

MATTEO RUSSO

Tenure-Track Assistant Professor, [LARM²: Robotics & Mechatronics Laboratory](#), Department of Industrial Engineering, University of Rome Tor Vergata, Via del Politecnico 1, 00133 Rome, Italy
Associate Researcher, [The Rolls-Royce UTC in Manufacturing and On-Wing Technology](#), Department of Mechanical, Materials, and Manufacturing Engineering, University of Nottingham, Jubilee Campus, NG8 1BB Nottingham, UK
Email: matteo.russo@uniroma2.eu; Website: <https://www.matteorusso.me/>

RESEARCH INTERESTS

Continuum robots; soft robotics; tendon-driven robots; parallel robots; kinematics; mechanism design; design optimization; inspection & maintenance; exoskeletons; rehabilitation

BIOGRAPHY

Matteo Russo received his BSc and MSc degrees in mechanical engineering from the University of Cassino, Italy, in 2013 and 2015, respectively. In 2019, he was awarded a European Doctorate with his PhD in mechanical and biomechanical engineering. He was a visiting researcher at RWTH Aachen University, Germany, at the University of the Basque Country, Spain, and at Tokyo Institute of Technology, Japan, in 2015, 2016 and 2017, respectively. Since 2019, he has been a Research Fellow at the Rolls-Royce University Technology Centre in Manufacturing and On-Wing Technology, University of Nottingham, United Kingdom, where he works on maintenance robotics for the aerospace and nuclear industry. In 2022, he joined the University of Rome Tor Vergata, Italy, as Assistant Professor.

Dr Russo's main research interests are continuum robots, mechanism design, robot kinematics, and parallel manipulators. His work focuses on the design, modelling, and optimization of innovative robotic systems for aerospace and medical applications. His awards and honours include the IFToMM Young Delegate Program Award, the ASME Best Reviewer Award, and several best paper awards at international conferences. Dr Russo is serving as Associate Editor for IEEE Robotics and Automation Magazine, IEEE Robotics and Automation Letters, and the International Journal of Advanced Robotics System. He is Associate Chair of the IEEE RAS Technical Committee on Mechanism and Design, and part of the IFToMM Technical Committees on Robotics & Mechatronics and Computational Kinematics.

PROFESSIONAL EXPERIENCE

2025 (incoming)	Associate Professor , University of Rome Tor Vergata, Rome, Italy School of Engineering, Department of Industrial Engineering
2022 – 2025	Tenure-Track Assistant Professor (RTDb) , University of Rome Tor Vergata, Rome, Italy School of Engineering, Department of Industrial Engineering
2022 – 2025	Associate Researcher , University of Nottingham, Nottingham, United Kingdom The Rolls-Royce UTC in Manufacturing and On-Wing Technology
2019 – 2022	Postdoctoral Research Fellow , University of Nottingham, Nottingham, United Kingdom The Rolls-Royce UTC in Manufacturing and On-Wing Technology
2018 – 2019	Research Assistant , University of Nottingham, Nottingham, United Kingdom The Rolls-Royce UTC in Manufacturing and On-Wing Technology
2015 – 2018	Research Assistant , University of Cassino, Cassino, Italy Laboratory of Robotics and Mechatronics
2017	Visiting Fellow , Tokyo Institute of Technology, Tokyo, Japan Mechanical Systems Design Laboratory
2016	Research Assistant , University of the Basque Country, Bilbao, Spain Computational Mechanics Research Group
2015	Research Assistant , RWTH Aachen University, Aachen, Germany Institute of Mechanism Theory, Machine Dynamics and Robotics
2013	Mechanical Design Intern , TMP Engineering, Latina, Italy

EDUCATION

- 2019** **PhD in Mechanical Engineering**, University of Cassino, Cassino, Italy, *Doctor Europaeus* (European Doctorate)
Thesis: “Design and validation of a novel parallel mechanism for robotic limbs,” 08/04/2019
- 2015** **MSc in Mechanical Engineering**, University of Cassino, Cassino, Italy, 110/110 *cum laude*, avg. 29.6/30 (98.7%)
Thesis: “Design and simulation of a manipulator for horticulture products packaging,” 22/09/2015
- 2013** **BSc in Mechanical Engineering**, University of Cassino, Cassino, Italy, 110/110 *cum laude*, avg. 29.6/30 (98.7%)
Thesis: “CAD design and simulation of a biped robot with parallel architecture,” 18/07/2013

RESEARCH

- 2022 – Present** **University of Rome Tor Vergata**, Rome, Italy
 - SPARX [PI]: Definition of key performance indicators for rehabilitation exercises (IEEE SPARX)
 - Innovative Doctoral Fund [PI]: Development of wearable robotic systems (DM630)
 - Industrial Doctoral Fund [PI]: Automating automotive battery recycling (ENEA)
 - ASSIST: Development of assistive robotics for elderly care (DM118 & PRIN P2022A4ELB)
- 2018 – 2022** **University of Nottingham**, Nottingham, United Kingdom, PI: Prof. Dragos Axinte
 - RAIN+ [Co-I]: Cooperating continuum robots for nuclear facilities (EPSRC EP/W001128/1)
 - RAIN [Co-I]: Design and demonstration of continuum robots for inspection and maintenance in nuclear facilities; Calibration of a reconfigurable machining hexapod (EPSRC EP/R026084/1)
 - REINSTATE: Development of inspection and maintenance robots for aeroengines (ATI 51689)
 - CHIMERA: Development of stiffening and flame-spraying continuum robots (I-UK 104823)
 - KELVIN: Design of a robot for laser deposition operations in aeroengines (Rolls-Royce)
 - NDE: Design of a robot for ultrasonic inspection of aeroengines (Rolls-Royce)
 - OPAD Able Orchestra: Design of instrument controllers for disabled musicians (Nottingham Advantage Award NAA1508 UNUK FYR1 21-22)
- 2015 – 2018** **University of Cassino**, Cassino, Italy, PI: Prof. Marco Ceccarelli, Prof. Giuseppe Carbone
 - LARMbot: Design and optimization of a limb for a humanoid robot (PhD Scholarship)
 - HeritageBot: Leg design for a quadruped/drone robot (Lazio Innova FILAS-RU-1044)
 - AgeWell: Cable-driven rehabilitation robot design (EU ERDF/ID P_37_215/MySMIS 103415)
 - “Make Your Idea” [PI]: Design of a test bed for in vivo mice microscopy (Lazio Innova)
- 2017** **Tokyo Institute of Technology**, Tokyo, Japan, PI: Prof. Yukio Takeda
 - LARMbot: Experimental validation and transmission performance of a biped (TokyoTech Visiting Fellowship)
- 2016** **University of the Basque Country**, Bilbao, Spain, PI: Prof. Oscar Altuzarra
 - LARMbot: Dimensional synthesis and optimization of parallel manipulators (Erasmus+)
- 2016** **University of Rome La Sapienza**, Rome, Italy, PI: Dr Alberto Pretto
 - S.P.Q.R.@work: Design of a compliant gripper (ROBOCUP@work 2016)
- 2015** **RWTH Aachen University**, Aachen, Germany, PI: Prof. Burkhard Corves
 - Horticulture Gripper: Design of a gripper for horticulture products (Erasmus+)

AWARDS & HONOURS

- 2025** **Paper Highlight (Cover)**, <https://www.mdpi.com/2411-9660/9/2>, Designs vol. 9, no. 2 (2025), MDPI
Paper: “Design of a cable-driven finger exoskeleton”
- 2024** **Best Paper Award: Student Paper (Gold)**, IFIT 2024, Turin, Italy
Paper: “A monolithic tendon-driven continuum robot design for easy 3D printing and assembly”
- 2024** **Best Paper Award: Application Paper (Bronze)**, EuCoMes 2024, Padua, Italy
Paper: “Requirements and problems for a sensored rotating device for arm exercise”
- 2024** **Best Paper Award: Student Paper (Gold)**, Asian MMS 2024, Almaty, Kazakhstan
Paper: “Experimental characterization of a tripod-based design for a LARMbot humanoid arm”

