

Curriculum Vitae of Cesare Stefanini

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Biosketch

Cesare Stefanini is the Director of the BioRobotics Institute of Scuola Superiore Sant'Anna (SSSA) in Pontedera, Italy, where he is also the Head of the Creative Engineering Design Lab.

He received the M.Sc. degree in mechanical engineering and the Ph.D. degree in Microengineering from SSSA, both with honors, in 1997 and 2002, respectively.

From 2018 to 2021 he has been the Director of the Healthcare Engineering Innovation Center of Khalifa University, Abu Dhabi.

His research activity is applied to different fields, including small scale robotics, bioinspired systems, mechatronics and robotics for environmental, medical and industrial applications. He received international recognitions for the development of novel actuators for microrobots and he has been visiting researcher at the University of Stanford, Center for Design Research.

Dr. Stefanini is currently the PI of four research projects, including two international projects on underwater swarm robotics. Dr. Stefanini has been the scientific advisor of a leading company in the field of robotic surgery (MMI - Medical Micro-instruments SpA) and the recipient of the "Intuitive Surgical Research Award". Dr. Stefanini is the author or co-author of more than 180 articles on refereed international journals and on international conferences proceedings. He is the inventor of 17 international patents, 10 of which industrially exploited by world-leading companies, including Amazon Inc., Magneti Marelli S.p.A., General Electric Co, and Pirelli & C. S.p.A.

He is a member of the Academy of Scientists of the UAE and of the IEEE Societies RAS (Robotics and Automation), EMBS (Engineering in Medicine and Biology) and PES (Power and Energy).

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a. Education Record

- Ph.D. in Microengineering (cum laude), with a thesis titled "Microengineering Principles and Examples in the Design of Actuators and Mechanisms for Minimally Invasive Surgery". Date: October 10, 2002. Institution: Scuola Superiore Sant'Anna, the BioRobotics Institute, Pisa (Italy).
- Visiting Ph.D. student. Date: Dec. 2001 – April 2002. Institution: Stanford University, Center for Design Research, Palo Alto, CA (USA).

- M.Sc. in Robotics (cum laude), with a thesis titled “Electromagnetic Micro-motor for Endoscopic Camera Actuation”. Date: July 16, 1997. Institution: Scuola Superiore Sant’Anna and University of Pisa, College of Engineering, Pisa (Italy).

b. Employment Record

- Director, the BioRobotics Institute of Scuola Superiore Sant’Anna, Pontedera (Pisa, Italy) from December 21st, 2023. The BioRobotics Institute of SSSA is a world-class robotics research institution, amongst the leaders in Europe. The total number of faculty, research and personnel staff is **334**, as of April 2024.
- Dean, Faculty of Applied Experimental Sciences, Scuola Superiore Sant’Anna, Pisa (Italy), from February 2022 to December 2023.
- Director, Healthcare Engineering Innovation Center, Khalifa University of Science and Technology, Abu Dhabi (UAE), from July 2018 to December 2021.
- Full Professor, Khalifa University, April 2019.
- Full Professor of Industrial Bioengineering (Italy), October 2018.
- Associate Professor, Khalifa University, February 2015.
- Associate Professor, the BioRobotics Institute, Scuola Superiore Sant’Anna, Pisa (Italy), November 2014 and Head of the Creative Engineering Design Lab at the BioRobotics Institute, leading a team of post-docs, PhD students, research assistants and one technician.
- Co-Founder of Spin-off company Encrea Srl, Italy, from January 7, 2004 to June 19, 2009
- Assistant Professor, the BioRobotics Institute of Scuola Superiore Sant’Anna, Pisa (Italy) from July 1st, 2003 to October 30, 2014 (tenured since November 1st, 2010)
- Post-Doc researcher, the BioRobotics Institute of Scuola Superiore Sant’Anna, Pisa (Italy) from October 14, 2002 to June 30, 2003
- Ph.D. student with full scholarship, Scuola Superiore Sant’Anna, Pisa (Italy) from November 1st, 1998 to October 10, 2002
- Officer (Lieutenant) of the Italian Navy, corps of Engineers, Italian Armed Forces (Navy), from September 1997 to December 1998.

