
November 2005	SFN 35th annual meeting, Washington, DC, USA.
May 2005	Computational Motor Control Workshop, Ben Gurion University, Israel.
December 2003	Workshop: "The giants Cephalopods: an ancient world coming closer"; Federico II University, Torre del Greco, Naples, Italy.
July 2002	3rd Forum of European Neuroscience, Paris, France.
November 2000	Symposium - Biological Sciences: Challenges for the XXI Century, Naples, Italy.

Communication and outreach activities

- March 2024, UniStem Day 'Altri cervelli' Turin (*incoming*)
- April 2022, Cells Webinar | Cell Calcium across the Phylogenetic Tree: From Physiological Signaling to Pathogenic Mechanisms
- September 2021, "Marine Research & Society" panel, MSc. MARRES, Universitè Cote D'Azur, Sophia Antipolis, France
- December 2020, Webinar Lecture for Hebrew University's Friends
- June 2020, Twitch live streaming episode 5 'Thinking loud, cosa succede nel nostro cervello'
- May 2019, Festival del Mare, Genova, Italy. Organization of the exhibition: 'Così lontani così vicini' I Cefalopodi dal mare alle Neuroscienze.
- November 2018, Festival della Scienza 2018, Genova, Italy. Organization of the laboratory: 'Dalla Zebra al Pois'.

- December 2015, 'Un Mare di Scienza' Conferencence series organized by the University of Genova: 'Otto braccia, tre cuori e un grande cervello: il Polpo tra mito e scienza', Genova, Italy.
- 2012, Partecipation in the Documentary 'The Life and Times of Paul the Psychic Octopus' di A. O. Philippe.

Academic activity

- 2017-to date, Member of the 'Collegio docenti del corso di **Dottorato di Ricerca in Neuroscienze**' of the **University of Genoa**, Italy
- 2020 to date, Affiliation to the **'Centro del Mare'**, **University of Genoa**, Italy
- 2020-2021 Committee member and reviewers of **MSc. MARRES** (Marine Resources Science, Conservation & Innovation) thesis, **Universitè Cote D'Azur**, Sophia Antipolis, France
- Member of the **CCdS in Biotecnologie, University of Genoa (Italy)**,
- Since 2005 I've been **supervising PhD and Master degree students** from both national and international university programs from University of Genoa (Italy), the MSc. MARRES, Universitè Cote D'Azur (France) and the Hebrew University of Jerusalem (Israel).

Teaching activity

- From 2018-2024, Course in **Developmental Neurobiology**, MEDICAL-PHARMACEUTICAL BIOTECHNOLOGY, **University of Genova**
- From 2020-2024, Course in '**Animal Models for Biotechnology**', MEDICAL-PHARMACEUTICAL BIOTECHNOLOGY, **University of Genova**
- From 2019 ongoing Lecturer in the module 'Unexpected potential of marine resources', MSc. MARRES, **Universitè Cote D'Azur**, Sophia Antipolis, France
- 2021 Teaching activity at the SUMMER SCHOOL 2021, **University of Genoa**, PhD Course in Neuroscience
- 2022 Lecturer at the **University of Piemonte Orientale**: 'Intelligence in Motion, can Octopuses be the next animal models in Neuroscience?'
- 2022 Lecturer in the course of Phisiology of the Laurea Magistrale in Biologia ed Ecologia Marina, **University of Genoa**: 'Smart and Spineless, can an Octopus be the Next Model Organism?'
- 2021-2022 Lecturer in the course of Medical and Pharmaceutical Science of the **University of Genova**: 'Modelli "marini" per lo studio delle malattie del sistema nervoso'
- 2021 Lecturer in the course of Physiology of the **University of Trieste**: 'Octopus arm hydrostatic muscles: features and potentiality'
- 2020 Lecturer in the course of Medical and Pharmaceutical Science of the **University of Genova**: 'Biologically inspired neurorobotics'
- 2016-2017-2019 Lecturer in the course 'Animal Models for Biotechnology', MEDICAL-PHARMACEUTICAL BIOTECHNOLOGY, **University of Genova**
- 2016-2017-2018 Teaching activity in the Dottorato di Ricerca in Neuroscienze / Curriculum "Neurosciences and Neurotechnologies, **University of Genova**

Publications

1. Hochner, B.*, **Zullo, L.***, Shomrat, T., Levy, G., & Nesher, N. (2023). Embodied mechanisms of motor control in the octopus. ***Current Biology***, CB, 33(20), R1119–R1125. https://doi.org/10.1016/j.cub.2023.09.008

   *equal contribution

2. Röckner, J.L., Arellano, M.D., **Zullo, L**. (2023). Sucker Attachment and Detachment Patterns in Octopus Vulgaris. In: Meder, F., Hunt, A., Margheri, L., Mura, A., Mazzolai, B. (eds) Biomimetic and Biohybrid Systems. Living Machines 2023. ***Lecture Notes in Computer Science***, vol 14157. Springer, Cham. https://doi.org/10.1007/978-3-031-38857-6_20