2024	World's Top 2% Scientists list (2023) , Elsevier and Stanford University, USA Data: https://elsevier.digitalcommonsdata.com/datasets/btchxktyw/7
2024	2023 Reviewer of the Year Award , ASME Journal of Mechanisms and Robotics (JMR), ASME Award: https://asmejmr.org/2024/03/04/2023-reviewer-awards-and-recognition/
2024	Paper Highlight (Cover) , https://www.mdpi.com/2076-0825/13/6 , Actuators vol. 13, no. 6 (2024), MDPI Paper: "Design of a tripod LARMbot arm"
2023	Paper Highlight (Cover) , https://www.mdpi.com/2075-1702/11/12 , Machines vol. 11, no. 12 (2023), MDPI Paper: "Experimental validation of a driver monitoring system"
2023	Best Paper Award (Finalist) , IEEE/ASME Transactions on Mechatronics Paper: "A novel underactuated continuum robot with shape memory alloy clutches"
2023	Paper Highlight (Cover) , https://doi.org/10.1002/aisy.202370020 , Advanced Intelligent Systems, Wiley Paper: "Continuum robots: An overview"
2023	Best Paper Award: Application Paper (Silver) , MESROB 2023, Craiova, Romania Paper: "Lab experiences for a driver monitoring system"
2023	Best Paper Award: Research Paper (Bronze) , MESROB 2023, Craiova, Romania Paper: "Design and operation of a robotized bed for bedridden COVID patients"
2023	Collaborate to Innovate Award (Manufacturing, Winner) , The Engineer UK, London, United Kingdom Entry: Rolls-Royce & University of Nottingham, "Snakes everywhere: from aerospace to medical and beyond"
2023	Collaborate to Innovate Award (Aerospace & Defense, Finalist) , The Engineer UK, London, United Kingdom Entry: Rolls-Royce & University of Nottingham, "Snakes everywhere: from aerospace to medical and beyond"
2022	Paper Highlight (Cover) , https://doi.org/10.1002/aisy.202270060 , Advanced Intelligent Systems, Wiley Paper: "Tasinger twin soft robot: A multimodal soft robot capable of passive flight and wall climbing"
2022	OPAD Project of the Year: Able Orchestra , Open-Source Assistive Devices (OPAD), Nottingham, United Kingdom
2022	Engineering Research Showcase: Best Publication (Runner-up) , University of Nottingham, Nottingham, United Kingdom Paper: "Cooperative continuum robots: Enhancing individual continuum arms by reconfiguring into a parallel manipulator"
2022	Advanced Manufacturing Research Showcase: Best Publication , University of Nottingham, Nottingham, United Kingdom Paper: "Cooperative continuum robots: Enhancing individual continuum arms by reconfiguring into a parallel manipulator"
2021	Best Paper Award: Student Paper (Bronze) , Asian MMS 2021, Hanoi, Vietnam Paper: "Performance analysis of a cable-driven ankle assisting device"
2020	Springer Award for the History of Mechanism and Machine Science , Springer Nature Paper: "A brief history of piano mechanics"
2020	"Cesare Rossi" Best Paper Award , IFIT 2020, Napoli, Italy Paper: "A brief history of piano mechanics"
2019	Best Paper Award: Finalist , ISRM 2019, Taipei, Taiwan Paper: "Parallel mechanism design for humanoid robots"
2018	IFToMM Young Delegate Award , ROMANSY 2018, Rennes, France
2018	Award for Outstanding Contribution in Peer Review , Mechanism and Machine Theory, Elsevier
2018	Best Paper Award: Student Paper (Silver) , IFIT 2018, Cassino, Italy Paper: "Experimental dynamic proofs of rib implants"
2018	Best Paper Award: Student Paper (Silver) , MEDER 2018, Udine, Italy Paper: "Development of LARMbot 2, a novel humanoid robot with parallel architectures"
2018	Best Paper Award: Student Paper (Silver) , MESROB 2018, Cassino, Italy Paper: "A characterization of a robotic hand with movable palm"
2017	Award for Outstanding Contribution in Peer Review , Biosystems Engineering, Elsevier
2017	Best Paper Award: Student Paper (Finalist) , 23 rd JcIFToMM, Tokyo, Japan Paper: "Jacobian analysis of a 3-UPR parallel manipulator for a robotic leg application"
2016	Best Paper Award: Student Paper (Gold) , IFIT 2016, Vicenza, Italy Paper: "Kinematic design of a novel leg mechanism with parallel architecture"

2015

“Onofrio Formisano” Best MSc Thesis Award, University of Cassino, Cassino, Italy

RESEARCH FUNDING

2025 – 2027

University Research Fund (Type B – Intradepartmental), €17,500, University of Rome Tor Vergata
“Artificial Intelligence for Engineering Process Control (AI4EPC)”
PI: M. Gelfusa; **Co-I:** L. Bartolucci, M. Russo, M. Baldelli, C.M. Verrelli, P. Roselli, G. Saggio

2024 – 2027

Innovative Doctoral Fund, DM630, €70,000, Ministry for Universities and Research (Italy), NextGenerationEU (EU), Sensor Medica (Italy)
“Development of wearable robotic systems”
PI: M. Russo

2024 – 2026

IEEE SPARX: Support Program to foster Academic Relationships and eXchange, \$10,000, IEEE (USA)
PI: M. Russo

2023 – 2026

Industrial Doctoral Fund, €60,000, ENEA: National Agency for New Technologies, Energy and Sustainable Economic Development (Italy)
“Study, design and development of an industrial manufacturing cell with cooperating robotic arms for the semi-automatic disassembly of automotive and static batteries”
PI: M. Russo, **Co-I:** M. Ceccarelli, M. Santoro

2023 – 2026

PNRR Doctoral Fund, DM118, €60,000, Ministry for Universities and Research (Italy), NextGenerationEU (EU)
“Development of assistive robotics for elderly care”
PI: M. Ceccarelli, **Co-I:** M. Russo, D. Cafolla

2021 – 2022

RAIN Innovation Fund, EP/W001128/1, £25,000, Engineering and Physical Sciences Research Council, United Kingdom
“A low-cost COBRA snake robot for active nuclear intervention”
PI: A. Mohammad, **Co-I:** M. Russo, X. Dong, D. Axinte

2019 – 2020

RAIN Innovation Fund, EP/R026084/1, £25,000, Engineering and Physical Sciences Research Council, United Kingdom
“A self-calibration system to enhance the machining capability of the RAIN-Hex”
PI: D. Axinte, **Co-I:** M. Wang, A. Mohammad, M. Russo, X. Dong

2017

“Make Your Idea” Grant, €10,000 *in kind*, BIC Lazio & FabLab Lazio, Italy
“A test bed for in vivo mice microscopy”
PI: M. Russo, **Co-I:** L. Carnevale, D. Cafolla

SCHOLARSHIPS & TRAVEL GRANTS

2018 – 2019

ERASMUS+ Scholarship, €3,000, University of Cassino and Southern Lazio, Italy
Travel grant for 6 months (Sep-Feb) at the University of Nottingham, United Kingdom

2015 – 2018

Doctoral Scholarship, €50,000, University of Cassino and Southern Lazio, Italy
Project: “Design and validation of a novel parallel mechanism for robotic limbs”