c. Teaching: selection of taught courses

- 2022: Principles of Bionics and Robotics (SSSA, 3 credits)
- 2021: Rehabilitation and Augmentation of Human Movement (KU, 3 credits)

- 2020: Physiological Control Systems (KU, 3 credits)
- 2019: Biotransport Phenomena (KU, 3 credits)
- 2018: Physiological Systems Modeling (KU, 3 credits)
- 2017: Engineering Design (KU, 3 credits)
- 2016: Biorobotics and Medical Devices (KU, 3 credits)
- 2015: Biomedical Signals and Circuits (KU, 3 credits)
- 2014: Design Methods, undergraduate course (SSSA, 3 credits)
- 2012-2014: Creative Engineering Design, Ph.D. in Biorobotics (SSSA, 2 credits)
- 2011-2014: Structural Mechanics, B.Sc. in Mechanical Engineering (UniPi, 6 credits)
- 2010-2012: coordinator of the vocational summer school for the top 100 Italian high school students enrolling in national university programs, organized by SSSA
- 2009-2011: Energy Issues in Biorobotics, Ph.D. in Biorobotics (SSSA, 2 credits)
- 2001-2002: lecturer of Calculus (University of Pisa, 12 credits)

d. Honors, Awards and Other Recognitions

- Scientific Committee member, Grand Hamdan International Award for Medical Sciences, UAE, 2020.
- “Encoding lateralization of jump kinematics and eye use in a locust via bio-robotic artifacts”, 2019 most-cited research paper, Journal of Experimental Biology.
- Best Italian PhD Thesis in Bioengineering, Supervisor of Dr. Donato Romano, September 11, 2019, 1st prize.
- Marie Curie Global Fellowship, SSSA-MIT, Supervisor of Dr. Mario Milazzo, 2018-2021
- Best paper Award “Engineering an Artificial Biomimetic Lymph Node” by Aya Shanti et al., UAE Graduate Student Research conference 2019.
- Member of the MBR Academy of Scientists of the UAE since 2017.
- TIP Healthcare Award in the category “Proof of Concept”, Department of Health, Abu Dhabi, 2018.
- May 16, 2017: “Etisalat Innovation Award 2017” for the project “3D Bio-printing”, supervising a team of five BME students from Khalifa University.
- January 2016: 2nd and 3rd place for best paper award in the 2016 IEEE Life Challenges Conference:
 - “Intra-uterine balloon tamponade for use in low resource settings for the treatment of Post-Partum Hemorrhage (PPH)”, by Ahmed Alsaqqa, Alla Saleh, Menat Alla Saleh, Rasha Nasser, Cesare Stefanini and Tim McGloughlin.
 - “Rehabilitation through Assistive Cable-driven Technology (RE-ACT)”, by Abdulrahman Ali, Fahad Al Shaibani, Yousef Abdel-Raouf, Tarek Taha, Dongming Gan, Kinda Khalaf and Cesare Stefanini.

- February 2016: 3rd place in the 2016 UAE AI & Robotics Award for Good (Dubai, February 5) with the project "Rehabilitation through Assistive Cable-driven Technology (RE-ACT)".
- January 2012: the European project "Lampetra", of which the candidate has been proponent, developer, and technical coordinator, won the recognition of "Project of the month" by the European Commission, awarded by former VP and Commissioner for Digital Agenda, H.E. Neelie Kroes and was presented as "Success Story" in the official bulletin of the FET program.
- January 2010: winner of the grant research "Intuitive Surgical Research Award" given annually by Intuitive Surgical Inc. (Sunnyvale, USA), the leading industry in medical robotics.
- February 2008: Finalist for Best Conference Paper Award at the conference IEEE RoBio 2008, with the article entitled "A Novel Receptor Based on Artificial Hair Aligned PVDF Micro / Nano Fibers ", 21 to 26 February, Bangkok, Thailand.
- 1995, 1996 and 2000: First Prize (three times) at the International Micro Robot Maze Contest, Nagoya, Japan.