3. Flash T., **Zullo L.** (2023) Biomechanics, motor control and dynamic models of the soft limbs of the octopus and other cephalopods. ***J. Exp. Biol,*** 226 (Suppl_1): jeb245295. doi: https://doi.org/10.1242/jeb.245295

4. **Zullo L**., Di Clemente A., Maiole F. (2022) How octopus arm muscle contractile properties and anatomical organization contribute to the arm functional specialization. ***J. Exp. Biol*** doi: 10.1242/jeb.243163

5. Gutnick T, **Zullo L**, Hochner B and Kuba MJ (2022) Protocol for controlled behavioral testing of octopuses using a single-arm tactile discrimination two-choice task. ***STAR Protocols*** 3(1):101192, doi:10.1016/j.xpro.2022.101192

6. Di Clemente A, Maiole F, Bornia I, **Zullo L** (2021) Beyond muscles: Role of intramuscular connective tissue elasticity and passive stiffness in the octopus arm muscle function. ***J. Exp. Biol***, 224 (22), doi:10.1242/jeb.242644

7. **Zullo L**, Bozzo, M.; Daya, A.; Di Clemente, A.; Mancini, F.P.; Megighian, A.; Nesher, N.; Röttinger, E.; Shomrat, T.; Tiozzo, S.; Zullo, A.; Candiani, S. (2020) The Diversity of Muscles and Their Regenerative Potential across Animals. ***Cells***, 9, 1925, doi: 10.3390/cells9091925

8. Gutnick T, **Zullo L**, Hochner B and Kuba M (2020) Use of Peripheral Sensory Information for Central Nervous Control of Arm Movement by Octopus vulgaris. ***Current Biology***, doi: 10.2139/ssrn.3565033

9. Maiole F, Tedeschi G, Candiani S, Maragliano L, Benfenati F, **Zullo L** (2019) Synapsins are expressed at neuronal and non-neuronal locations in Octopus vulgaris. ***Sci Rep***. 2019 Oct 28;9(1):15430. doi: 10.1038/s41598-019-51899-y

10. Maiole F, Giachero S, Fossati SM, Rocchi A and **Zullo L** (2019) mTOR as a Marker of Exercise and Fatigue in Octopus vulgaris Arm. ***Front. Physiol.*** 10:1161. doi: 10.3389/fphys.2019.01161

11. Xu PA, Mishral AK, Bai1 H, Aubin CA, **Zullo L**, Shepherd RF (2019) Optical lace for synthetic afferent neural networks. ***Science Robotics*** 4 (34) eaaw6304. doi: 10.1126/scirobotics.aaw6304

12. Nesher N, Maiole F, Shomrat T, Hochner B, **Zullo L** (2019) From synaptic input to muscle contraction: arm muscle cells of Octopus vulgaris show unique neuromuscular junction and

excitation–contraction coupling properties***. Proc. R. Soc.*** 286 (1909) doi.org/10.1098/rspb.2019.1278

13. **Zullo L**, Eichenstein H, Maiole F, Hochner B (2019) Motor control pathways in the nervous system of Octopus vulgaris arm. ***Journal of Comparative Physiology A*** 205(2):271-279. doi: 10.1007/s00359-019-01332-6

14. Nakajima R, Shigeno S, **Zullo L**, De Sio F and Schmidt MR (2018) Cephalopods between Science, Art, and Engineering: a contemporary synthesis. ***Front. Commun.***, 3:20. doi: 10.3389/fcomm.2018.00020

15. **Zullo L**, Buschiazzo A, Massollo M, Riondato M, Democrito A, Marini C, Benfenati F, Sambuceti G (2018) Small-Animal 18F-FDG PET for Research on Octopus vulgaris: Applications and Future Directions in Invertebrate Neuroscience and Tissue Regeneration. ***Journal of Nuclear Medicine***, 59(8):1302-1307 doi: 10.2967/jnumed.117.205393.

16. Zullo A, Simone E, Grimaldi M, Gagliardi M, **Zullo L**, Matarazzo MR, Mancini FP (2018) Effect of nutrient deprivation on the expression and the epigenetic signature of sirtuin genes. ***Nutrition, Metabolism and Cardiovascular Diseases***, 28(4):418-424. doi: 10.1016/j.numecd.2018.02.004.

17. **Zullo L**, Fossati SM, Imperadore P, Nödl MT (2017) Molecular determinants of Cephalopod muscles and their implication in muscle regeneration. ***Frontiers in Cell and Developmental Biology***, 5:53. doi: 10.3389/fcell.2017.00053

18. Kang R, Guglielmino E, **Zullo L**, Branson DT, Godage I and Caldwell DG (2016) Embodiment design of soft continuum robots. ***Advances in Mechanical Engineering***, 8(4): 1–13.
ISSN: 1687-8140 (online)