2017

Doctoral Travel Grant, €1,000, University of Cassino and Southern Lazio, Italy
Travel grant for 2 months (Nov-Dec) at Tokyo Institute of Technology, Japan

2017

Doctoral Travel Grant, €3,000, University of Cassino and Southern Lazio, Italy
Travel grant for 6 months (Feb-Jul) at Tokyo Institute of Technology, Japan

2016

ERASMUS+ Scholarship, €2,000, University of Cassino and Southern Lazio, Italy
Travel grant for 4 months (Sep-Dec) at the University of the Basque Country, Spain

2015

ERASMUS+ Scholarship, €3,000, University of Cassino and Southern Lazio, Italy
Travel grant for 6 months (Mar-Aug) at RWTH Aachen University, Germany

2014 – 2015

Merit Scholarship, €3,000, University of Cassino and Southern Lazio, Italy
Full tuition fee exemption for top MSc weighted average grade

2011 – 2013

Merit Scholarship, €4,500, University of Cassino and Southern Lazio, Italy
Full tuition fee exemption for top BSc weighted average grade

EDITORIAL ACTIVITIES

2024 – Present	Associate Editor , IEEE Robotics and Automation Magazine, IEEE
2023 – Present	Associate Editor , IEEE Robotics and Automation Letters, IEEE Area: <i>Mechanisms, Design, and Control</i>
2023 – Present	Review Editor , Frontiers in Rehabilitation Sciences, Frontiers
2021 – Present	Associate Editor , International Journal of Advanced Robotic Systems, SAGE Publishing
2021 – Present	Reviewer Board Member , Machines, MDPI
2021 – Present	Topical Advisory Panel , Robotics, MDPI
2024 – 2025	Associate Editor , ICRA 2025: The 2025 IEEE International Conference on Robotics & Automation, Atlanta, USA, IEEE Area: <i>Theoretical Foundations</i>
2021 – 2022	Topic Editor , Frontiers in Robotics and AI, Frontiers Special Issue: “Reducing operating times and complication rates through robot-assisted surgery”
2020 – 2021	Topic Editor , Robotics, MDPI
2020 – 2021	Guest Editor , Journal of Healthcare Engineering, Hindawi Special Issue: “Supporting healthcare during the COVID-19 pandemic with robotics and AI”

REVIEW WORK

Projects	Dutch Research Council (NWO)
Journals	ASME: Journal of Mechanisms and Robotics; Journal of Medical Devices; Open Journal of Engineering. Elsevier: Annual Reviews in Control; Biosystems Engineering; Journal of Machine Tools and Manufacture; Mechanical Systems and Signal Processing; Mechanism and Machine Theory; Robotics and Autonomous Systems; Robotics and Computer-Integrated Manufacturing; Measurement; Mechatronics. IEEE: IEEE/ASME Transactions on Mechatronics; IEEE Transactions on Robotics; IEEE Transactions on Medical Robotics and Bionics; IEEE Robotics and Automation Letters; IEEE Transactions on Industry Applications; IEEE Industry Applications Magazine. MDPI: Applied Sciences; Energies; Machines; Robotics; Sensors; Biomimetics. SAGE: Advances in Mechanical Engineering; Journal of Advanced Robotic Systems; Journal of Systems and Control Engineering; Proceedings of the Institution of Mechanical Engineers Part C: Journal of Mechanical Engineering Science. Springer Nature: Journal of Bionic Engineering; Journal of the Brazilian Society of Mechanical Sciences and Engineering; Journal of Zhejiang University Science A; Intelligent Service Robotics; International Journal on Interactive Design and Manufacturing; Foundations of Science; Journal of Intelligent & Robotic Systems; Meccanica; Multibody System Dynamics, Scientific Reports. Cambridge: Robotica; Wearable Technologies. Wiley: Advanced Intelligent Systems. IOP: Progress in Biomedical Engineering; Bioinspiration & Biomimetics; Engineering Research Express. Other: Journal of Mechanisms and Robotic Systems; Assembly Automation; Mechanical Sciences; Mechanics & Industry.
Conferences	IEEE: The IEEE/ASME Conference on Advanced Intelligent Mechatronics (AIM 2020, 2023); The IEEE International Conference on Robotics and Automation (ICRA 2020, 2021, 2022, 2023, 2024, 2025); The IEEE/RJS International Conference on Intelligent Robots and Systems (IROS 2023, 2024, 2025); The IEEE-RAS International Conference on Soft Robotics (RoboSoft 2024, 2025). IFToMM: The IFToMM Asian Mechanisms and Machine Science Conference (Asian MMS 2021, 2024); The European Conference on Mechanism Science (EUCOMES 2018, 2024); The IFToMM Italy Conference (IFIT 2016, 2018, 2020, 2022, 2024); IFToMM World Congress (IFToMM 2019, 2023); The International Conference on Machines and Mechanisms (iNaCoMM 2017); The IFToMM Symposium on Mechanism Design for Robotics (MEDER 2018, 2021, 2024); The International Workshop on New Trends in Medical and Service Robotics (MESROB 2020, 2023, 2025); The Conference on Mechanisms, Transmissions and Applications (MeTrApp 2017, 2023); The Conference on Robotics in Alpe-Adria-Danube Region (RAAD 2016, 2019, 2025); The IFToMM for Sustainable Development Goals Workshop (I4SDG 2023, 2025); The International Symposium on History of Machines and Mechanisms (HMM 2024).

UK-RAS: Towards Autonomous Robotic Systems (TAROS 2020, 2021, 2023, 2024, 2025).

Other: The International Electronic Conference on Machines and Applications (IECMA 2022), The International Conference on Mechanical Engineering Solutions (MES 2025), The International Conference on AI in Healthcare (AIiH 2024, 2025).

CONFERENCE ORGANIZATION

2024 – Present	International Scientific Committee Member , EuCoMes: The European Conference on Mechanism Science
2024 – Present	International Scientific Committee Deputy Chair , MEDER: The IFToMM Symposium on Mechanism Design for Robotics
2023 – Present	International Scientific Committee Member , MEDER: The IFToMM Symposium on Mechanism Design for Robotics
02-04/07/2025	Review Board Member , MESROB: 9th International Workshop on New Trends in Medical and Service Robotics, University of Poitiers, Poitiers, France
25-28/11/2025	Advisory Committee Member , CK 2025: The 8th International Workshop on Computational Kinematics IIT Madras, Chennai, India
14/11/2024	Scholars at Risk Luncheon Organizer , SSRR 2024: IEEE International Symposium on Safety, Security, and Rescue Robotics New York University, New York, USA
25-27/10/2024	Workshop Co-Chair , IRIM-3D 2024: the 6th Italian Conference on Robotics and Intelligent Machines <i>Workshop:</i> N. Secciani, C. Brogi, A. Topini, A. Ridolfi, M. Dragusantu, D. Troisi, and M. Russo, “Bridging the reality gap: can we trust upper-limb exoskeletons in clinical practice?”, Maker Faire Rome, Rome, Italy
4-6/09/2024	International Programme Committee , AIiH: International Conference on AI in Healthcare Swansea University, Swansea, United Kingdom
24-26/05/2023	Session Chair , Mechanism and Machine Design MeTrApp 2023: The 6th IFToMM International Conference on Mechanisms, Transmissions, and Applications University of Poitiers, Poitiers, France
13-15/09/2023	Program Committee Member , TAROS 2023: Towards Autonomous Robotic Systems Conference University of Cambridge, Cambridge, United Kingdom
20-21/04/2023	Program Committee Member , TORVEASTRO: Robots for Space Applications in Orbital Station Workshop University of Rome Tor Vergata, Rome, Italy
25-26/11/2021	Session Chair , Robotics and Mechatronics I4SDG: 1 st IFToMM for Sustainable Development Goals Workshop Polytechnic University of Turin, Turin, Italy
09-10/09/2021	Program Committee Member , TAROS 2021: Towards Autonomous Robotic Systems Conference University of Lincoln, Lincoln, United Kingdom
16/09/2020	Program Chair , TAROS 2020: Towards Autonomous Robotic Systems Conference University of Nottingham, Nottingham, United Kingdom
29-30/10/2018	Conference Secretariat , IFIT 2018: The 2 nd IFToMM Italy Conference University of Cassino, Cassino, Italy
04-06/07/2018	Organizing Committee Member , MESROB 2018: 6 th Workshop on New Trends in Medical and Service Robotics University of Cassino, Cassino, Italy

