EUROPEAN CURRICULUM VITAE FORMAT

PERSONAL INFORMATION

Surname and Name	**BELLITTO AMY**
E-mail	
Nationality	
Date of birth	DECEMBER 13, 1993

WORK EXPERIENCE

• Dates (from – to)	**OCT. 2021 - PRESENT**
• Name and address of employer	Spinal Cord Unit, Santa Corona Hospital, Asl2 savonese, Via XXV Aprile 38, 17027, Pietra Ligure (SV), Italy
• Type of business or sector	Public health
• Occupation or position held	**Research Fellow**
• Main activities and responsibilities	Chief Engineer at Spinal Cord Italian Laboratory, responsible for leading and conducting research projects on the application of robotic, technological, and virtual reality tools for evaluating, rehabilitating and assisting individuals with a Spinal Cord Injury (SCI). Supervisor: Dott. Antonino Massone

• Dates (from – to)	**AUG. 2021 – SEPT. 2021**
• Name and address of employer	Nextage Srl, Piazza della Vittoria, 12/12, 16121, Genoa (GE), Italy
• Type of business or sector	Medical Device Company
• Occupation or position held	**Occasional Consultant**
• Main activities and responsibilities	Consulting services related to testing the "Colibrì" platform and evaluating its potential applications for individuals with SCI. Supervisor: Ing. Barbara Canesi

• Dates (from – to)	**JULY 2019 – JULY 2021**
• Name and address of employer	Spinal Cord Unit, Santa Corona Hospital, Asl2 savonese, Via XXV Aprile 38, 17027, Pietra Ligure (SV), Italy
• Type of business or sector	Public health
• Occupation or position held	**Research Fellow**
• Main activities and responsibilities	Chief Engineer at Spinal Cord Italian Laboratory, responsible for leading and conducting research projects on the application of robotic, technological, and virtual reality tools for evaluating, rehabilitating and assisting individuals with a SCI. Supervisor: Dott. Antonino Massone

• Dates (from – to)	**DEC. 2018 – MAY 2019**
• Name and address of employer	Robotics Brain and Cognitive Sciences Lab, Italian Institute of Technology (IIT), Via Enrico Melen 83, 16152, Genoa (GE), Italy
• Type of business or sector	Research institute
• Occupation or position held	**Research Fellow**
• Main activities and responsibilities	Development and implementation of the hardware and software of a direct cable planar robot

designed to enhance children's learning of mathematical and geometric concepts.
Supervisors: Prof. Gabriel Baud-Bovy and Ing. Jacopo Zenzeri

