

Europass Curriculum Vitae



Personal information

Surname(s) / First name(s)

Address(es)

Telephone(s)

Email(s)

Nationality(-ies)

Date of birth

Current employment

Education and training

2008—2011

Cordella Francesca

** , ** , 80100, Naples, Italy

**** Mobile: ****

f.cordella@unicampus.it

Italian

March 27, 1979

Assistant Professor at the Campus Bio-Medico University of Rome, Unit of Advanced Robotics and Human-centred Technologies

Doctor of Philosophy in Computer Science and Automation Engineering, received by the University of Naples Federico II

- Thesis title: Grasping algorithms for anthropomorphic robotic hands
- Thesis topics: study of the human hand behavior by different motion analysis systems to find general rules applied for the implementation of reduced computational cost grasping algorithms for anthropomorphic robotic hand.

2008

State certification in order to practice as an engineer

a.a. 2006-2007

Electronic Engineering degree at the University of Naples Federico II

- Thesis in Robotics: Technologies for the simulation of laparoscopic surgery
- Mark: 110/110
- Thesis topics: state of the art of minimally invasive surgery techniques, implementation of a haptic device control system, generation of a human organ model by using Comsol Multiphysics software environment

Previous experiences

November 2017—November
2018

Assistant Researcher at Campus Bio-Medico University of Rome in the framework of the research project PPRAS 1/3—Implantable system for the control of upper limb prostheses with invasive neural interfaces and wireless communication.

—Research program title: Experimental validation of the human sensori-motor control on an anthropomorphic arm-hand robotic system.

2018

Evaluator of "La Caixa Foundation" projects in the framework of the "Health Research" Call.

November 2014—November
2017

Assistant Researcher at Campus Bio-Medico University of Rome in the framework of the research project PPR2—Control of upper limb prostheses with invasive neural interfaces.

—Research program title: Experimental validation of the human sensori-motor control on an anthropomorphic arm-hand robotic system.

March 2017	Expert Reviewer of European Projects Horizon H2020 for the European Commission in the framework of Personalised coaching for well-being and care of people as they age.
June 2015	Expert Reviewer of European Projects Horizon H2020 for the European Commission in the framework of ICT for active and healthy ageing.
November 2013—November 2014	Assistant Researcher at Campus Bio-Medico University of Rome in the framework of the research project HandBot—Biomechatronic prosthesis hands endowed with bioinspired tactile perception, bidirectional neural interfaces and distributed sensori-motor control. —Research program title: Experimental validation of the human sensori-motor control on an anthropomorphic arm-hand robotic system.
October 2013	Collaboration contract for research activities with the Campus Bio-Medico University of Rome in the framework of the research project HandBot NEMESIS—NEurocontrolled MEchatronic ProstheSIS. —Research program title: Development of an anthropomorphic arm-hand robotic platform for grasping and manipulation tasks with high dexterity.
June 2012—June 2013	Collaboration contract for research activities with the Department of Electric Engineering and Information Technologies of the University of Naples Federico II for the National Project PRIN ROCOCO—COoperative and COllaborative RObotics. —Research program title: Control of Human-Robot physical interaction.
March—September 2008	Collaboration contract with the Department of Computer Science and Automation of the University of Naples Federico II for the European Project DEXMART (DEXterous and autonomous dual-arm/hand robotic manipulation with sMART sensory-motor skills: A bridge from natural to artificial cognition)
Foreign experiences	
January—July 2011	Visiting student at the Institut für Robotik und Mechatronik, Deutsches Zentrum für Luft- und Raumfahrt (DLR), Wessling, Germany under the supervision of Dott. van der Smagt, where she worked on the analysis of human behavior during grasping with the Vicon system and on the implementation of tracking algorithms for human hand movement using the Kinect motion sensing device

Research activities

The Francesca Cordella's research activities are mainly related to assistive robotics, rehabilitation robotics and prosthetics, with reference to:

- Integration of multimodal interfaces for assistive robotics;
- Development of adaptive control strategies for collaborative robotics, mainly focused on the assistive and rehabilitation robotics;
- Development of bio-cooperative systems for upper limb rehabilitation;
- Development of bio-inspired grasping algorithms with reduced computational cost for anthropomorphic arm-hand robotic/prosthetic systems;
- Biomechanical analysis of the human being by means of several motion analysis systems (wearable and not wearable) and computation of indicators for performance evaluation;
- Development of instrumented platforms for the evaluation of human and prosthetic hands and of rehabilitation treatments;
- Development of vision-based strategies for automatic arm-hand pose and motion estimation for robot-aided rehabilitation and for robot path planning and teleoperation;
- Development of kinematic protocols for analyzing the performance of human/prosthetic hands.
- Human-robot interaction modeling during working tasks for the control of collaborative robots and ergonomic evaluations.
- Invasive and non-invasive approaches for feedback restoration

Bibliometric indices

	Scopus	Scholar
Number of total documents	35	38
h-index	10	10
Number of citations	327	476

April 2019–present: **SAFE-MOVER** – User-centred design of a robotic device for improving working conditions and user subjective perspective during patient-handling movements (Bando University Strategic Projects, Topic: Healthcare 4.0).

- Role in the project: Project Manager and Work package Responsible. Francesca Cordella contributed in writing the project proposal.

May 2019–present: **SENSE-RISC** – Development of instrumented suits for prevention and mitigation of workers' safety risks (Project funded by INAIL).

- Role in the project: Task Responsible

April 2019–present: **EXPERIENCE** – Benchmarking Exoskeleton-Assisted Gait Based on Users' Subjective Perspective and Experience (Open Call of the EU-funded project EUROBENCH - H2020-ICT-2016-2017-779963).

- Role in the project: Task responsible

September 2018–present: **ARONA** – Surgical navigation assisted by advanced robotics. (Project MIUR PON Research and Innovation 2014 – 2020).

- Role in the project: Work package responsible. Francesca Cordella contributed in writing the project proposal.

Giugno 2018–present: **ANIA** – Development of bionic upper limb prostheses with personalized interface and sensory feedback for severely injured patients with amputation due to road accident (Project Fondazione ANIA - Associazione Nazionale per le Imprese Assicuratrici)

- Role in the project: Work package responsible.

July 2018–present: **PPR AS 1/3** – Evolution of an implantable system for the control of upper limb prosthesis with invasive neural interfaces, with wireless communication (Project funded by INAIL)

- Role in the project: Project Co-responsible and project manager.

May 2018–present: **PCR 1/2** – New methods in the treatment of limb amputation, finalized to the application of bionic prostheses (Project funded by INAIL).

- Role in the project: Work package Responsible.

January 2018–January 2019: **SIRASI** – Robotic system for upper and lower limb rehabilitation. (Bando INTESE).

- Role in the project: Research and Development

June 2017–present: **RehabRobo@Work** – Bio-cooperative robotic system for upper-limb rehabilitation in working environments. (Project funded by INAIL).

- Role in the project: Project Manager and Work package Responsible. Francesca Cordella contributed in writing the project proposal.

February 2015–July 2018: **AIDE** – Adaptive Multimodal Interfaces to Assist Disabled People in Daily Activities (European Project H2020).

- Role in the project: Work Package responsible

May 2014–June 2017: **PPR2** – Control of upper limb prostheses with invasive neural interfaces. (Project funded by INAIL).

- Role in the project: Work package responsible. Francesca Cordella contributed in writing the project proposal.

November 2013–November 2014: **HandBot** – Protesi di mano biomeccatroniche dotate di percezione tattile bioispirata, interfacce neurali bi-direzionali e controllo sensori-motorio distribuito (National Project PRIN).

- Role in the project: Research and Development as Post Doc

June 2012 – June 2013: **ROCOCO** – COoperative and COllaborative RObotics (National Project PRIN).