INVITED TALKS

20/02/2025	“Extending our reach: continuum robots for endoscopic intervention,” 8th IEEE UK and Ireland Robotics and Automation Society (RAS) Conference, Queen's University, Belfast, United Kingdom
26/11/2024	“Mind the gap: Putting research into practice,” RAI Early Career Researcher Workshop, Manchester, United Kingdom
06/09/2024	“Continuum robots for surgery: Lessons learned from industry,” AIiH 2024, Swansea, United Kingdom
12/06/2024	“Robot design and optimization,” The National Engineering Academy of the Republic of Kazakhstan, Almaty, Kazakhstan
14/02/2024	“Performance and design optimization of mechanisms,” Carlos III University of Madrid, Madrid, Spain
23/11/2023	“Continuum robot design for healthcare and industry,” University of Bologna, Bologna, Italy

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21/10/2023	“Into the maze: Continuum robots for aerospace and nuclear,” in E. Milana, I. Fiorello, and C. Della Santina, <i>How soft are these robots? Advances in new materials, control, bioinspiration and applications</i> , I-RIM 3D 2023: Italian Conference on Robotics and Intelligent Machines, Rome, Italy
07/03/2023	“Embracing compliance: Continuum robot design, modelling, and control,” University of Bath, Bath, United Kingdom
09/11/2022	“Exoskeletons for motion assistance,” Tor Vergata Hospital, Rome, Italy
21/10/2021	“Continuum robots for industrial surgery,” University of Calabria, Rende, Italy
31/08/2021	“Robot performance evaluation for optimal mechanism design,” ISUPEN 2021, The Japanese Society for Precision Engineering, Tokyo, Japan
11/05/2021	“Snake-like robots for the inspection and maintenance of aircraft engines and nuclear facilities,” University of Celaya, Celaya, Mexico
04/03/2021	“Into the labyrinth: Snake-like robots and their nuclear applications,” University of Bristol, Bristol, United Kingdom
11/11/2020	“Continuum robots for in-situ aeroengine maintenance,” University of Calabria, Rende, Italy
23/04/2020	“Continuum robots for the inspection of extreme environments,” University of Manchester, Manchester, United Kingdom
04/10/2019	“Robot design for inspection and repair of aeroengines,” University of Rome Tor Vergata, Rome, Italy
08/11/2017	“Kinematics, dynamics & mechatronics in motion technology,” RWTH Aachen University, Aachen, Germany

EVENT ACTIVITY

08/04/2025	Organizer: IEEE RAS TC Mechanism & Design Webinar, A. Gameros (Rolls-Royce) and A. Lucarini (University of Bologna), online
23-27/04/2025	Poster: “Design of an adaptive tendon-driven hand exoskeleton for stroke rehabilitation,” RoboSoft 2025: IEEE International Conference on Soft Robotics, Lausanne, Switzerland
20-21/02/2025	Invited talk: “Extending our reach: continuum robots for endoscopic intervention,” 8th IEEE UK and Ireland Robotics and Automation Society (RAS) Conference, Queen's University, Belfast, United Kingdom
26/11/2024	Keynote speaker: “Mind the gap: Putting research into practice,” RAI Early Career Researcher Workshop, Manchester, United Kingdom
25/10/2024	Workshop co-chair: N. Secciani, C. Brogi, A. Topini, A. Ridolfi, M. Dragusanu, D. Troisi, and M. Russo, “Bridging the reality gap: can we trust upper-limb exoskeletons in clinical practice?”, <i>IRIM-3D 2024: the 6th Italian Conference on Robotics and Intelligent Machines</i> , Rome, Italy
06/09/2024	Invited talk: “Continuum robots for surgery: Lessons learned from industry,” AlIH 2024, Swansea, United Kingdom
20-21/03/2024	Exhibition: LARM ² : Robotics and Mechatronics Laboratory, RomeCup 2024, Rome, Italy
21/10/2023	Invited talk: “Into the maze: Continuum robots for aerospace and nuclear,” I-RIM 3D 2023: Italian Conference on Robotics and Intelligent Machines, Rome, Italy
20-22/10/2023	Exhibition: “3D-printing snake-like continuum robots,” Maker Faire Roma 2023, Rome, Italy
28/05-02/06/2023	Presentation: “COBRA: From industrial to medical surgery with slender continuum robots,” ICRA 2023: IEEE International Conference on Robotics and Automation, London, United Kingdom
23-27/05/2022	Presentation & Poster: “Cooperative continuum robots: Enhancing individual continuum arms by reconfiguring into a parallel manipulator,” ICRA 2022: IEEE International Conference on Robotics and Automation, Philadelphia, USA
25-26/11/2021	Presentation: “Mechanism designs for solar tracking,” I4SDG: 1st IFToMM for Sustainable Development Goals Workshop, Polytechnic University of Turin, Turin, Italy
31/08/2021	Invited talk: “Robot performance evaluation for optimal mechanism design,” ISUPEN 2021, The Japanese Society for Precision Engineering, Tokyo, Japan
23-25/06/2021	Presentation: “A comparison of algebraic and iterative procedures for the generation of the workspace of parallel robots,” MEDER 2021: 5th IFToMM Symposium on Mechanism Design for Robotics, Poitiers, France
25-27/05/2021	Presentation: “RAIN-Snake: Snake-like robots and their nuclear applications,” KTN Robotics & Artificial Intelligence Industry Showcase 2021, Manchester, United Kingdom
09-11/09/2020	Presentation: “A brief history of piano mechanics”, “A wearable device for ankle motion assistance,” IFIT 2020: The 3 rd IFToMM ITALY Conference, University of Naples “Federico II”, Naples, Italy