19. Nödl MT, Fossati SM, Domingues P, Sánchez FJ, **Zullo L** (2015) The making of an octopus arm. ***Evo Devo*** , 6:19. doi: 10.1186/s13227-015-0012-8
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20. Fossati SM, Candiani S, Nödl MT, Maragliano L, Pennuto M, Domingues P, Benfenati F, Pestarino M, **Zullo L** (2014) Identification and expression of Acetylcholinesterase in Octopus vulgaris arm development and regeneration: a conserved role for ACHE? ***Mol Neurobiol.***, 52(1):45-56.
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21. Fiorito G, Affuso A, Anderson DB, Basil J, Bonnaud L, Botta G, Cole A, D'Angelo L, De Girolamo P, Dennison N, Dickel L, Di Cosmo A, Di Cristo C, Gestal C, Fonseca R, Grasso F, Kristiansen T, Kuba M, Maffucci F, Manciocco A, Mark FC, Melillo D, Osorio D, Palumbo A, Perkins K, Ponte G, Raspa M, Shashar N, Smith J, Smith D, Sykes A, Villanueva R, Tublitz N, **Zullo L**, Andrews P. (2014). Cephalopods in neuroscience: regulations, research and the 3Rs. ***Invert Neuroscience***, 14(1):13-36.
ISSN: 1439-1104 (electronic version)

22. Guglielmino E, Godage I, **Zullo L** and Caldwell DG (2013) A Pragmatic Bio-inspired Approach to the Design of Octopus-inspired Arms. ***IEEE/RSJ International Conference on Intelligent Robots and Systems*** (IROS 2013), Tokyo, Japan.
ISSN 2153-0858

23. Fossati SM, Carella F, De Vico G, Benfenati F, **Zullo L** (2013) Octopus arm regeneration: role of Acetylcholine Esterase during morphological modification. ***Journal of Experimental Marine Biology and Ecology***, 447: 93-99.
ISSN: 0022-0981

24. **Zullo L**, Chiappalone M, Martinoia S, Benfenati F (2012) A "spike-based" grammar underlies directional modification in network connectivity: effect on bursting activity and implications for bio-hybrids systems. ***PLoS One***, 7(11): e49299.
ISSN: 1932-6203

25. Guglielmino E, **Zullo L**, Cianchetti M, Follador M, Branson DT and Caldwell D G (2012).The Application of Embodiment Theory to the Design and Control of an Octopus-like Robotic Arm. ***IEEE Int. Conf. on Robotics and Automation*** (ICRA 2012), St. Paul, Minnesota, USA, 5277-5282.
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26. **Zullo L**, Fossati SM, Benfenati F (2011) Transmission of sensory responses in the peripheral nervous system of the arm of Octopus vulgaris. ***Vie et Milieu/Life & Environment***, 61 (4): 197-201.
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27. Fossati SM, Benfenati F, **Zullo L** (2011) Morphological characterization of the Octopus arm. ***Vie et Milieu/Life & Environment***, 61 (4): 191-195.
ISSN: 0240-8759

28. Fossati SM, Carella F, Benfenati F, **Zullo L** (2011) Octopus arm regeneration and its potential implication in reparative pathways. ***Journal of Shellfish Researcht,*** 30, 3: 1003.
Onlyne ISSN: 1943-6319

29. **Zullo L**, Hochner B (2011) A new perspective on the organization of an invertebrate brain. ***Communicative and Integrative Biology,*** 4, 1: 26–29. Doi: 10.4161/cib.4.1.13804
Onlyne ISSN: 1942-0889

30. **Zullo L**, Sumbre G, Agnisola C, Flash T, Hochner B (2009) Nonsomatotopic organization of the Higher Motor Centers in Octopus. ***Current Biology***, 19(19):1632-6.
ISSN: 0960-9822

31. Kuba MJ, **Zullo L**, Byrne RA, Hochner B (2006) Visual habituation in the common octopus (Octopus vulgaris). ***Acta Universitatis Carolinae- Geologica***, 49: 141-144.
ISSN: 0001-7132

Book Chapters

1. Nesher N., Levy G., **Zullo L**., Hochner B. (2020) “Octopus Motor Control”, in Oxford Research Encyclopedia of Neuroscience. ***Oxford University Press***. https://doi.org/10.1093/acrefore/9780190264086.013.283
   ISBN: 9780190264086
2. **Zullo L**., Imperadore P. (2019) “Regeneration and healing”, in Handbook of Pathogens and diseases in european cephalopods. ***Ed. Springer***. DOI: 10.1007/978-3-030-11330-8
   ISBN: 978-3-030-11329-2
3. Levy G, Nesher N, **Zullo L**, and Hochner B (2017) “Motor control in soft bodied animals – the octopus”, in The ‘Oxford Handbook of Invertebrate Neurobiology”. ***Oxford University Press***. DOI: 10.1093/oxfordhb/9780190456757.013.36
   ISBN: 9780190456757
4. **Zullo L.** (2016) “Otto braccia, tre cuori e un grande cervello: il Polpo tra mito e scienza” in ‘Un Mare di Scienza’. ***De Ferrari Editore*** e Genova University Press.
5. Di Cosmo A, Bertapelle C, Polese G, **Zullo L**, Palumbo A. (2015). Cap.5.6: Cefalopodi, in ‘Benessere ed animal care dell’animale da laboratorio’. ***Ed. Point Veterinaire Italie*** srl.
   ISBN-10: 8899211051