- Role in the project: Research and Development as Post Doc

March 2008 – December 2012: **DEXMART project** – DEXterous and autonomous dual-arm/hand robotic manipulation with sMART sensory-motor skills: A bridge from natural to artificial cognition (European research project EU FP7)

- Role in the project: Research and Development as PhD student

Awards

2017

Third place at the IEEE Robotics and Automation video contest - Italian Chapter with the video entitled "Playing piano by demonstration". Authors: C. Lauretti, F. Cordella, D. Simonetti

Invited talks

7 February 2020

The Safe-Mover Project: a user-centred approach, PhD Course "Personalized Medicine and Healthcare 4.0", Campus Bio-Medico University of Rome.

29 November 2019

Nuove frontiere della robotica in campo medico, Conference "Ordine Ingegneri Sapienza", Rome.

19 October 2019

Multimodal interfaces for upper-limb rehabilitation robotics: A bio-cooperative approach, Workshop "Robotics in rehabilitation: main challenges for a tailored treatment", Convegno Istituto di Robotica e Macchine Intelligenti, Rome.

9 March 2019

Robotic technologies for biomedical applications, Conference "Politica Sanitaria e Tecnologia", Potenza.

14 December 2018

New approaches for the rehabilitation of the working gesture, Training course "Adeguamento e adattamento delle postazioni di lavoro per il reinserimento di persone con disabilità da lavoro", Rome

30 November 2018

Robotic technologies for biomedical applications, Conference "Medicina e salute: robotica in medicina", Rome.

2017

Assistive technologies, National Conference Scienza & Vita, Rome.

2007

Simulators for laparoscopic surgery – State of the art
Internal Seminar – Città della scienza, Naples

Educational activities

- Teacher of the course “Applied Biomechanics” (3rd year, BSc in Industrial Engineering, 6 CFU) during academic year 2019/2020.
- Teaching assistant for the course “Laboratory of Bioengineering” (3rd year, BSc in Industrial Engineering, 6 CFU) during academic year 2019/2020.
- Teaching assistant for the course “Industrial and Medical Robotics” (1st year, MSc in Biomedical Engineering, 15 CFU) during academic year 2019/2020.
- Teacher of the course “Laboratory of Bioengineering” (3rd year, BSc in Industrial Engineering, 6 CFU) during academic year 2018/2019.
- Teaching assistant for the course “Medical and Industrial Robotics” (1st year, MSc in Biomedical Engineering, 15 CFU) during academic year 2018/2019.
- Teaching assistant for the course “Medical and Industrial Robotics” (1st year, MSc in Biomedical Engineering, 15 CFU) during academic year 2017/2018.
- Teaching assistant for the course “Laboratory of Bioengineering” (3rd year, BSc in Industrial Engineering, 6 CFU) during academic year 2017/2018.
- Teaching assistant for the course “Medical and Industrial Robotics” (1st year, MSc in Biomedical Engineering, 15 CFU) during academic year 2016/2017.
- Teaching assistant for the course “Biomedical Robotics” (1st year, MSc in Biomedical Engineering, 12 CFU) during academic year 2015/2016.
- Teaching assistant for the course “Biomedical Robotics” (1st year, MSc in Biomedical Engineering, 12 CFU) during academic year 2014/2015.
- Personal Tutor (2013 – 2020)
- Coordinator of the Tutorship for the Master degree course in Biomedical Engineering

Student advisor

- **2012 – 2020** Tutor of:
 - * 5 PhD student in Bioengineering and Bioscience;
 - * 9 Master thesis in Biomedical Engineering at Campus Bio-Medico University of Rome;
 - * 4 Bachelor thesis in Biomedical Engineering at Campus Bio-Medico University of Rome;
 - * 2 Master thesis in Biomedical Engineering at University of Naples Federico II;
 - * 3 Master thesis in Automation Engineering at University of Naples Federico II;
 - * 1 Bachelor thesis in Automation Engineering at University of Naples Federico II;
 - * 1 Bachelor thesis in Biomedical Engineering at University of Naples Federico II.