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03-05/03/2020	Exhibition: The Rolls-Royce UTC in Manufacturing and On-Wing Technology, EuRobotics: European Robotics Forum 2020, Malaga, Spain
22-23/10/2019	Presentation: "Continuum robot design for in-situ aeroengine maintenance," SPRINT 2019: SPRINT Robotics World Conference for Inspection and Maintenance Robotics, Rotterdam, The Netherlands
03-05/07/2019	Exhibition: The Rolls-Royce UTC in Manufacturing and On-Wing Technology, TAROS 2019: 20 th Towards Autonomous Robotic Systems Conference, Queen Mary University of London, London, United Kingdom
04-06/07/2018	Presentation: "Design of CUBE, a cable-driven device for upper and lower limb exercising," MESROB 2018: 6 th International Workshop on New Trends in Medical and Service Robotics, University of Cassino, Cassino, Italy
25-28/06/2018	Presentation: "An experimental characterization of a parallel leg mechanism for robotic legs," RoManSy 2018: 22 nd CISM IFToMM Symposium on Robot Design, Dynamics and Control, Institut National des Sciences Appliquées de Rennes, Rennes, France
29/11-01/12/2017	Presentation: "Comparison of motion/force transmissibility in a 3-SPR parallel manipulator and a 6-SPS equivalent mechanism," ISRM 2017: 5 th IFToMM International Symposium on Robotics & Mechatronics, Western Sydney University, Sydney, Australia
09/06/2017	Presentation: "Jacobian analysis of a 3-UPR parallel manipulator for a robotic leg application," 23 rd Jc-IFToMM: The 23 rd Symposium on Theory of Machines and Mechanisms, Tokyo University of Agriculture and Technology, Tokyo, Japan
03-05/06/2017	Presentation: "Kinematic design of a tripod parallel mechanism for robotic legs," MeTrApp 2017: The 4 th Conference on Mechanisms, Transmissions and Applications, Trabzon, Turkey
22-24/05/2017	Presentation: "Multi-objective optimization of a tripod parallel mechanism for a robotic leg," CK 2017: 7 th IFToMM International Workshop on Computational Kinematics, Futuroscope, Poitiers, France
01-02/12/2016	Presentation: "Kinematic design of a novel leg mechanism with parallel architecture," IFIT 2016: The 1 st IFToMM ITALY Conference, University of Padova, Vicenza, Italy
20-23/09/2016	Presentation: "A workspace analysis of 4R manipulators via level-set formulation," EUCOMES 2016: 6 th European Conference on Mechanism Science, Ecole Centrale de Nantes, Nantes, France
30/05-02/06/2016	Presentation: "Design, construction and testing of a gripper for horticulture products," RAAD 2016: 25 th Conference on Robotics in Alpe-Adria-Danube Region, Mihailo Pupin Institute, Belgrade, Serbia
28/04-01/05/2016	Exhibition: "ROBOCUP@Work: SPQR@Work," ROBOCUP: Test Competition and Development Workshop, Magdeburg, Germany

OUTREACH & MEDIA

12/03/2025	Talk: Arduino Workshop, Rome International School, Rome, Italy
17/12/2024	Talk: Inspiration valley, Silicon Valley Study Tour & LeadTheFuture, Italy
10/01/2024	Talk: Career talk for high school students, Liceo Scientifico G. Pellecchia, Cassino, Italy
20-22/10/2023	Exhibition: "3D-printing snake-like continuum robots," Maker Faire Roma, Rome, Italy
21/01/2023	Media [news]: "Robot snake could be used in cancer surgery in 10 years," BBC News. Available online at https://www.bbc.co.uk/news/uk-england-nottinghamshire-64333828.amp
31/07/2022	Media [reddit]: "Entering the maze: snake-like robots from aerospace to surgery," Keynote talk, reddit r/robotics showcase
22/07/2022	Media [youtube]: RAIN Hub media releases: - "Remote Handling Working Group," https://www.youtube.com/watch?v=c8ijcZZWmCQ - "Remote Inspection Working Group," https://www.youtube.com/watch?v=9mZL95s2suU
22/06/2022	Media [youtube]: "Robot Lab Live: University of Nottingham - Rolls-Royce UTC," UK Robotics Week, UK RAS
24/06/2021	Media [reddit]: "Q&A: Robotics and AI for Nuclear Hub," Reddit r/IAmA
23/06/2021	Media [youtube]: "Robot Lab Live: University of Nottingham - Rolls-Royce UTC," UK Robotics Week, UK RAS
17/09/2019	Media [news]: "Site visit: Nottingham University's Rolls-Royce UTC in Manufacturing and On-wing Technology," Aerospace Testing International. Available online at: https://www.aerospacetestinginternational.com/features/a-tour-of-nottingham-universitys-rolls-royce-university-technical-centre-in-manufacturing-and-on-wing-technology.html

TEACHING

- 2022 – Present** **University of Rome Tor Vergata**, Rome, Italy
- *Robot mechanics*, MSc in Mechatronics (2022 – Present)
 - *Applied mechanics*, BSc in Energy Engineering (2023 – Present)
 - *Fundamentals of mechanics of systems*, BSc in Engineering Sciences (2022 – 2023)
 - *Kinematics and dynamics of mechanisms*, MSc in Mechatronics (2022 – 2023)
 - *Robot mechanics^l*, MSc in Mechatronics (2017 – 2018)
- 2019 – 2022** **University of Nottingham**, Nottingham, United Kingdom
- *Control and instrumentation²*, BSc in Mechanical, Materials and Manufacturing Engineering (2019 – 2021)
 - *Digital manufacturing³*, BSc in Mechanical, Materials and Manufacturing Engineering (2021 – 2022)
- 2016 – 2017** **University of Cassino**, Cassino, Italy
- *Mechanics of robots⁴*, MSc in Mechanical Engineering (2016 – 2017)
 - *Mechanics of multibody systems⁵*, MSc in Mechanical Engineering (2016 – 2017)
 - *Applied mechanics⁴*, BSc in Industrial Engineering (2016 – 2017)

* Teaching Assistant with: Dr Daniele Cafolla¹; Dr Xin Dong²; Dr Andres Gameros³; Prof. Marco Ceccarelli⁴; Prof. Giuseppe Carbone⁵

SUPERVISION

- 2021 – Present** **University of Rome Tor Vergata**, Rome, Italy
- PhD students:**
- Alessandro Perini (2024 – Present)
 - Clara Kierbel (2023 – Present)
 - Luca Quattrucci (2023 – Present)
 - Giovanni Mastrangelo^l (2023 – Present)
 - Sergei Kotov^l (2023 – Present)
 - Dr Wenshuo Gao^l (2021 – 2024): *Design and performance analysis of a new LARMbot torso*. Now Lecturer at China Jiliang University, China
 - Dr Aleksandr Titov^l (2020 – 2023): *Design and grasp analysis of a berthing system for CubeSat satellites*. Now Postdoctoral Research Fellow at University of Rome La Sapienza, Italy
- MSc students:**
- Nifoofar Beyki (2025): *Development of sensors for sport biomechanics* (with Sensor Medica s.r.l.)
 - Mohammadmehdi Lari (2025): *Design of an active catheter for thoracic surgery*
 - Ghazal Golzari (2025): *Experimental testing of a hand prosthesis* (with TS Quality & Engineering, Kinema Hand)
 - Bowen Yang^l (2025): Design and testing of a prototype for hexapod robot for guiding blind and elderly people
 - Alessandro Perini (2024): *Development of a hand exoskeleton for post-stroke rehabilitation*
 - Zhiqian Li^l (2024): *Design and testing of ankle-assisting device*
 - Ernest Ugonna Ofonaike^l (2023): *Design and testing of a new LARMbot humanoid arm*
 - Ammar Al Khayer (2022): *Parallel mechanism design for solar tracking*
 - Hamed Famil Ghadakchi^l (2022): *Design and performance analysis of a knee exoskeleton*
- BSc students:**
- Yudara Minduli Manujitha Perera Wahalathanthri^l (2024): *A wearable assisting device for ankle rehabilitation*
 - Kamsiyochukwu Emmanuel Uzegbu^l (2024): *Design and testing of a two-finger LARMbot hand*
 - Riccardo Kusumasaktya Patriadi^l (2024): *Design and testing of a soft gripper prototype*
 - Hruday Sagar Gurramkonda^l (2024): *Reconstruction of a Roman Vitruvius crane*
 - Mudassir Shabbir^l (2024): *Design and testing of a prototype of a two-finger hand*
 - Nicola Perugini (2023): *Design of a 3D-printed tendon-driven continuum robot*
 - Raju Hossain (2023): *Design of an assistive device for elbow rehabilitation*
 - Cyusa Arnold^l (2023): *Historical and technical analysis of a train pantograph*
 - Elie Shalom Mugisha^l (2023): *Design and testing of a RespirHolter device*
 - Michela Sgrossi^l (2022): *Monitoring torso motion with an IMU set-up*
 - Joshapath Manoah Yuvaraj^l (2022): *Design and simulation of a solar tracking mechanism*
 - Umutoniwase Olga Ishimwe^l (2021): *Performance analysis of the LARMbot arm*
 - Vivens Irakoze^l (2021): *Historical and technical analysis of harmonic drive gear design*