EDUCATION AND TRAINING

• Dates (from – to)	**Nov. 2019 – PRESENT**
• Name and type of organization providing education and training	Department of Informatics, Bioengineering, Robotics and Systems Engineering (DIBRIS), University of Genoa (UNIGE), GE, Italy
• Principal subjects/occupational skills covered	Research activity Project title: "A Novel Approach to Neuromotor Rehabilitation for People with Spinal Cord Injury: from Objective Functional Assessment to Personalized Dyadic Training." Supervisors: Prof. Maura Casadio and Ing. Camilla Pierella.
• Title of qualification awarded	**PhD student in Bioengineering and Robotics (XXXV Cycle)**
• Dates (from – to)	**2022**
• Name and type of organization providing education and training	University of Genoa (UNIGE) Genoa (GE), Italy
• Title of qualification awarded	**Teaching qualification - 24CFU**
• Dates (from – to)	**2020**
• Name and type of organization providing education and training	Department of Informatics, Bioengineering, Robotics and Systems Engineering (DIBRIS), University of Genoa (UNIGE), GE, Italy
• Title of qualification awarded	**National Qualification to practice as "Ingegnere dell'Informazione"**
• Dates (from – to)	**2016 – 2018**
• Name and type of organization providing education and training	Department of Informatics, Bioengineering, Robotics and Systems Engineering (DIBRIS), University of Genoa (UNIGE), GE, Italy
• Principal subjects/occupational skills covered	Main topics Biomedical instrumentation and Bioimaging; Analysis of biomedical data and signals; Rehabilitation engineering; Sports biomechanics; Biomedical robotics; Motor control and human performance assessment; Perceptual systems and interaction; Chemistry and Biochemistry; Continuum mechanics; Molecular, cellular and tissue engineering; Biofluid dynamics; Composite materials for bio applications. Thesis Title: The role of practice schedules and individual strategy on learning in a Body-Machine Interface; Supervisors: Prof. Maura Casadio, Prof. Mei-Hua Lee and Prof. Rajiv Ranganathan
• Title of qualification awarded	**Master's Degree in Bioengineering (LM-21 Class)**
• Level in national classification	110/110 cum laude
• Dates (from – to)	**2012 – 2016**
• Name and type of organization providing education and training	Department of Informatics, Bioengineering, Robotics and Systems Engineering (DIBRIS), University of Genoa (UNIGE), GE, Italy
• Principal subjects/occupational skills covered	Main topics Theoretical aspects of mathematics and other basic engineering topics (physics, computer science, inorganic chemistry); Knowledge in the field of biomechanics, electronics and electromagnetism, biomedical instrumentation and control techniques; Basic knowledge of biology and physiology; Knowledge and understanding of safety issues and regulations in a hospital business environment. Thesis Title: Functional assessment of upper limb movements as a result of cervical injury: spontaneous recovery and effect of rehabilitation treatment Supervisors: Prof. Maura Casadio, Dr. Alice De Luca and Dr. Camilla Pierella
• Title of qualification awarded	**Bachelor's Degree in Biomedical Engineering (L-8 Class)**
• Dates (from – to)	**2008 – 2012**

• Name and type of organization providing education and training	L.S.S. – Martin Luther King
	Genoa (GE), Italy
Principal subjects/occupational skills covered	Scientific curriculum
• Title of qualification awarded	**Secondary school diploma**

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE

Italian and English

SOCIAL SKILLS AND COMPETENCES

Living and working with other people, in multicultural environments, in positions where communication is important and situations where teamwork is essential (for example culture and sports), etc.

Over the last four years, my experience at the Spinal Cord Italian Laboratory, based in the Spinal Cord Unit at Santa Corona Hospital, has significantly developed my social skills and competencies. **Working in this dynamic and multidisciplinary environment**, I successfully collaborated with professionals from diverse fields, such as physicians, physiotherapists, nurses, psychologists, and engineers. Additionally, working in close contact with individuals with spinal cord injuries has further enriched my **cultural awareness and interpersonal sensitivity**.

ORGANISATIONAL SKILLS AND COMPETENCES

Coordination and administration of people, projects and budgets; at work, in voluntary work (for example culture and sports) and at home, etc.

During my PhD at the University of Genoa, I had the privilege of **co-supervising several bachelor and master students'** thesis projects. Additionally, as the chief engineer at the Spinal Cord Italian Laboratory, I **actively contributed to and collaborated on various research projects**.

TECHNICAL SKILLS AND COMPETENCES

With computers, specific kinds of equipment, machinery, etc.

Development environments: Matlab, R, RStudio, Visual Studio, Python, Unity, App Inventor;
Operating systems: Windows, Linux;
Programming languages: C, C ++, C #, Visual Basic, Python, Matlab;
Database Management System (DBMS) programs: MySQL and SQL-Server;
Web design languages: HTML;
Simulation and modelling software's: Comsol, Simulink;
Statistics software's: SPSS and Jamovi;
Movement analysis laboratory software's: Smart-Tracker, Smart-Capture, Smart-Analyzer;
Movement analysis laboratory instruments: Smart Optoelectronic System (stereophotogrammetric system), Pocket and Free EMG BTS (surface electromyographic systems), G-Walk (wearable inertial system).

OTHER SKILLS AND COMPETENCES

Competences not mentioned above.