Personal skills and competences

Programming in:

- C
- C++
- Matlab and Simulink
- Assembly (Motorola 68x family)
- Basic knowledge of SQL
- Comsol Multiphysics
- Solidworks
- OpenCV
- Libfreenect
- OpenNI
- Robot Operating System (ROS)
- Yet Another Robotic Platform (YARP)
- NAOqi e Choreographe (Software for working with the NAO-Aldebaran robot)
- Fast Research Interface (Library for controlling the Light Weight Robot-KUKA)
- SW for the management of motion analysis systems: Vicon Nexus, Vicon IQ, SMART for BTS

Participation in drafting of European Projects, PON, FIRB, PRIN

Journal and conference service

Workshop Organizer

Francesca Cordella organized the workshop "Assistive user interfaces and control strategies for adaptive human-robot interaction" in the framework of the 7th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, 26 August 2018, Enschede

Lead Guest Editor of Special Issue

- "Analysis of Human Behavior for Robot Design and Control" for the Journal "Applied Bionics and Biomechanics", 2019
- "Neurorobotics and strategies for adaptive human-machine interaction" for the Journal "Frontiers in Neurorobotics", 2020
- "Wearable Robotics" for the Journal "Robotics", 2020

Technical Program Committee
Member

- International Conference on Service Robotics Technologies (ICSRT), Singapur, 2020
- 12th International Workshop on Human Friendly Robotics, Reggio Emilia (Italy), 2019
- International Conference on Service Robotics Technologies (ICSRT), Beijing (China), 2019
- International Conference on Service Robotics Technologies (ICSRT), Chengdu (China), 2018
- International Conference on Electronics, Communications and Control Engineering, Maldives, 2018
- Fifth International Workshop on Assistive Computer Vision and Robotics, Venice (Italy), 2017
- First International Workshop on Behaviors Adaptation, Interaction and Learning for Assistive Robotics, New York City (USA), 2016
- Fourth International Workshop on Assistive Computer Vision and Robotics, Amsterdam (The Netherlands), 2016
- Third International Workshop on Assistive Computer Vision and Robotics, Santiago (Chile), 2015
- Second International Workshop on Assistive Computer Vision and Robotics, Zurich, 2014

Editorial Board Member

- Associate Editor for IEEE RAS/EMBS International Conference for Biomedical Robotics and Biomechatronics 2020, New York (USA)
- Associate Editor for IEEE/RSJ International Conference on Intelligent Robots and Systems 2020, Las Vegas (USA)
- Journal of Biomedical Science & Applications, 2017 — 2019

Conference Session Co-Chair

Session "Rehabilitation Robotics and Assistive Technology: Control 2" in the IEEE International Conference on Biomedical Robotics and Biomechatronics, 2018, Enschede (Netherlands).

Speaker in Conference sessions

- August, 2018 — IEEE International Conference on Biomedical Robotics and Biomechatronics, Enschede, The Netherlands;
- June, 2018 — V Congresso Gruppo Nazionale di Bioingegneria, Milan;
- July, 2017 — IEEE International Conference on Rehabilitation Robotics, London;
- June, 2016 — IEEE International Conference on Robotics and Automation, Stockholm;
- June, 2016 — V Congresso Gruppo Nazionale di Bioingegneria, Naples;
- August 2014 — IEEE International Conference on Biomedical Robotics and Biomechatronics, Sao Paulo, Brasil;
- June, 2014 — IV Congresso Gruppo Nazionale di Bioingegneria, Pavia;
- June 2012 — IEEE International Conference on Biomedical Robotics and Biomechatronics, Rome;
- October 2010 — ViRtual environments and prototyping for huMAN health and safety, special track of 9th International Conference IDMME – Virtual Concept, Bordeaux, France;
- October 2010 — 1th International Conference on Applied Bionics and Biomechanics, Venice.