e. List of editorial board memberships (ϵ) and professional memberships (π)

- ϵ 2022-today: Expert Evaluator for Human Frontier Science Program (HFSP)
- ϵ 2022-today: Senior Program Committee, the IEEE International Conference on Intelligent Robots and Systems (IEEE IROS)
- ϵ 2021-today: Expert Evaluator in Robotics for Swiss National Science Foundation (SNSF)
- ϵ 2021-today: Member of the Steering Committee of IEEE Transactions on Medical Robotics and Bionics (IEEE T-MRB)
- ϵ 2017-18: Scientific Committee, the 18th International Conference of The European Society for Precision Engineering and Nanotechnology (euspen), Venice, June 4-8, 2018
- ϵ 2017-18: Associate Editor, the 2018 IEEE International Conference on Robotics and Automation (ICRA 2018), May 21-25, 2018, Brisbane, Australia
- ϵ 2017: Associate Editor, the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2017), September 24-28, 2017, Vancouver, Canada
- ϵ 2016-17: Associate Editor, the 2017 IEEE International Conference on Robotics and Automation (ICRA 2017), May 29 - June 3, 2017, Singapore
- ϵ 2016: Associate Editor, the 2016 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2016), October 9-14, 2016, Daejeon, Korea
- ϵ 2015-16: Associate Editor, the 2016 IEEE International Conference on Robotics and Automation (ICRA 2016), May 16-21, 2016, Stockholm, Sweden
- ϵ 2015: Associate Editor, the 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2015), September 28 - October 2, 2015, Hamburg, Germany

- ε 06/2012: Bioinspiration & Biomimetics (ISSN 1748-3182), IOP publishing, Guest Editor of Special Issue
- ε 01/2011 - 06/2012: Associate Editor, member of the International Program Committee, The Fourth IEEE / RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics
- ε 9/2006 - 11/2007: Member of the International Program Committee, IROS 2007 IEEE / RSJ International Conference on Intelligent Robots and Systems
- ε 07/2005 - 03/2006: Proceedings Chair, BioRob 2006, The First IEEE / RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics
- π 2017 – today Scientific Advisory Committee, IRT Jules Vernes, Nantes, France
- π 2015 – today Technology Advisory Committee, STRATA, UAE
- π 2013 – today Scientific Advisor, MMI Co., Medical Robotics, Italy
- π 1998 – today Licensed Engineer: Orders of Engineers of Italy

f. Conference and seminar presentation record (keynote / invited / plenary)

- Cesare Stefanini serves as member of the Senior Program Committee for IEEE IROS 2024 (Abu Dhabi)
- Cesare Stefanini has been organizer and Chair of "Workshop on animal-robot interaction", the IEEE IROS conference, October 2020
- Invited Speaker, Arab Health 2018, Dubai (UAE), January 30, 2018.
- Keynote Speaker, 2017 World Medical Robotics Conference (WMRC 2017), Shenzhen, China, November 25-26, 2017.
- Invited Speaker, Arab Health 2017, Dubai (UAE), January 31st, 2017.
- Invited Presentation at The Fourth Arab-American Frontiers of Science, Engineering and Medicine Symposium, November 6, 2016, Abu Dhabi (UAE)
- Invited Lecture at the 2016 IEEE Life Challenges Conference, January 2016, Abu Dhabi.
- Keynote Speaker at the 7th International Joint Conference on Biomedical Engineering Systems and Technologies, BIOSTEC 2014, Angers (France), March 4, 2014
- Invited lecture at IEEE conference IROS 2012, "High efficiency and adaptive behavior in bio-inspired robots by creative design and smart materials", Algarve (Portugal), October 11, 2012
- Invited Lecture at the IEEE Conference ICRA 2012, "Energy in robots: measuring performance and efficiency", St. Paul (MN, USA), May 18, 2012
- Plenary Lecture at the International Workshop on Bio-Inspired Robots "Bio-inspired approaches to robotics: towards a new generation of adaptive systems", Nantes (France), April 6, 2011