<u>**Research experiences abroad**</u>

2018   **USA - 6 months**
Visiting master student at Michigan State University (MSU), East Lansing, MI, USA

<u>**Post-graduate schools and courses**</u>

Schools

2022   **School of Neuroengineering Massimo Grattarola**
DIBRIS, GE, Italy (in-person)

2021   **Towards a Continuum of Robot-assisted Therapy School**
Hildebrand Clinics, Ticino, Switzerland (in-person)

2020   **Neuromatch Academy School**
(NMA, online)

            Virtual Motor Control School
(VMCS, online)

Courses

2023	**Transcultural Robots in Health and Social Care**
	Course of the Erasmus+ "IENE 10 project - Preparing health and social care workers to work with robots, meeting in Genova" University of Genoa, GE, Italy (online)
2020	**Regularization Methods for Machine Learning**
	Machine Learning Genoa Center, University of Genoa, GE, Italy (online)
	Grant Writing
	University of Genoa, GE, Italy (online)
	Interaction in Virtual and Augmented Reality
	University of Genoa, GE, Italy (in-presence)
	Ethics and Bioethics in Bioengineering and Robotics
	University of Genoa, GE, Italy (in-presence)
	Theatrical techniques for Scientific Presentations
	University of Genoa, GE, Italy (in-presence)

Scholarships and awards

2022	**Trainee Professional Development Award (TPDA)**
	Society of Neuroscience 2022, San Diego, USA
	2nd Place Best Poster Award
	School of Neuroengineering Massimo Grattarola, GE, Italy
2021	**Azienda sociosanitaria ligure 2 (Asl2) Fellowship**
	Winner of a public competition for a two-year fellowship at the Spinal Cord Unit, Santa Corona Hospital (Pietra Ligure, SV, Italy)
	1st Place Best Poster Award
	Towards a Continuum of Robot-assisted Therapy School, Hildebrand Clinics, Brissago, Switzerland
2020	**Azienda sociosanitaria ligure 2 (Asl2) Fellowship**
	Winner of a public competition for a two-year fellowship at the Spinal Cord Unit, Santa Corona Hospital (Pietra Ligure, SV, Italy)
2019	**Fondo Giovani Scholarship**
	Awarded by the Ministry of Education, University and Research, to carry out the master's thesis research at Michigan State University (MSU), East Lansing, MI, USA

Students mentoring

2019- 2023	**Co-Supervision of Bachelor and Master Students**
	8 Master Students (Beatrice Lagomarsino, Elisa Misley, Tommaso Rossi, Luca Roascio, Imma Ceriello, Filippo Gandolfi, Giannella Pinna and Martina Maffioletti), Department of Informatics, Bioengineering, Robotics and System Engineering (DIBRIS), University of Genoa, GE, Italy. 3 Bachelor Students (Andrea Faruffini, Maria Eugenia Cordera and Stefano Biondi), Department of Informatics, Bioengineering, Robotics and System Engineering (DIBRIS) and Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics and Maternal and Child Sciences (DINOGMI), University of Genoa, GE, Italy.

Teaching Activities

A.Y. 2022/ 2023	**Teaching Assistant for the "Biomedical Robotics" course** Robotics Engineering curricula DIBRIS, University of Genoa, Genoa (GE), Italy
Jun. and Oct. 2022	**Main Instructor for the module on "Aspetti di ingegneria biomedica nella gestione del paziente con mielolesione"** in the Asl2 savonese professional training course titled "Gestione multidisciplinare della Mielolesione" Santa Corona Hospital, Asl2 Savonese, Pietra Ligure (SV), Italy

Editorial Activities

2023	**Reviewer**
	2023 IEEE-RAS-EMBS International Conference on Rehabilitation Robotics (ICORR)

Reviewer

2023 45th Annual International Conference of the IEEE Engineering in Medicine & Biology Conference (EMBC)

2020 **Reviewer**

2020 8th IEEE RAS/EMBS International Conference on Biomedical Robotics & Biomechatronics (BIOROB)