Reviewer for International Journals

IEEE Access, IEEE Transactions on Systems, Man and Cybernetics, Part B; IEEE Robotics and Automation Magazine; IEEE Transactions on measurements; IEEE Transactions on Cybernetics; International Journal of Advanced Robotic Systems; Journal of Intelligent and Robotic Systems; IEEE Robotics and Automation Letters; Pattern Recognition Letters; Applied Bionics and Biomechanics; Journal of Medical Robotics Research; Medical Engineering & Physics; Robotics and Computer Integrated Manufacturing; Journal of Medical and Biological Engineering; Journal of Motor Behavior; PlosOne; Journal of Healthcare Engineering; IEEE Transactions on Human-Machine Systems; Sensors; IEEE Sensors Journal; Frontiers in Neuro-robotics; Humanoids; Journal of Engineering in medicine; Journal of Healthcare Engineering; Journal of Medical Robotics Research; IEEE Transactions on Automation Science and Engineering

Reviewer for International Conferences

IEEE International Conference on Biomedical Robotics and Biomechatronics; International Conference of the IEEE Engineering in Medicine and Biology Society; IEEE International Conference on Robotics and Automation; IEEE International Symposium on Robot and Human Interactive Communication; IEEE International Conference on Automation Science and Engineering; IEEE/RAS-EMBS International Conference on Rehabilitation Robotics; IEEE/RSJ International Conference on Intelligent Robots and Systems; International Conference on Informatics in Control, Automation and Robotics; IFAC Symposium on Robot Control; Congress of the International Federation of Automatic Control; International Symposium Measurement of Electrical Quantities; International Workshop on Assistive Computer Vision and Robotics; International Workshop on Behaviors Adaptation, Interaction and Learning for Assistive Robotics, International Conference on Service Robotics Technologies, International Conference on Electronics, Communications and Control Engineering; IEEE International Symposium on Medical Robotics

Reviewer for awards

Best Thesis Award 2017 of GDR Robotique.

Member of Scientific societies

From 2008 Francesca Cordella is member of the IEEE and of the IEEE Robotics and Automation Society. She is member of the National Group of Bioengineering (GNB) and of the Istituto di Robotica e Macchine Intelligenti (I-RIM).

Mother tongue(s)

Italian

Other language
Self-assessment
European level^(*)

English

English

Understanding		Speaking				Writing			
Listening		Reading		Spoken interaction		Spoken production			
C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user

^(*) Common European Framework of Reference (CEF) level

Attended courses and Conferences

December 2019	ICH-Good Clinical Practice (GCP) course, (certification acquired)
2013–2019	participation in training courses for personal tutors
January—March 2016	“Robotics in Rehabilitation” course, organized by the International Society of Physical and Rehabilitation Medicine
September 2016	“La responsabilità delle persone giuridiche ex D.Lgs. 231/2001 e il Modello Organizzativo adottato dall’Università Campus Bio-Medico di Roma” course.
September 2016	XXXV Scuola Annuale di Bioingegneria: La Bioingegneria per il benessere e l’invecchiamento attivo, Bressanone
3—5 June 2013	School on “CGLibs: Smart Libraries for Computer Graphics”.
11—16 July 2011	“Distributed optimization and game theory” and “Predictive control” — Doctorate School SIDRA “Antonio Ruberti”, Bertinoro
7 June—5 July 2010	“Characterization of security systems based on biometric technologies” — Doctorate School in Ingegneria dell’Informazione of the University of Naples Federico II, Naples
12—17 July 2010	“Robotics” — Doctorate School SIDRA “Antonio Ruberti”, Bertinoro
22—26 February 2010	Doctorate School in Ingegneria dell’Informazione, University of Naples Federico II
13—15 December 2010	Workshop “Medicine meets virtual reality”, Scuola Superiore Sant’Anna, Pisa
13—18 July 2009	“Lyapunov techniques for constrained and robust control of dynamical systems” — Doctorate School SIDRA “Antonio Ruberti”, Bertinoro
9—10 July 2009	“Microsensors, microtechnology and the road to nanotechnology” — Doctorate School in Ingegneria Elettronica e delle Telecomunicazioni of University of Naples Federico II, Napoli
16—20 February 2009	Doctorate School in Ingegneria dell’Informazione, University of Naples Federico II
June—July 2008	Doctorate Course in “Pattern Recognition”, University of Naples Federico II
24 October 2008	Workshop “Human-friendly robotics”, Naples
31 October 2008	Workshop “Medicine meets virtual reality”, University of Rome Tor Vergata
10 April 2007	Tutorial “Computer Integrated Surgery”, Rome, International Conference on Robotics and Automation (ICRA)
8—12 October 2007	PhD School in “Virtual Reality Design and Application in Haptics”, Siena