- Participation as guest expert in the Round Table entitled "Robotics and medicine: from the mechanical arm to the intelligent capsules: last frontiers of robotic surgery", at the Academy of Agriculture, Science and Letters, Verona, Italy, January 30, 2009
- Invited Lecture at Zhejiang University (Hangzhou, China), "Energy Issues In Micro-robotics: Jumping Locomotion", December 19, 2007
- Invited Lecture, the "Journées Micro-Nano-Technologies" organized by the French CNRS in Paris on 28 and 29 November 2007 with a presentation titled "Medical Microrobots"
- Invited Lecture entitled "Future Trends in Surgical Robotics" at the "3rd European Summer University on Surgical Robotics" in Montpellier, France, September 5-12, 2007.
- Cesare Stefanini has been organizer and Chair of the workshop "Bioinspired Underwater Robotics", the IEEE IROS conference in Hamburg, on October 2, 2015
- Cesare Stefanini has been organizer of the workshop "Emerging topics in Robotics and Micro / Nano Robotics: from science-based research to high impact applications "at the European Robotics Forum in Odense (Denmark) on March 6, 2012
- Cesare Stefanini has been the organizer and Chair of the workshop "Biologically Inspired actuation" during the conference IEEE International Conference on Robotics and Automation (ICRA) in Shanghai, on May 13, 2011
- Cesare Stefanini has been the General Co-Chair of the International Workshop on Bio-Inspired Robots, Nantes (France), April 6-8, 2011

g. External research funding record (total funding raised as PI exceeding 20m€)

- 2020 – 2025, (SSSA) European Project Robocoenosis: "Robots in cooperation with a biocoenosis", European contract no. 899529, PI
- 2022 – 2023, (SSSA) Camozzi Group S.p.A. (industrial mechatronics), PI
- 2019 – 2021, (SSSA) Amazon Inc. R&D (industrial robotics), PI
- 2014 – 2022, (SSSA) GE Oil & Gas R&D (industrial robotics), PI and then Co-I
- 2018 – 2021, (KU) KUCARS research project (robotics for industry), PI
- 2018 – 2019, (KU) ADEK research project (medical microsystems), PI
- 2016 – 2018, (KU) STRATA/KU research project (industrial robotics), PI
- 2015 – 2018, (KU) ICT research project (medical micro-robotics), PI
- 2015 – 2019, (SSSA) European Project OPTEMUS: "Optimized energy management and use", European contract no. 653288, PI
- 2015 – 2019, (SSSA) European Project subCULTron: "Submarine Cultures Perform Long-Term Robotic Exploration of Unconventional Environmental Niches", European contract no. 640967, PI
- 2014 – 2015, (SSSA) Brembo SpA R&D (mechatronics), PI
- 2013 – 2015, (SSSA) SNAM SpA R&D (robotics for pipe inspection), PI

