Jacopo Secco

Ph.D. in Engineering, MBA

Experience

2019–Current **Chief Technical Officer and Data Protection Officer**, *Omnidermal Biomedics s.r.l.*, Torino, Italy.

2015–Current **Co-founder and Inventor**, *Omnidermal Biomedics s.r.l.*, Torino, Italy.

Omnidermal Biomedics is an innovative start-up and spin-off of Politecnico di Torino. Omnidermal Biomedics is devoted in developing and commercializing the Wound Viewer, the first tele-medical device for the the assessment and follow-up of chronic wounds based on AI algorithms. Its mission is to provide innovative solutions for improving patient's lives, reducing National Health System's costs in the field of dermatology and wound care. The company became corporate in 2017 and received grants and seed funding from private and public investors. During COVID-19 Pandemic, Omnidermal Biomedics has been the only company funded by the national innovation agency (Invitalia) for the development and the market entry of a new model automatic ventilators, the Automatic Breathing Unit (ABU). Omnidermal Biomedics was able to develop the device, certify it and bring it to market by the end of 2020.

- **Co-inventor of the proprietary technology and responsible of the related IP.**
- **Responsible for the product development and the R&D operations, both business and technology driven.**
- **Responsible strategic relations with technical partners and key opinion leaders.**
- **Responsible for the IT architecture and the data management operations of the Company.**
- **Lead business developer: managed the business relationships of the company with the international commercial partners, developed new business leads for market entries, expanded the commercial reach of the products in new countries (Italy, Denmark, Sweden, Norway, Kuwait, India, Czech Republic, Germany, Switzerland, Austria and Spain.**

2017–2019 **Business Control Manager - Research Activity Operations and Campus Area**, *Humanitas S.p.A.*, Milano, Italy.

Responsible of the manageent accounting, business development and cost control of the Competitive Research Department and of the Campus Area. The duties regarding the position include:

- **Inter-company cost management and budgeting** of the areas involved with the reserch facility and the Campus (Istituto Clinico Humanitas, Humanitas University and Fondazione Humanitas per la Ricerca).
- **Financial planning and management** of the competitive funds derived from internal reserch and development (clinical and pre-clinical).
- **Business development and planning** for projects born from the internal IP.
- **Partnership and commercial development** for external start-ups and scale-up companies which are interested in developing thier solutions in cooperation with the companies of the Humanitas Group.

2014–2017 **Research Fellow and Inter-University Project Responsible**, *Politecnico di Torino*, Torino, Italy.

- **Product management and business development** on internally invented technologies based on medical data analysis and tele-medicine through IA and machine learning algorithms.
- **Project Responsible** for inter-university research, exchange and cooperation programs with EPFL (Lausanne, Switzerland), TUD (Dresden, Germany), Le Havre University (Le Havre, France) and Kookmin University (Seoul, South Korea).
- **Technical consultant** for external companies: Ospedale S. Anna (Torino, Italy), AIAS s.r.l. (Torino, Italy) and DeFa Engineering (Napoli, Italy).
- **Co-founder of Politecnico di Torino Spin-off** in medical device development and marketing.
- **Researcher and developer** of neuromorphic systems and neural networks with memristors for different applications based on Big Data.

2012–2013 **Graduate Research Fellow**, *Houston Methodist Research Institute*, Houston, TX, USA.

Researcher in the goup of Dr. Alessandro Grattoni in the nano-Delivery System (nDS) project.

- System development.
- In vivo testing.

2008–2010 **English Teacher**, *Single Point Languages*, Torino, Italy.

English teacher for students and professionals.

2007–2008 **Officer Cadet**, *Accademia Militare di Modena*, *Esercito Italiano (Italian Army)*, Modena, Italy.

Operative command military training.

Education

2017 **Master in Business and Administration (MBA)**, *Collège des Ingénieurs*, Torino, Italy - Paris, France - Munich, Germany.

Tuition fee sponsored by Humanitas S.p.A.

2014–2017 **Doctor of Philosophy (Ph.D.)**, *Politecnico di Torino*, Torino, Italy, *Electronic Engineering*.

Memristive Neural Networks and Neuromorphic Systems: Design and Applications. Under the supervision of Prof. Fernando Corinto.

2013–2014 **Master "Talenti per l'Impresa"**, *SAA- School of Management*, *Università di Torino*, Torino, Italy, *Business and Administratiom*.
100-hour master course offers the managerial skills and tools to launch entrepreneurial projects and manage them at best.