Publications

International Journal Papers
[J19]

F. Cordella, L. Zollo, M. Johnson, “Editorial: Human behaviour analysis for robot design and control”, Applied Bionics and Biomechanics, 2020 (accepted)

- [J18] C. Lauretti, F. Cordella, C. Tamantini, C. Gentile, F. Scotto di Luzio, L. Zollo, “A Surgeon-Robot Shared Control for Ergonomic Pedicle Screw Fixation”, IEEE Robotics and Automation Letters, 2020 (accepted)
- [J17] F.J. Badesa, J.A. Diez, M.J. Catalan, E. Trigili, F. Cordella, M. Nann, S. Crea, S.R. Soekadar, L. Zollo, N. Vitiello, N. Garcia-Aracil, “Physiological Responses During Hybrid BNCI Control of an Upper-Limb Exoskeleton”, Sensors, 2019, 19(22). pii: E4931. doi: 10.3390/s19224931
- [J16] C. Lauretti, F. Cordella, L. Zollo, “A hybrid Joint/Cartesian DMP-based approach for obstacle avoidance of anthropomorphic assistive robots”, Journal of Social Robotics, vol. 11, no. 5, pp. 783—796, 2019. doi: 10.1007/s12369-019-00597-w
- [J15] F. Scotto di Luzio, C. Lauretti, F. Cordella, F. Draicchio, L. Zollo, “Visual vs Vibrotactile Feedback for Posture Assessment during Upper-Limb Robot-Aided Rehabilitation”, Applied Ergonomics, 2020
- [J14] L. Zollo, G. Di Pino, A.L. Ciancio, F. Ranieri, F. Cordella, C. Gentile, E. Noce, R.A. Romeo, A. Dellacasa Bellingegni, G. Vadala, S. Miccinilli, A. Mioli, L. Diaz-Balzani, M. Bravi, K.P. Hoffmann, A. Schneider, L. Denaro, A. Davalli, E. Gruppioni, R. Sacchetti, S. Castellano, V. Di Lazzaro, S. Sterzi, V. Denaro, E. Guglielmelli, “Restoring tactile sensations via neural interfaces for real-time force-and-slippage closed-loop control of bionic hands”, Science Robotics, 2019, vol. 4, no. 27, eaau9924, DOI: 10.1126/scirobotics.aau9924
- [J13] F. Scotto di Luzio, D. Simonetti, F. Cordella, S. Miccinilli, S. Sterzi, F. Draicchio, L. Zollo, “Bio-Cooperative Approach for the Human-in-the-Loop Control of an End-Effector Rehabilitation Robot”, Frontiers in Neurobotics, 2018.
- [J12] S. Crea*, M. Nann*, E. Trigili*, F. Cordella, A. Baldoni, F.J. Badesa, J.M. Catalán, L. Zollo, N. Vitiello, N. Garcia Aracil, S.R. Soekadar, “Feasibility and safety of shared EEG/EOG and vision-guided autonomous whole-arm exoskeleton control to perform activities of daily living”, Scientific Reports, 2018.
- [J11] E. Noce, C. Gentile, F. Cordella, A.L. Ciancio, V. Piemonte, L. Zollo, “Grasp control of a prosthetic hand through peripheral neural signals”, Journal of Physics Conference Series, 2018. DOI: 10.1088/1742-6596/1026/1/012006
- [J10] C. Lauretti, F. Cordella, A.L. Ciancio, E. Trigili, J.M. Catalan, F.J. Badesa, S. Crea, S.M. Pagliara, S. Sterzi, N. Vitiello, N. Garcia Aracil, L. Zollo, “Learning-by-demonstration for motion planning of upper-limb exoskeletons”, Frontiers in NeuroRobotics, 2018
- [J9] P. Pessia*, F. Cordella*, E. Schena, A. Davalli, R. Sacchetti, L. Zollo, “Evaluation of Pressure Capacitive Sensors for Application in Grasping and Manipulation Analysis”, Sensors, 2017.
- [J8] F. Cordella, “Biomedical Engineering – the Strong Link between Medicine and Engineering”, Editorial: Journal of Biomedical Science & Applications, vol. 1 no. 1:2, 2017
- [J7] A.G. Cutti*, F. Cordella*, G. D’Amico, R. Sacchetti, A. Davalli, E. Guglielmelli, L. Zollo, “A motion analysis protocol for kinematic assessment of multifingered prosthetic hands with cosmetic gloves”, Artificial Organs, 2017
- [J6] F. Cordella, F. Di Corato, B. Siciliano, L. Zollo, “A stochastic algorithm for automatic hand pose and motion estimation”, Medical & Biological Engineering & Computing, 2017
- [J5] C. Lauretti, F. Cordella, E. Guglielmelli, L. Zollo, “Learning by Demonstration for planning activities of daily living in rehabilitation and assistive robotics”, Robotics and Automation Letters, 2017