- 2011 – 2014, (SSSA) European Project Cocoro: "Collective Cognitive Robots", European contract no. 270382, PI
- 2010 – 2013, (SSSA) Project BIOMEAR: "Development of novel micromanufactured Biological and BioHybrid prostheses for Middle Ear surgery ", Reg. Decree n. 4177, PI
- 2008 – 2013, European Project Replicator: "Robotic Evolutionary Self-Programming and Self-Assembling Organisms, "European contract no. 216240, R&D responsible
- 2008 – 2012, European Project INTEG-MICRO: "New production technologies of complex 3D Microdevices through multi-process integration of ultra-precision engineering techniques ", European contract no. CP-IP 214013-2, Project Manager and R&D responsible
- 2010 – 2012, National Project: "Experimental study and numerical characterization of tissue biomechanics of colon, contract no. 2008EM9B92, PI
- 2009 – 2012, European Project ANGELS: "Robot with Anguilliform Electric Sense "European contract no. 231845, PI
- 2008 – 2012, European Project Araknes: "Array of Robots Augmenting the Kinematics of Endoluminal Surgery ", European contract no. 224565, R&D responsible
- 2008 – 2011, European Project Lampetra: "Life-like Artefacts for Motor-Postural Experiments and Development of New Control Technologies inspired by Rapid Animal locomotion", European contract no. 216100, Project Manager and R&D responsible
- 2007 – 2010, National Project "Advanced manufacturing systems for the machining of miniaturized products with combined processes (Multitasking) flexible, contract no. RBIP0692HF, Project Manager and R&D responsible
- 2006 – 2009, European Project ARES: "Assembling Reconfigurable Endoluminal Surgical System", European contract no. 15653, R&D responsible
- 2005 – 2008, European Project Vimpa: "Vibrating Microengines for Power Generation and Microsystem Actuation ", European contract no. 511869, Project Manager and R&D responsible
- 2004 – 2007, European Project NEUROBOTICS: "The fusion of Neuroscience and Robotics", European contract no. FP6-IST-001917, R&D responsible
- 2002 – 2005, European Project BILOCH: "Bio-mimetic structures for Locomotion in the Human Body", European contract no. IST-2001-34181, R&D responsible
- 2001 – 2004, European Project MINOSC: "MicroNeuroendoscopy Of Spinal Cord", European contract no. QLG5-CT-2001-02150, R&D responsible

h. Record of graduate student supervision (last ten years)

1. Supervisor of Ph.D. student Gianluca Manduca (ongoing). Topic: underwater robotics.
2. Supervisor of Ph.D. student Gaspare Santaera (ongoing, industrial PhD sponsored by Baker Hughes).

3. Supervisor of Ph.D. student Francesco Bologna, thesis defended in Fall 2021 (industrial PhD sponsored by GE Oil and Gas).
4. Supervisor of Ph.D. student Michael Tannous, thesis defended in Fall 2021 (industrial PhD sponsored by GE Oil and Gas).
5. Supervisor of Ph.D. student Marco Miraglia, thesis defended in Fall 2021 (industrial PhD sponsored by GE Oil and Gas).
6. Supervisor of Ph.D. student Francesca Digiacoimo, thesis defended in Fall 2021 (industrial PhD sponsored by GE Oil and Gas).
7. Supervisor of Ph.D. student Abanti Afroz, thesis defended in Fall 2021 (industrial PhD sponsored by GE Oil and Gas).
8. Supervisor of Ph.D. student Ms. Selwa Boularaoui, thesis defended in Fall 2021. Dr. Boularaoui is today **Faculty at the University of Jijel**, Algeria.
9. Supervisor of M.Sc. student Ms. Taif AlTaffaq, thesis defended in Fall 2021.
10. Supervisor of M.Sc. thesis "Continuum Robots for minimally invasive therapy", Ms. Hessa Alfalahi, defended in Spring 2020. Recipient of **L'Oréal-UNESCO for Women in Science (FWIS) grant**.
11. Supervisor of M.Sc. thesis "Biomimetic Lymph node for Drug Development", Ms. Aya Shanti, defended in Spring 2019.
12. Supervisor of M.Sc. thesis "Underwater Positioning of a Remotely Operated Underwater Vehicle (ROV) for Optimized Navigation", Mr. Abdelaziz Saeed Mohamed Alzaabi, July 3, 2018.
13. Supervisor of M.Sc. thesis "Bionic Implantable Sphincter for Urinary Incontinence", Ms. Kenana Al Adem, thesis defended in 2017.
14. Supervisor of Ph.D. student Donato Romano (SSSA, thesis defended in Dec. 2018), **Best Italian Thesis in Bioengineering in 2018, 1st prize**.
15. Supervisor of Ph.D. thesis "Mechanical solutions for studying and testing innovative biomedical devices for sound transmission", Dr. Mario Milazzo, November 2016. **Winner of Marie Curie Global Fellowship** SSSA-MIT (Boston, USA).
16. Supervisor of Ph.D. thesis "Control methods and tools for Non-Traditional Bioinspired Robotics", Dr. Elisa Donati, May 2016. Dr Donati is today **Scientist at University of Zurich**, Switzerland.
17. Supervisor of Ph.D. thesis "Mechanical design methodologies for miniature medical instrumentation", Dr. Margherita Mencattelli, May 2016.
18. Supervisor of Ph.D. thesis "Development of new bioinspired paradigms for implementing multiple locomotion mode in rescue robots", Dr. Stefano Mintchev, April 2014. Dr. Mintchev is today **Faculty at ETHZ**, Switzerland.
19. Supervisor of Ph.D. thesis "Novel high precision microfabrication methods", Dr. Sarah De Cristofaro, March 2013.
20. Supervisor of Ph.D. thesis "Micro-milling techniques for high precision microfabrication" Dr. Gian Carlo Feriti, May 2013.