2011–2013 **Master of Science (M.S.)**, *Politecnico di Torino*, Torino, Italy, *Biomedical Engineering*.

2008–2012 **Bachelor of Science (B.S.)**, *Politecnico di Torino*, Torino, Italy, *Biomedical Engineering*.

2002–2007 **High School Diploma**, *Collegio San Giuseppe*, Torino, Italy, *Scientific Career*.

1992–2002 **Primary and Secondary Schools**, *American Cultural Association of Turin (A.C.A.T.)*, Torino, Italy, *Bi-Language School*.

Languages

Italian **Mother Tongue** *Bilingual*

English **Mother Tongue** *Bilingual*

French **Full Professional Proficiency**

Spanish **Professional Proficiency**

Organizations

Rotary Club Torino Lagrange **Member** since 2022.

IEEE (2015) **Member** of the *Circuits and Systems (CAS)* and the *Engineering in Medicine and Biology (EMBS)* societies.

Rotaract Club (2011)
- **First President and Co-founder** of the Rotaract Club Torino Castello Valsangone.
- **Turin Zone Delegate:** management of the fund raising and volounteering activity of all the members resident in the Turin zone *(21 clubs, approximately 300 members)*.

Certifications

Certified Engineer (2015) Albo degli Ingegneri della Provincia di Torino, Licence number 12904

TKT (2008) Cambridge English Language Assessment

CPE (2004) Cambridge English Language Assessment

Prizes and Recognitions

- **Winner Premio Forum PA** (FPA SPA-Digital 360, 2019) As co-founder of Omnidermal Biomedics. The Prize was Awarded for the achievements maken by the company and its co-founders in the field of public health.

- **Winner Premio Leonardo Start Up 2018** (Premio Leonardo SPA, 2019) As co-founder of Omnidermal Biomedics. The Prize was Awarded for the high tecnological level of the company and its mission directed towards a major social problem. The Prize was awarded to the Founders by the President of the Italian Republic Sergio Mattarella, the Prime Minister Giuseppe Conte and the Minister for Economic Development Luigi di Maio.
- **Winner of Strat Cup - Piemonte e Val D'Aosta** (Start Cup, 2017) As co-founder of Omnidermal: start-up company and Politecnico di Torino's Spin-off devoted in developing and introdicing to the market the Wound Viewer.
- **BioUpper top 10 Innovative Ideas** (BioUpper-Novartis, 2017) As project leader of the "Wound Viewer" team: start-up company devoted in developing innovative solutions in wound care based on IA algorithms. Awarded by the Italian Minister of Health
- **EIA Top 10 Innovation Ideas** (European Innovation Accademy, 2016) As CEO of the "Wound Viewer" team: devoted in the development and acceleration of the business idea on a telemedical system for wound care.
- **COST Action Short Term Scientific Mission (STSM) Grant** (COST Action, 2015) Research grant awarded for a short term scientific mission at EPFL.
- **Proof of Concept Grant** (Politecnico di Torino, 2016) Research grant awarded for for developing innovative solutions in wound care based on IA algorithms - e 50.000 funded.
- **Paul Harris Fellow (PHF)** (Rotary International, 2012) "For outstanding work and leadership in the service of others."
- **Rotary Youth Leadership Award (R.Y.L.A.)** (Rotary International, 2011) Selected for a course on the "Leader's Communication Skills".

Patents and Publications

Patents

- **Device and method of acquisition of medical images for ulcer analysis** (WO2017/109719A1, 23 December 2015) Tele-medical device for remote control of ulcers and cutaneous malformations.
- **Classification and correlaion method between the skin's pathological state and the correct posology** (WO2019/021085, 25 July 2017) Method for predicting the pathological state of a skin malformation and correlating the patient and the pathoogy to the correct posology.
- **Device and method for the assesment and follow-up of cutaneaous pathologies** (IT01180668942544, 21 November 2018) Tele-medical device for identifying cutaneous infections ans inflammations through innovative machine learning algorithms.
- **Method to automatically inspect a product and its system** (IT102021000007718, 24 March 2021) Method and an inspection system for automatically checking for the presence of external defects within the product.

- **System for the production of a distilled product** (IT102021000021899, 13 August 2021) The present invention relates to a system and method for producing a distilled product according to claim. In particular, the present invention discloses a system and method for producing a distilled product capable of improving the functionality and efficiency of known state-of-the-art distilled product production systems.