Visiting researchers:

- Hadi Mohammadi (2024-2025, IEEE SPARX Fellow, Lecturer, Brandeis University, USA)
- Chloe Gabarren¹ (2024-2025, MSc, ENSEA, France)
- Maxime Lebrau¹ (2024, BSc, University of Poitiers, France)
- José Antonio Perez¹ (2024, MSc, Instituto Politecnico Nacional, Mexico)
- Julien Moinard¹ (2024, BSc, University of Toulon, SeaTech, France)
- Thibault Vaisson¹ (2024, BSc, University of Toulon, SeaTech, France)
- Nursultan Zhetenbayev¹ (2024, Postdoc, Bolashaq Fellow, Kazakhstan)
- Dana Tulekenova¹ (2024, PhD, Bolashaq Fellow, Kazakhstan)
- Luis Angel Guerrero Hernandez¹ (2024, PhD, Instituto Politecnico Nacional, Mexico)
- Liam Ribatto (2024, BSc, University of Toulon, SeaTech, France)
- Karla Nayeli Silva Garces¹ (2023, PhD, Instituto Politécnico Nacional, Mexico)
- Steven Beaumont¹ (2023, BSc, University of Toulon, SeaTech, France)
- Leo Neves¹ (2023, BSc, University of Toulon, SeaTech, France)
- Ameur Latreche¹ (2023, PhD, University of Skikda, Algeria)
- Karla-Elisabeth Lovasz¹ (2022, BSc, Polytechnic University of Timisoara, Romania)
- Andrade Olah¹ (2022, BSc, Polytechnic University of Timisoara, Romania)

2019 – 2024

University of Nottingham, Nottingham, United Kingdom

PhD students:

- Dr Hongshen Shi^{2,3} (2020 – 2024): *Haptic control and navigation of continuum robots*. Now Postdoctoral Research Fellow at the University of Nottingham, United Kingdom.
- Dr Christopher Bishop^{2,4} (2019 – 2023): *Design of a novel underactuated continuum robot*. Now Postdoctoral Research Fellow at the University of Manchester, United Kingdom.

MEng students:

- Muhammad Ismael Baig² (2021): *Design of a shape sensing sleeve for continuum robot proprioception*
- Harkiran Sahota² (2020): *Design, manufacture and test of an underactuated hyper-redundant robot with focus on the design of a miniature clutch feature*

2016 – 2019

University of Cassino, Cassino, Italy

MSc students:

- Octavio Ramírez¹ (2018): *Experimental dynamic tests of rib implants*
- Eike Gerding¹ (2018): *Exoskeleton design of a finger for rehabilitation*
- Oriana Estefanía González Labrador¹ (2017): *Grasp experiences with LARM Hand*
- Francisco Javier Espinosa García¹ (2017): *A novel robotic hand with movable palm*
- Fernando Etxegarai¹ (2016): *Diseño y fabricación de una mano artificial* (Spanish)

BSc students:

- Denis Alfano¹ (2019): *Progettazione e validazione sperimentale di un braccio umanoide* (Italian)
- Cristian Iancu¹ (2016): *Design and lab tests of a leg exoskeleton*

* Co-supervised with: Prof. Marco Ceccarelli¹; Prof. Dragos Axinte²; Dr Abdelkhalick Mohammad³; Dr Xin Dong⁴

SERVICE

2025 – Present

Co-Chair, Early Career Researcher Forum, Gruppo Meccanica Applicata, Italy

2025 – Present

Visiting Scholar Coordinator, Department of Industrial Engineering, University of Rome Tor Vergata, Rome, Italy

2024 – Present

Associate Chair, Technical Committee for Mechanism and Design, IEEE Robotics and Automation Society, USA

2024 – Present

Scientific Committee Member, Doctoral School in Industrial Engineering, University of Rome Tor Vergata, Rome, Italy

2024 – Present

Admission Committee Member, BSc in Engineering Sciences, University of Rome Tor Vergata, Rome, Italy

2022 – Present

Deputy Director, Robotics and Mechatronics Laboratory (LARM²), University of Rome Tor Vergata, Rome, Italy

2022 – Present

Graduation Committee Member, University of Rome Tor Vergata, Rome, Italy

- MSc in Mechatronics

- MSc in Mechanical Engineering

- MSc in Energy Engineering

MATTEO RUSSO

	- BSc in Engineering Sciences - BSc in Energy Engineering
2022 – Present	Mentor , LeadTheFuture (https://leadthefuture.tech/) - Mentoring 7 postgraduate students
2021 – Present	External Reviewer for Doctoral Theses - SASTRA: Shanmuga Arts, Science, Technology & Research Academy, Thirumalaisamudram, India, 2025 - University of Florence, Florence, Italy, 2024 - University of Rome Tor Vergata, Rome, Italy, 2021
2023	Doctoral Examiner , University of Bologna, Bologna, Italy
2023	Doctoral Examiner , École Centrale de Nantes, Nantes, France
2021 – 2022	Tutor for Formula Student Racing , University of Nottingham, Nottingham, United Kingdom - Student supervision (CAD modeling, FEM analysis)
2021 – 2022	Committee Member , Postgraduate Engineering Student Society, University of Nottingham, Nottingham, United Kingdom - Event organization: Shoestring Hackathon in Digital Manufacturing, Career Talks, Gala - Outreach and dissemination with postgraduate students
2020 – 2022	Supervisor at the Rolls-Royce UTC Robotics Lab , University of Nottingham, Nottingham, United Kingdom - Training students and staff members on VICON motion capture and custom robotic systems - Writing and editing risk assessments for custom robotic systems - Exhibiting and demonstrating robots during laboratory visits and tours - Maintaining and ordering laboratory supplies
2013 – 2015	Postgraduate Student Representative , University Joint Committee, University of Cassino, Cassino, Italy - Evaluation of module design and student feedback for the Dept. of Civil and Mechanical Engineering

PROFESSIONAL QUALIFICATIONS

2023 – Present	Abilitazione Scientifica Nazionale, Prima Fascia , 09/A2: Meccanica Applicata alle Macchine - Qualified to serve as Full Professor in Italy
2021 – Present	Abilitazione Scientifica Nazionale, Seconda Fascia , 09/A2: Meccanica Applicata alle Macchine - Qualified to serve as Associate Professor in Italy
2016 – Present	Abilitazione alla Professione di Ingegnere, sez. A , Ordine degli Ingegneri, Frosinone, Italy - Qualified to serve as a professional engineer in Italy

MEMBERSHIPS

2023 – Present	I-RIM: Institute for Robotics and Intelligent Machines , Member
2023 – Present	GMA: Gruppo Meccanica Applicata , Member Co-chair of the GMA Early Career Researcher Forum (2025 – Present)
2018 – Present	IEEE: Institute of Electrical and Electronics Engineers Membership: #95138382 - IEEE Member, Italy Section (2022 – Present) - IEEE Member, UK and Ireland Section (2019 – 2022) - IEEE Student Member, Italy Section (2018 – 2019) Activities: - Societies: Robotics and Autonomous Systems (RAS); Industrial Electronics (IE) - Technical Committees: Soft Robotics; Mechanisms and Design
2018 – Present	IFToMM: International Federation for the Promotion of Mechanism and Machine Science Membership: - IFToMM Italy Member, Associazione IFToMM Italy (2018 – Present) Activities: - IFToMM Technical Committees: Robotics and Mechatronics; Computational Kinematics
2020 – 2024	AIRIcerca: International Society of Italian Researchers , Member