21. Supervisor of Ph.D. thesis "Validation of new biological hypotheses through bio-hybrid experiments with biorobotic artefacts", Dr. Lorenza Capantini, April 2012.
22. Supervisor of Ph.D. thesis "Biological observation and actuation modeling in living organisms with applications in biorobotics", Dr. Gabriella Bonsignori, April 2012.
23. Supervisor of Ph.D. thesis "Proprio- and exteroceptive sensing based on novel miniaturized systems for biorobotics", Dr. Stefano Orofino, May 2012.
24. Supervisor of M.Sc. thesis "Comparison of acoustic behavior and middle ear prostheses", Eng. Ilenia Curiale, 2013.
25. Supervisor of M.Sc. thesis "Acoustic characterization of middle ear prostheses", Eng. Virginia Bacchereti, 2013.

i. Patent applications / patents granted

1. Cerra A, Baron JN, La Rovere S, Stefanini C, Inglese F, Tannous M, Santaera G, van Vuuren GJ, Miraglia M. "System and method for item singulation". United States Patent n. 11,420,828, 2022. (patent exploited by **Amazon Inc**)
2. Simi, Massimiliano, Giuseppe Maria Prisco, and Cesare Stefanini. "Robotic microsurgical assembly." U.S. Patent 11,311,348, 2022. (Patent exploited by **MMI SpA**)
3. Teo, Jeremy CM, Cesare Stefanini, Amal Abdullah, Bisan Samara, and Aya Shanti. "Microfluidic device for generating an in vitro lymph node." U.S. Patent 11,478,798, issued October 25, 2022.
4. Stefanini, Cesare; Castrataro, Piero; Accoto, Dino; "Miniaturized generator with oscillating magnets for the production of electric energy from vibrations", 2013, US Patent 8,593,017 (patent exploited by **Pirelli Tyres SpA**)
5. Stefanini, Cesare; Dario, Paolo; Carrozza, Maria Chiara; De Cristofaro, Sarah; "Electromagnetic step-by-step wobble-type micromotor", 2014, US Patent 8,704,413. (patent exploited by **Faulhaber GmbH**)
6. Ferrari, Mauro; Stefanini, Cesare; "Clip and clip applicator for closing blood vessels", 2012, US Patent 8,282,654 (patent exploited by **Karl Storz GmbH**).
7. Conti P.A., Greco G., Nepote A., Inglese F., Milazzo M., Stefanini C., "Regenerative hydraulic shock-absorber for vehicle suspension". WO2016097898 (A1) - Priority number: IT2014T001077 20141219. Application number: WO2015IB58746 20151112. Published as: WO2016097898 (A8) (IP exploited by **Magneti Marelli SpA**)
8. Chiari F., Stefanini C., Milazzo M., Magnasco M., Inglese F., "Handling apparatus for performing a tig weld with regulation of speed of the fed wire". WO2016083430 (A1) - Priority number: IT2014MI02041 20141127. Application number: WO2015EP77592 20151125 (IP exploited by **GE Oil and Gas**)
9. Chiari F., Milazzo M., Magnasco M., Stefanini C., Inglese F., "Welding tool for performing SMAW or MIG weld with maintenance of a constant distance between the electrode and the weld area". WO2016083429 (A1) - Priority number: IT2014MI02040 20141127. Application number: WO2015EP77591 20151125 (IP exploited by **GE Oil and Gas**)