Publications

- Secco, J., Pittarello, M., Begarani, F., Sartori, F., Corinto, F., & Ricci, E. (2022, October). Memristor Based Integrated System for the Long-Term Analysis of Chronic Wounds: Design and Clinical Trial. In 2022 29th IEEE International Conference on Electronics, Circuits and Systems (ICECS) (pp. 1-4). IEEE.
- Marrone, F., Secco, J., Kersting, B., Le Gallo, M., Corinto, F., Sebastian, A., & Chua, L. O. (2022). Experimental validation of state equations and dynamic route maps for phase change memristive devices. Scientific Reports, 12(1), 6488.
- Secco, J., Lanza, V., & Corinto, F. (2021). Blinking networks of memristor oscillatory circuits in the flux-charge domain. Frontiers in Neuroscience, 15, 411.
- Zoppo, G., Marrone, F., Pittarello, M., Farina, M., Uberti, A., Demarchi, D., Secco, J., Corinto, F., & Ricci E. (2020). AI technology for remote clinical assessment and monitoring. Journal of Wound Care, 29(12), 692-706.
- Secco, J., Poggio, M., & Corinto, F. (2018). Supervised neural networks with memristor binary synapses. International Journal of Circuit Theory and Applications, 46(1), 221-233.
- Secco, J., Corinto, F.,& Sebastian, A. (2018). Flux–charge memristor model for phase change memory. IEEE Transactions on Circuits and Systems II: Express Briefs, 65(1), 111-114.
- Farina, M., & Secco, J. (2017, October). Live demonstration: 3D wound detection & tracking system based on artificial intelligence algorithm. In Biomedical Circuits and Systems Conference (BioCAS), 2017 IEEE (pp. 1-1). IEEE.
- Kim, Y. S., Shin, S. H., Secco, J., Min, K. S., & Corinto, F. (2017). Memristor-Based Platforms: A Comparison Between Continous-Time and Discrete-Time Cellular Neural Networks. In Advances in Neuromorphic Hardware Exploiting Emerging Nanoscale Devices (pp. 65-79). Springer, New Delhi.
- Secco, J., & Corinto, F. (2016, August). Memristor-Based Binary Synapses for Deep Neural Networks. In CNNA 2016; 15th International Workshop on Cellular Nanoscale Networks and their Applications; Proceedings of (pp. 1-2). VDE.
- Secco, J., Farina, M., Demarchi, D., Corinto, F., & Gilli, M. (2016, May). Memristor cellular automata for image pattern recognition and clinical applications. In 2016 IEEE International Symposium on Circuits and Systems (ISCAS) (pp. 1378-1381). IEEE.
- Secco, J., Farina, M., Demarchi, D., & Corinto, F. (2015, November). Memristor cellular automata through belief propagation inspired algorithm. In 2015 International SoC Design Conference (ISOCC) (pp. 211-212). IEEE.

- Secco, J., Biey, M., Corinto, F., Ascoli, A., & Tetzlaff, R. (2015, August). Complex behavior in memristor circuits based on static nonlinear two-ports and dynamic bipole. In Circuit Theory and Design (ECCTD), 2015 European Conference on (pp. 1-4). IEEE.
- Orlowski, M., Secco, J., & Corinto, F. (2015). Chua's Constitutive Memristor Relations for Physical Phenomena at Metal–Oxide Interfaces. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 5(2), 143-152.
- Secco, J., & Corinto, F. (2015, May). Memristor-based cellular nonlinear networks with belief propagation inspired algorithm. In 2015 IEEE International Symposium on Circuits and Systems (ISCAS) (pp. 1522-1525). IEEE.
- Secco, J., Vinassa, A., Pontrandolfo, V., Baldassi, C., & Corinto, F. (2015). Binary Synapse Circuitry for High Efficiency Learning Algorithm Using Generalized Boundary Condition Memristor Models. In Advances in Neural Networks: Computational and Theoretical Issues (pp. 369-374). Springer International Publishing.
- Secco, J., Corinto, F., & Orlowski, M. (2015, March). Physics of the rupturing mechanism for HP memristor in flux mode. In PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON NUMERICAL ANALYSIS AND APPLIED MATHEMATICS 2014 (ICNAAM-2014) (Vol. 1648, No. 1, p. 280004). AIP Publishing.