Memberships of scientific societies

2022- Society for Neuroscience, Washington, D.C., USA;

2023 Institute of Electrical and Electronics Engineers Society (IEEE society), USA;

Invited talks, presentations and events

Invited Talks

- "Dyadic Body-Machine Interface: The Effects on Unimpaired and Cervical Spinal Cord Injury Individuals" at the University of Genoa (Italy), July 2023;
- "Driving simulator for assessing the driving abilities of individuals with spinal cord injury" at the "Giornata restituzione della ricerca" organized by the Spinal Cord Unit, Santa Corona Hospital, Italy, April 2023;
- "Archery biomechanics: advanced analysis techniques for the characterization of movement and muscle activation in able-bodied and spinal cord injured archers" at the event "Archery, a sport for everyone" organized by Santa Corona Hospital, Italy, April 2022;
- "Strumenti digitali e robotici per l'inclusione" at a webinar organized by Scuola di Robotica, January 2022;
- "Body-Machine Interfaces for rehabilitation and assistance of people with a spinal cord injury" at University of Genoa (Italy), December 2021;
- "Valutazione della mobilità residua e del recupero motorio in seguito a riabilitazione con tecnologie personalizzate" at the Annual Seminar of the Italian Spinal Cord Society (SIMS 2021), November 2021;
- "Walking after incomplete spinal cord injury: changes in muscle activations due to training with a robotic powered exoskeleton" at the University of Genoa (Italy), November 2020;
- "The inner pendulum of bodily awareness: an investigation of vestibular contribution in the body representation of spinal cord injured individuals" at the "Incontro annuale SCI-Research Group" organized by the University of Verona, Verona (Italy), November 2019.

Oral Presentations

- "Valutazione funzionale dei movimenti e delle attivazioni muscolari degli arti superiori in seguito a lesione midollare cervicale" at the Italian Spinal Cord Society XIX National Congress (SIMS 2022), November 10-12, 2022;
- "Effects of a robotic end-effector device on muscle patterns while walking under different levels of assistance" at the XXII annual congress of the Italian society for analysis of movement in the clinic (SIAMOC) in Bari, Italy, October 5-8, 2022;
- "Walking after incomplete spinal cord injury: changes in muscle activations due to training with a robotic powered exoskeleton" at Biomedical Robotics and Biomechatronics 2020 (BioRob 2020), November 29 - December 1, 2020.

Events

- Multiplier Event ROaD Education (in-person), organized within the Erasmus+ "ROaD Education" project by Scuola di Robotica, GE, Italy, March 2023;
- Campionati di Robotica (online), organized by Scuola di Robotica, GE, Italy, April 2022;
- Abilitando 2019 (in-person), organized by Abilitando Onlus, AL, Italy, October 2019.

Scientific conferences and seminars

2022 **Society of Neuroscience 2022** (SFN 2022), in-person, San Diego (USA), November 12-16, 2022;

XXII annual congress of the Italian society for analysis of movement in the clinic (SIAMOC), in-person, Bari (Italy), October 5-8, 2022;

31st Annual Meeting of the Neural Control of Movement Society (NCM), in-person, Dublin (Ireland) July 25-29, 2022;

1st International Gender for Excellence in Research Conference (GenderEx), in-

person, Istanbul (Turkey), June 18-19, 2022;

2021   **Annual Seminar of the Italian Spinal Cord Society** (SIMS), online, November 18-20, 2021;

7° Annual Meeting of the SCI – Research group, online, Verona (Italy), November 12, 2021;

2020   **International Society of Electrophysiology and Kinesiology 2020 Virtual Congress** (ISEK), online, July 12-1, 2020;

Biomedical Robotics and Biomechatronics 2020 (BioRob 2020), online, New York (USA), November 29 - December 1, 2020;

International Conference on NeuroRehabilitation 2020 (ICNR 2020), online, October 13-16, 2020;

Scientific publications

Orcid ID: https://orcid.org/0000-0002-5085-6689

Journal Papers

1. **Bellitto** A, De Luca A, Gamba S, Losio L, Massone A, Casadio* M, & Pierella* C, "Clinical, kinematic and muscle assessment of bilateral coordinated upper-limb movements following cervical spinal cord injury", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, (under review), 2023.