TRAINING & DEVELOPMENT

2023	Teaching Robotics Engineering with MATLAB & Simulink , MathWorks, Rome, Italy
2022	U21 Early Career Researcher Workshop 2022: Planetary Health , University of Edinburgh, Edinburgh, United Kingdom - Selected as one of the five participants representing the University of Nottingham
2021	Leadership in Action Program , University College London, London, United Kingdom - Selected as one of the six participants from the University of Nottingham
2020	Preparing to Teach in Higher Education Certificate , University of Nottingham, Nottingham, United Kingdom
2018	International Summer School on Mechanical Science and Robotics , University of Tokyo/Waseda University/TokyoTech/TUAT/FANUC, Tokyo, Japan
2016	International Summer School on Mechanism Design and Applications , University of Palermo, Palermo, Italy
2016	National Instruments: LabVIEW Introductory Course , University of Cassino, Cassino, Italy
2009	Physics Summer School , University of Rome La Sapienza, Rome, Italy

OTHER

Software	CAD & FEA: SolidWorks; Inventor; Fusion360; Creo; Comsol; Abaqus Programming: MATLAB; LabVIEW; Python; Arduino Other: Microsoft Office; LaTeX; Windows; iOS
Hardware	Prototypes: Parallel mechanisms; Continuum robots; Legged robots; Humanoid robots Manufacturing: Additive manufacturing (SLS, SLA, FDM); Laser cutter Other: Arduino; National Instruments; Physik Instrumente; VICON
Languages	Italian: Native English: Proficient Spanish: Intermediate German: Elementary

PUBLICATIONS

ORCID: 0000-0002-8825-8983

SCOPUS: 57191270930

PEER-REVIEWED JOURNAL ARTICLES

- [J1] K. N. Silva Garcés, M. Ceccarelli, M. Russo, and C. R. Torres San Miguel, “Design and performance of a neurosurgery assisting device,” in *Biomimetics*, vol. 10, no. 6, p. 345. <https://doi.org/10.3390/biomimetics10060345>
- [J2] J. Moinard, M. Ceccarelli, M. Russo, “Design and testing of a wearable system for monitoring car drivers,” in *Applied Sciences*, vol. 15, no. 4, p. 1930, 2025. <https://doi.org/10.3390/app15041930>
- [J3] M. Ceccarelli, T. Vaïson, and M. Russo, “Design of a cable-driven finger exoskeleton,” in *Design*, vol. 9, no. 2, p. 35, 2025. <https://doi.org/10.3390/designs9020035>
- [J4] L. A. Guerrero Hernández, M. Ceccarelli, C. R. Torres San Miguel, and M. Russo, “Problems and design of a powered mechanism-based car child restraint systems,” in *Applied Sciences*, vol. 15, no. 3, p. 1402, 2025. <https://doi.org/10.3390/app15031402>
- [J5] L. Raimondi, M. Russo, X. Dong, and D. Axinte, “Understanding friction and superelasticity in tendon-driven continuum robots,” *Mechatronics*, vol. 104, p. 103241, 2024. <https://doi.org/10.1016/j.mechatronics.2024.103241>
- [J6] M. Russo, S. Wild, X. Dong, and D. Axinte, “Helical routing: decoupling segments of tendon-driven continuum robots,” *IEEE/ASME Transactions on Mechatronics*, 2024. <https://doi.org/10.1109/TMECH.2024.3427408>
- [J7] M. Russo, D. Zhang, X. J. Liu, and Z. Xie, “A review of parallel kinematic machine tools: design, modeling, and applications,” *International Journal of Machine Tools and Manufacture*, vol. 196, p. 104118, 2024. <https://doi.org/10.1016/j.ijmachtools.2024.104118>

- [J8] M. Ceccarelli, M. D'Onofrio, V. Ambrogi, and M. Russo, "A numerical analysis of ventilation motion after chest surgery with a RESPIRholter device," *Respiratory Medicine Case Reports*, p. 102005, 2024. <https://doi.org/10.1016/j.rmcr.2024.102005>
- [J9] A. Titov, M. Russo, and M. Ceccarelli, "Performance analysis of a gripper for microsatellite berthing," *ASME Journal of Mechanisms and Robotics*, vol. 16, no. 9, p. 091011, 2024. <https://doi.org/10.1115/1.4064765>
- [J10] W. Gao, M. Russo, and M. Ceccarelli, "Design and testing of a new LARMbot torso," *ASME Journal of Mechanisms and Robotics*, vol. 16, no. 9, p. 091007, 2024. <https://doi.org/10.1115/1.4064486>
- [J11] C. R. Torres San Miguel, J. A. Perez Valdez, M. Ceccarelli, and M. Russo, "The problems and design of a neck dummy," in *Biomimetics*, vol. 9, p. 661, 2024. <https://doi.org/10.3390/biomimetics9110661>
- [J12] D. Tulekenova, K. Ivanov, M. Ceccarelli, and M. Russo, "Design and performance of a planetary gearbox," in *Machines*, vol. 12, no. 11, p. 780, 2024. <https://doi.org/10.3390/machines12110780>
- [J13] M. Ceccarelli, S. Kotov, E. Ofonaike, M. Russo, "Test results and considerations for design improvements of L-CADEL v.3 elbow-assisting device," in *Machines*, vol. 12, no. 11, p. 808, 2024. <https://doi.org/10.3390/machines12110808>
- [J14] M. Ceccarelli, S. Sanz-Sánchez, V. Díaz, and M. Russo, "Design and construction of a prototype of an assisting device for arm exercise," *Machines*, vol. 12, no. 2, p. 145, 2024. <https://doi.org/10.3390/machines12020145>
- [J15] M. Ceccarelli, S. Beaumont, and M. Russo, "Design of a tripod LARMbot arm," *Actuators*, vol. 13, no. 6, pp. 211, 2024. <https://doi.org/10.3390/act13060211>
- [J16] M. Ceccarelli, M. Russo, J. Araque Isidro, B. D. M. Chaparro-Rico, and D. Cafolla, "A robotized bed for bedridden patients," *Robotica & Management*, vol. 28, no. 2, pp. 8-13, 2024. <https://doi.org/10.24193/rm.2023.2.2>
- [J17] M. Russo, S. M. H. Sadati, X. Dong, A. Mohammad, I. D. Walker, C. Bergeles, K. Xu, and D. Axinte, "Continuum robots: An overview," *Advanced Intelligent Systems*, vol. 5, no. 5, p. 2200367, 2023. <http://doi.org/10.1002/aisy.202200367>
- [J18] D. Alatorre, J. A. Robles-Linares, M. Russo, M. A. Elbanna, S. Wild, X. Dong, A. Mohammad, J. Kell, A. D. Norton, and D. Axinte, "A continuum robot for remote applications: From industrial to medical surgery with slender continuum robots," *IEEE Robotics & Automation Magazine*, vol. 30, no. 3, pp. 94-105, 2023. <https://doi.org/10.1109/MRA.2022.3223220>
- [J19] H. Shi, M. Russo, J. de la Torre, X. Dong, A. Mohammad, and D. Axinte, "Touching the sound: Audible features enable haptics for robot control," *IEEE Robotics & Automation Magazine*, vol. 30, no. 3, pp. 56-68, 2023. <https://doi.org/10.1109/MRA.2022.3225718>
- [J20] J. Barrientos-Diez, M. Russo, X. Dong, D. Axinte, and J. Kell, "Asymmetric continuum robots: Kinematic modelling, parameter design and validation," *IEEE Robotics and Automation Letters*, vol. 8, no. 3, pp. 1279-1286, 2023. <https://doi.org/10.1109/LRA.2023.3238890>
- [J21] M. Russo, "Measuring performance: Metrics for robot design, control, and optimization," *Robotics*, vol. 12, no. 1, pp. 4, 2023. <https://doi.org/10.3390/robotics12010004>
- [J22] M. Ceccarelli, M. D'Onofrio, V. Ambrogi, and M. Russo, "An experimental evaluation of respiration by monitoring ribcage motion," *Applied Sciences*, vol. 13, no. 15, p. 8938, 2023. <https://doi.org/10.3390/app13158938>
- [J23] A. Titov, M. Russo, and M. Ceccarelli, "Design and operation of a gripper for a berthing task," *Inventions*, vol. 8, no. 4, p. 82, 2023. <https://doi.org/10.3390/inventions8040082>
- [J24] M. Russo, E. Gautreau, X. Bonnet, and M. A. Laribi, "Continuum robots: from conventional to customized performance indicators," *Biomimetics*, vol. 8, no. 2, p. 147, 2023. <https://doi.org/10.3390/biomimetics8020147>
- [J25] M. Garrosa, M. Ceccarelli, V. Díaz, and M. Russo, "Experimental validation of a driver monitoring system," *Machines*, vol. 11, no. 12, p. 1060, 2023. <https://doi.org/10.3390/machines11121060>
- [J26] N. Sriratanasak, D. Axinte, X. Dong, A. Mohammad, M. Russo, and L. Raimondi, "Tasinger twin soft robot: A multimodal soft robot capable of passive flight and wall climbing," *Advanced Intelligent Systems*, vol. 4, no. 12, pp. 2200223, 2022. <https://doi.org/10.1002/aisy.202200223>
- [J27] C. Bishop, M. Russo, X. Dong, and D. Axinte, "A novel underactuated continuum robot with shape-memory alloy clutches," *IEEE/ASME Transactions on Mechatronics*, vol. 27, no. 6, pp. 5339-5350, 2022. <https://doi.org/10.1109/TMECH.2022.3179812>
- [J28] J. I. Camacho-Arreguin, M. Wang M., M. Russo, X. Dong, and D. Axinte, "Novel reconfigurable parallel kinematic walking machine tool enables symmetric and non-symmetric gait configurations," *IEEE/ASME Transactions on Mechatronics*, vol. 27, no. 6, pp. 5495-5506, 2022. <https://doi.org/10.1109/TMECH.2022.3183689>
- [J29] M. Russo, J. Barrientos-Diez, and D. Axinte, "A kinematic coupling mechanism with binary electromagnetic actuators for high-precision positioning," *IEEE/ASME Transactions on Mechatronics*, vol. 27, no. 2, pp. 892-903, 2022. <https://doi.org/10.1109/TMECH.2021.3074286>
- [J30] M. Russo, N. Sriratanasak, W. Ba, X. Dong, A. Mohammad, and D. Axinte, "Cooperative continuum robots: Enhancing individual continuum arms by reconfiguring into a parallel manipulator," *IEEE Robotics and Automation Letters*, vol. 7, no. 2, pp. 1558-1565, 2022. <https://doi.org/10.1109/LRA.2021.3139371>