10. Chiari F., Magnasco M., Milazzo M., Stefanini C., Inglese F., "Welding assistance device with a welding mask having a velocity sensor". WO2016083258 (A1) - Priority number: IT2014MI02042 20141127. Application number: WO2015EP77217 20151120 (IP exploited by **GE Oil and Gas**)
11. Posarelli, Roberto, Giuliano Vegni, Giorgio Dinelli, Cesare Stefanini, and Federico Carnasciali. "Device for the fine weeding of a multilayer sheet comprising a support liner and at least one adhesive film coupled with the liner." U.S. Patent 9,434,148, issued September 6, 2016 (patent exploited by **Esanastri Srl**)
12. Dario, Paolo; Menciassi, Arianna; Stefanini, Cesare; Gorini, Samuele; Pernorio, Giuseppe; Accoto, Dino. "Teleoperated endoscopic capsule equipped with active locomotion system", 2011, US Patent 8,066,632.
13. Dario, Paolo; Pietrabissa, Andrea; Magnani, Bernardo; Stefanini, Cesare; "Endoscopic surgery device", 2010, US Patent 7,695,468.
14. Pietrabissa, A., Stefanini, C., Menciassi, A. and Dario, P. "Auxiliary Forceps for Hand-Assisted Laparoscopic Surgery (HALS)", 2008, US Patent 7,399,309.
15. Stefanini, Cesare; Mintchev, Stefano; Dario, Paolo; "Permanent magnet actuator for adaptive actuation", 2011, US Patent Application US20110266904A1
16. Danti, Serena; Berrettini, Stefano; Marrazza, Stefano; Stefanini, Cesare. "Apparatus and process for the preparation of a biomimetic tissue prosthesis of the tympanic membrane", 2014, US Patent Application 15/023,335
17. Ricotti, Leonardo, Tareq Assaf, Cesare Stefanini, and Arianna Menciassi. "System for controlled administration of a substance from a human body-implanted infusion device." US Patent 9,415,163, issued August 16, 2016.

j. Notable university, community and professional service activities

- Since 2022, Cesare Stefanini has served as President of the Luca Cavallini Foundation, a philanthropic organization that supports talented bachelor students from lower-income families.
- From 2020 to 2022 Cesare Stefanini served in the Third Mission unit at Scuola Superiore Sant'Anna, with specific contribution to the network of SSSA Spin-off Companies.
- Cesare Stefanini served as link between Khalifa University and Scuola Superiore Sant'Anna, also regarding undergraduate students doing their internship at the BioRobotics Institute in Italy. Since his appointment, Dr. Stefanini tutored 19 undergraduate students from Khalifa University.
- Cesare Stefanini is one of the members of the evaluation Committee for the Ph.D. students of the BioRobotics Institute of Scuola Superiore Sant'Anna in Italy.
- Since 2014 Prof. Cesare Stefanini is Scientific Advisor of the company Medical Micro Instruments (MMI Srl, www.mmimicro.com), a start-up founded in Italy by a former senior principal engineer from Intuitive Surgical, in the process of introducing on the

market a novel system for robotic microsurgery. The company is currently on its second round of funding by investors and owns IP already highly valued by stakeholders in the field. Dr. Stefanini is advising MMI especially concerning solutions to the challenge of extreme miniaturization of surgical instruments.

k. Media dissemination:

- 20/Oct/2022 - CorriereTV (digital channel of the main newspaper in Italy): Cesare Stefanini is interviewed about an innovative robotic system developed in collaboration with Amazon Inc.
- 1/Jan/2021 - Embassy of Italy in Abu Dhabi: Cesare Stefanini is featured as one of the ten Italian personalities in the UAE who notably contributed to face the challenges related to the pandemics, and he has been inducted in the official 2021 Calendar.
- 6/Apr/2020 - Emirates News Agency: Cesare Stefanini presents a functional emergency Ventilator system developed in the early months of the Covid pandemics.
- 3/Oct/2017 - Euronews TV documentary: Cesare Stefanini is interviewed about the *SubCULTron* EU Project, describing the underwater robotic system.
- 15/Sept/2017 - Sky News, Cesare Stefanini is interviewed about the *SubCULTron* EU Project during the experimentation in the Venice lagoon.
- 2014 and 2015 - Prime Video - Amazon and global media channels, Cesare Stefanini featured in "The Age of Robots", a 6-part journey through the state of the art of European robotics (part 4: Cesare Stefanini describes the concept of a Robotic Zoo).
- 10/May/2014 - Cesare Stefanini, participated in the talk show "Uno Mattina" held on Rai 1 (the most watched Italian TV channel), and presented the main outcomes and characteristics of the *Co.Co.Ro.* EU Project.
- 19/Apr/2013 - Rai 1, Cesare Stefanini describes the *Robotic Zoo* of SSSA during the "Uno Mattina" program.
- 25/Jan/2012 - Rai 1, TG1 news program – Cesare Stefanini is interviewed on the potential use of robotic systems in the context of the sinking of the ship "Costa Concordia" and the applicability of proximity sensors, developed within the *ANGELS* EU Project for safe navigation.
- 17/Jul/2011 - Il Sole 24 Ore (most read Italian financial magazine), "In the zoo where the robots learn from nature", *Lampetra* EU project presented.
- 9/Jul/2011 - The Economist (international magazine) - "Zoobotics" article describing the *Lampetra* EU Project and the international state of the art in the field.
- 26/Apr/2010 – Rai 3, program "Geo & Geo" - Cesare Stefanini explains bioinspired robotics and shows both static and dynamic demonstrations.
- 3/Sept/2009 - The Espresso (second most read Italian magazine) - "Insect Robots", Cesare Stefanini describes the scenario of research in the field of small bioinspired robotics.

- 20/Aug/2008 - Rai 1, program "Uno Mattina" - Cesare Stefanini shows the experimental studies on the jump of small animals and the development of bioinspired robots.
- 7/Jun/2007 - Rai 1, program "Super Quark" - Cesare Stefanini illustrates the operation of the first prototype of the bioinspired robot developed within the *Lampetra* EU project.
- 28/Sept/2006 - Corriere della Sera (most read Italian newspaper) - "A robot to study the sixth sense", article in which Cesare Stefanini explains the rationale and early activity within the *Neurobotics* EU project (Lamprey robot).
- 26/Apr/2006 - Rai Explora - Cesare Stefanini talks about "Bioinspired Inventions".

I. Publications (h-index: 38 [scopus], 46 [scholar], 149 [scholar i10])

1. Zixi Chen, Federico Renda, Alexia Le Gall, Lorenzo Mocellin, Matteo Bernabei, Théo Dangel, Gastone Ciuti, Matteo Cianchetti and Cesare Stefanini, "Data-Driven Methods Applied to Soft Robot Modeling and Control: A Review", *IEEE Transactions on Automation Science and Engineering*, doi: 10.1109/TASE.2024.3377291 (2024)
2. Rosyid, Abdur, Cesare Stefanini, and Bashar El-Khasawneh. "A Novel Reconfigurable 3-DOF Parallel Kinematics Machine." *Journal of Mechanisms and Robotics* 16, no. 2 (2024): 021005.
3. Romano, Donato, and Cesare Stefanini. "Robot-Locust Social Information Transfer Occurs in Predator Avoidance Contexts." *International Journal of Social Robotics* (2024): 1-12.
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