- [J4] F. Cordella, A.L. Ciancio, R. Sacchetti, A. Davalli, A.G. Cutti, E. Guglielmelli, L. Zollo, "Literature review on needs of upper limb prosthesis users", *Frontiers in Neuroscience*, vol. 10, 2016. doi: 10.3389/fnins.2016.00209
- [J3] A.L. Ciancio, F. Cordella, R. Barone, R.A. Romeo, A. Dellacasa Bellingegni, R. Sacchetti, A. Davalli, G. Di Pino, F. Ranieri, V. Di Lazzaro, E. Guglielmelli, L. Zollo, "Control of prosthetic hands via the peripheral nervous system", *Frontiers in Neuroscience*, vol. 10, 2016. doi: 10.3389/fnins.2016.00116
- [J2] F. Cordella, L. Zollo, E. Guglielmelli, B. Siciliano, "Human hand motion analysis and synthesis of optimal power grasps for a robotic hand ", *International Journal of Advanced Robotic Systems (IJARS)*, 2014
- [J1] F. Cordella, L. Zollo, E. Guglielmelli, B. Siciliano, "A bio-inspired grasp optimization algorithm for an anthropomorphic robotic hand", *Thematic Issue of International Journal of Interactive Design and Manufacturing (IJIDeM)*, 2012

Book Chapters

- [B5] F. Cordella, A.L. Ciancio, L. Zollo, "Robot-assisted post-surgery rehabilitation", *XXXVIII Bioengineering School in Advanced bioengineering methods, technologies and tools in surgery and therapy*, Patron Editore, 2019
- [B4] F. Scotto Di Luzio, F. Cordella, C. Lauretti, F. Draicchio, L. Zollo, "Assessment of muscular activation patterns in 3d upper limb robot-aided rehabilitation", *Biosystems and Biorobotics*, vol. 21, pp. 349–353, 2019
- [B3] A.L. Ciancio, F. Cordella, K.P. Hoffmann, A. Schneider, E. Guglielmelli, L. Zollo, "Current achievements and future directions of hand prostheses controlled via peripheral nervous system", In: Bertolaso M., Di Stefano N. (eds) *The Hand. Studies in Applied Philosophy, Epistemology and Rational Ethics*, vol 38, 2017. Springer, Cham. doi: 10.1007/978-3-319-66881-9-5
- [B2] F. Cordella, F. Di Corato, L. Zollo, B. Siciliano, "A robust hand pose estimation algorithm for hand rehabilitation", *New Trends in Image Analysis and Processing – ICIAP 2013 Lecture Notes in Computer Science*, vol. 8158, pp. 1–10, A. Petrosino, L. Madalena, P. Pala (eds.), Springer Verlag Berlin Heidelberg, 2013.
- [B1] F. Cordella, L. Zollo, A. Salerno, E. Guglielmelli, B. Siciliano, "Validation of a power grasping algorithm for an anthropomorphic robotic hand on the basis of human grasping action", *Latest Advances in Robot Kinematics*, pp. 91–98, J. Lenarcic M. Husty Editori, Springer, 2012. 10.1007/978-94-007-4620-6-12