2. **Bellitto** A, Marchesi G, Comini M, Massone A, Casadio M, and De Luca A. "Electromyographic and Kinematic Evaluation of Bench Press Exercise: A Case Report Study on Athletes with Different Impairments and Expertise", *Sport Sciences for Health*, 0123456789, 2022.

3. Ricci S, Gandolfi F, Marchesi G, **Bellitto** A, Basteris A, Canessa A, Massone A, and Casadio M, "ADRIS: The new open-source accessible driving simulator for training and evaluation of driving abilities", *Computer Methods and Programs in Biomedicine*, Volume 221, 2022.

4. **Bellitto*** A, De Luca* A, Mandraccia S, Marchesi G, Pellegrino L, Coscia M, Leoncini C, Rossi L, Gamba S, Massone A, & Casadio M. "Exoskeleton for Gait Rehabilitation: Effects of Assistance, Mechanical Structure, and Walking Aids on Muscle Activations". *Appl. Sci.* 2019, 9, 2868. (* indicates equal contribution).

Conferences Proceedings (full papers - peer reviewed)

1. Grassi L, Canepa D, **Bellitto** A, Casadio M, Massone M, Recchiuto C T, & Sgorbissa A, "Diversity-Aware Verbal Interaction Between a Robot and People With Spinal Cord Injury", *32nd IEEE International Conference on Robot and Human Interactive Communication* (RO-MAN 2023), Busan (Korea), August 28-31, 2023.

2. Misley E, Rizzoglio F, **Bellitto** A, Massone A, Russo D, Carlini G, Casadio M, & Pierella C, "Non-linear dimensionality-reduction approach for powered wheelchair control", *VIII Congress of the National Group of Bioengineering* (GNB), Padova (Italy), June 21-23, 2023.

3. **Bellitto** A, Mandraccia, S, Leoncini, C, Rossi L, Gamba S, Massone A, Casadio M, & De Luca A, "Walking after incomplete spinal cord injury: changes in muscle activations due to training with a robotic powered exoskeleton", *International Conference for Biomedical Robotics and Biomechatronics 2020* (BioRob 2020), New York (USA), November 29 - December 1, 2020.

4. Marchesi G, Ricaldone E, De Luca A, Torre K, Quinland K, **Bellitto** A, Squeri V, Massone A, Casadio M, & Canessa A, "A robot-based assessment of trunk control in Spinal Cord Injured athletes*", International Conference for Biomedical Robotics and Biomechatronics 2020* (BioRob 2020), New York (USA), Nov. 29 – Dec. 1, 2020.

5. **Bellitto*** A, Gandolfi* F, Basteris A, Canessa A, Massone A, Ricci S, & Casadio M, "An open-source, wheelchair accessible and immersive driving simulator for training people with Spinal Cord Injury", *International Conference on NeuroRehabilitation 2020*, online, October 13-16, 2020 (*indicates equal contribution).

6. Marchesi G, **Bellitto** A, Ricaldone E, De Luca A, Sanfilippo C, Torre K, Quinland E, Saglia J, Squeri V, Massone A, Casadio M, & Canessa A, "Evaluation of balance abilities in expert Paralympic athletes with lower limb amputation", *International Conference on NeuroRehabilitation 2020*, online, October 13-16, 2020.