- [J31] A. P. Damarla, M. Russo, and M. Ceccarelli, "Control design and testing for a finger exoskeleton mechanism," *Actuators*, vol. 11, p. 230, 2022. <https://doi.org/10.3390/act11080230>
- [J32] A. Titov, M. Russo, and M. Ceccarelli, "Design and performance of L-CaPaMan2," *Applied Sciences*, vol. 12, no. 3, p. 1380, 2022. <https://doi.org/10.3390/app12031380>
- [J33] V. S. P. Idumudi, M. Ceccarelli, and M. Russo, "Control design for CABLEankle, a cable driven manipulator for ankle motion assistance," *Actuators*, vol. 11, no. 2, p. 63, 2022. <https://doi.org/10.3390/act11020063>
- [J34] M. Ceccarelli, M. Bottin, M. Russo, G. Rosati, M. A. Laribi, and V. Petuya, "Requirements and solutions for motion limb assistance of COVID-19 patients," *Robotics*, vol. 11, no. 2, p. 45, 2022. <https://doi.org/10.3390/robotics11020045>
- [J35] X. Dong, M. Wang, A. Mohammad, M. Russo, W. Ba, A. Norton, J. Kell, and D. Axinte, "Continuum robots collaborate for safe manipulation of high-temperature flame to enable repairs in extreme environments," *IEEE/ASME Transactions on Mechatronics*, vol. 27, no. 5, pp. 4217-4220, Oct. 2022. <https://doi.org/10.1109/TMECH.2021.3138222>
- [J36] M. Russo and M. Ceccarelli, "A geometrical formulation for the workspace of parallel manipulators," *Robotica*, vol. 40, no. 8, pp. 2581-2591, 2022. <https://doi.org/10.1017/S0263574721001806>
- [J37] A. Mohammad, M. Russo, Y. Fang, X. Dong, D. Axinte, and J. Kell, "An efficient follow-the-leader strategy for continuum robot navigation and coiling," *IEEE Robotics and Automation Letters*, vol. 6, no. 4, pp. 7493-7500, 2021. <https://doi.org/10.1109/LRA.2021.3097265>
- [J38] M. Russo, L. Raimondi, X. Dong, D. Axinte, and J. Kell, "Task-oriented optimal dimensional synthesis of robotic manipulators with limited mobility," *Robotics and Computer-Integrated Manufacturing*, no. 69, vol. 1, p. 102096, 2021. <https://doi.org/10.1016/j.rcim.2020.102096>
- [J39] M. Ceccarelli, M. Russo, D. Cafolla, and B. D. M. Chaparro-Rico, "Operation safety of a 2-DoF planar mechanism for arm rehabilitation," *Inventions*, vol. 6, no. 4, p. 85, 2021. <https://doi.org/10.3390/inventions6040085>
- [J40] M. Ceccarelli, M. Riabtsev, A. Fort, M. Russo, M. A. Laribi, and M. Urizar, "Design and experimental characterization of L-CADEL v2, an assistive device for elbow motion," *Sensors*, no. 21, vol. 15, p. 5149, 2021. <https://doi.org/10.3390/s21155149>
- [J41] M. Russo, M. Ceccarelli, and D. Cafolla, "Kinematic modelling and motion analysis of a humanoid torso mechanism," *Applied Sciences*, vol. 11, no. 6, p. 2607, 2021. <https://doi.org/10.3390/app11062607>
- [J42] J. F. Rodriguez-Leon, B. D. M. Chaparro-Rico, M. Russo, and D. Cafolla, "An auto-tuning cable-driven device for home rehabilitation," *Journal of Healthcare Engineering*, no. 2021, vol. 1, p. 6680762, 2021. <https://doi.org/10.1155/2021/6680762>
- [J43] M. Russo, B. D. M. Chaparro-Rico, L. Pavone, G. Pasqua, and D. Cafolla, "A bioinspired humanoid foot mechanism," *Applied Sciences*, vol. 11, no. 4, p. 1686, 2021. <https://doi.org/10.3390/app11041686>
- [J44] M. Russo and M. Ceccarelli, "Analysis of a wearable robotic system for ankle rehabilitation," *Machines*, no. 8, vol. 3, p. 48, 2020. <https://doi.org/10.3390/machines8030048>
- [J45] M. Russo and X. Dong, "A calibration procedure for reconfigurable Gough-Stewart manipulators," *Mechanism and Machine Theory*, vol. 152, no. 1, p. 103920, 2020. <https://doi.org/10.1016/j.mechmachtheory.2020.103920>
- [J46] M. Russo and J. A. Robles-Linares, "A brief history of piano action mechanisms," *Advances in Historical Studies*, vol. 9, no. 1, pp. 312-329, 2020. <https://doi.org/10.4236/ahs.2020.95024>
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