International Conference Papers

- [C21] F. Cordella, F. Scotto Di Luzio, c. Lauretti, F. Draicchio, L. Zollo, "A biofeedback-based posture correction system for working environments", *IEEE International Workshop on Metrology for Industry 4.0 and IoT*, 2019.
- [C20] F. Scotto di Luzio, D. Simonetti, F. Cordella, G. Carpino, F. Draicchio, L. Zollo, "An adaptive arm-weight support platform for 3D upper limb robot-aided neuro-rehabilitation", *IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics*, 2018. DOI: 10.1109/BIOROB.2018.8487738
- [C19] F. Scotto di Luzio, F. Cordella, C. Lauretti, F. Draicchio, L. Zollo, "Assessment of muscular activation patterns in 3D upper limb robot-aided rehabilitation", *International Conference on NeuroRehabilitation*, 2019. DOI: 10.1007/978-3-030-01845-0-70
- [C18] F. Scotto di Luzio, F. Cordella, C. Lauretti, D. Simonetti, S. Sterzi, F. Draicchio, L. Zollo, "A bio-cooperative robotic system to ensure ergonomic postures during upper limb rehabilitation in occupational contexts", *20th Congress of the International Ergonomics Association*, 2018. DOI: 10.1007/978-3-319-96065-4-37

- [C17] E. Noce, C. Gentile, F. Cordella, A.L. Ciancio, V. Piemonte, L. Zollo, “Grasp control of a prosthetic hand through peripheral neural signals”, International Conference on Electronics, Communications and Control Engineering, Avid College, Maldives March 6-8, 2018.
- [C16] A. Nocco, F. Cordella, L. Zollo, G. Di Pino, E. Guglielmelli, D. Formica, “A tele-operated control approach for anthropomorphic manipulator using magneto-inertial sensors”, 26th International Symposium on Robot and Human Interactive Communication, 2017
- [C15] C. Lauretti, F. Cordella, F. Scotto di Luzio, S. Saccucci, L. Zollo, “Comparative Performance Analysis of M-IMU/EMG and Voice User Interfaces for Assistive Robots”, IEEE Conference on Rehabilitation Robotics, 2017.
- [C14] R.A. Romeo, F. Cordella, A. Davalli, R. Sacchetti, E. Guglielmelli, L. Zollo, “An instrumented object for studying human grasping”, IEEE Conference on Rehabilitation Robotics, 2017.
- [C13] F. Cordella, C. Gentile, L. Zollo, R. Barone, R. Sacchetti, A. Davalli, B. Siciliano, E. Guglielmelli, “A force-and-slippage control strategy for a poliarticulated prosthetic hand”, IEEE International Conference on Robotics and Automation, pp. 3524–3529, 2016. doi:10.1109/ICRA.2016.7487533
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Further information

Skills of working autonomously and in group

Propensity to theoretical and applied research

Trattamento Dati Personali

La sottoscritta Francesca Cordella, è a conoscenza che, ai sensi dell'art. 26 della legge 15/68, le dichiarazioni mendaci, la falsità negli atti e l'uso di atti falsi sono puniti ai sensi del codice penale e delle leggi speciali. Inoltre, la sottoscritta, ai sensi della legge 675/96 (tutela delle persone e di altri soggetti rispetto al trattamento dei dati personali) e dell'art. 13 del D.Lgs 30 giugno 2003 n. 196, AUTORIZZA al trattamento dei dati personali contenuti nel presente curriculum.