Conferences Proceedings (extended abstract)

1. Bellitto A, Biasotti G, Freccero A, Romani P, Traverso N, Canessa A, Casadio M, Massone A, Ricci S, & Pierella C, "Driving simulator for assessing the driving abilities of individuals with spinal cord injury", *Italian Society of the Clinical Movement Analysis XXII Annual Congress* (SIAMOC 2023), Rome (Italy), October 4-7, 2023.
2. Marchesi G, **Bellitto** A, Torre K, Quinland E, Gamba S, De Luca A, Canessa A, Squeri V, Massone A, & Casadio M, "Valutazione del controllo di tronco e della core stability in soggetti affetti da lesioni al midollo spinale", *XIX National Congress of the Italian Spinal Cord Society* (SIMS), Bari (Italy), November 10-12, 2022.
3. Marchesi G, **Bellitto** A, Torre K, Quinland E, Gamba S, De Luca A, Canessa A, Squeri V, Massone A, & Casadio M, "Valutazione del controllo di tronco e della core stability in soggetti affetti da lesioni al midollo spinale", *XIX National Congress of the Italian Spinal Cord Society* (SIMS), Bari (Italy), November 10-12, 2022.
4. **Bellitto** A, De Luca A, Casadio M, Galofaro E, Gamba S, Losio L, Pierella C, & Massone A, "Valutazione funzionale dei movimenti e delle attivazioni muscolari degli arti superiori in seguito a lesione midollare cervicale", *XIX National Congress of the Italian Spinal Cord Society* (SIMS), Bari (Italy), November 10-12, 2022.
5. **Bellitto** A, Roascio L, Rossi T, Marchesi G, Pierella C, Massone A and Casadio M. "Effects of a robotic end-effector device on muscle patterns while walking under different levels of assistance", *Italian Society of the Clinical Movement Analysis XXII Annual Congress* (SIAMOC 2022), Bari (Italy), October 5-8, 2022.
6. Marchesi G, **Bellitto** A, Torre K, Quinland E, Gamba S, De Luca A, Canessa A, Squeri V, Massone A, and Casadio M., "Assessment of trunk control and core stability in spinal cord injured subjects", *Italian Society of the Clinical Movement Analysis XXII Annual Congress* (SIAMOC 2022), Bari (Italy), October 5-8, 2022.
7. **Bellitto** A, De Luca A, Casadio M, Galofaro E, Gamba S, Losio L, Massone A, Muller I, Pierella C, "Functional evaluation of upper limb movement and muscle strategies after cervical spinal cord injury", *International Society of Electrophysiology and Kinesiology Virtual Congress* (ISEK), July 12-14, 2020.
8. Marchesi G, Pinna G, **Bellitto** A, Canessa A, De Luca A, Saglia J, Sanfilippo C, Squeri V, & Casadio M, "A robot-based evaluation of the volitional component of pelvis and trunk control", *International Society of Electrophysiology and Kinesiology Virtual Congress* (ISEK), July 12-14, 2020.
9. Galofaro E, De Luca A, Pierella C, Tasso E. ; Cervetto F, **Bellitto** A, Matera V, Gamba S, Losio L, Venegoni A, Mandraccia S, Muller I, Pini D, Leoncini C, Quinland E, Massone A, & Casadio M, "Instrumental evaluation of upper limb movements in subjects after cervical spinal cord injury", *Italian Society of the Clinical Movement Analysis XVIII Annual Congress* (SIAMOC 2017), Turin (Italy), October 4-7, 2017.

Conferences Proceedings (selected abstract)
1. **Bellitto** A, Casadio M, Mussa-Ivaldi FA, & Pierella C, "Effects of synergic practice on motor learning", *Society of Neuroscience 2022* (SFN 2022), San Diego (USA), November 12-16, 2022
2. **Bellitto** A, Casadio M, Mussa-Ivaldi FA, & Pierella C, "Individual and dyadic learning with a Body-Machine Interface", *Society for the Neural Control of Movement 2022 Annual Meeting* (NCM 2022), Dublin (Ireland), July 25-29, 2022.
3. **Bellitto** A, "Gender inclusion in the development of lower-limb exoskeletons for gait rehabilitation and assistance", *1st International Gender for Excellence in Research Conference*, Istanbul (Turkey), June 18-19, 2022.