

CURRICULUM VITAE
EUROPEAN FORMAT**PERSONAL INFORMATION**

Name, Surname	Alfredo Ronca
Work address	Institute of Polymers, Composites and Biomaterials – National Research Council (IPCB-CNR). V.le Kennedy 54, 80125, Naples, Italy
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Sex	Male
Nationality	Italian
Place and Date of birth	Scafati (Italy) 05/12/1982
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Researcher ID	K-7603-2016;

WORK EXPERIENCE

04/2013 - today	Researcher Institute for Polymers, Composites and Biomaterials (IPCB), National Research Council of Italy (CNR). Viale Kennedy 54, Mostra d'Oltremare pad. 20, 80125 Naples, Italy
04/2012 – 03/2013	Post-doctoral research Institute for Composite and Biomedical Materials (IMCB), National Research Council of Italy (CNR), P.le Tecchio 80, 80125 Naples, Italy. Project: “Novel method of reparation and regeneration of injured human tissue”, (MERIT Project)
01/2011 – 01/2012	Post-doctoral research Institute for Composite and Biomedical Materials (IMCB), National Research Council of Italy (CNR), P.le Tecchio 80, 80125 Naples, Italy Project: “Design and realization of PDLLA/nano-hap composite scaffolds through stereolithography technique”
02/2007 – 10/2007	Research assistant Institute for Composite and Biomedical Materials (IMCB), National Research Council of Italy (CNR), P.le Tecchio 80, 80125 Naples, Italy. Project: “Bioactive composite scaffold for Bone Regeneration: from the process to the biological evaluation”
06/2004 – 09/2004	Industrial placement Project: “Implementation of environmental management system to obtain ISO14001 certification”, Bormioli Rocco & Figlio Spa, 27055 Rivanazzano, Italy

EDUCATION AND TRAINING

11/2007 – 12/2010	PhD in Materials' Engineering and Production at Federico II University of Naples Thesis title: “Bioactive composite scaffolds for Bone Regeneration: from the process to the biological evaluation”
09/2004 – 12/2006	Master's Degree in Material's Engineering at Federico II University of Naples Thesis title: “Preparation and characterization of PCL/hydroxyapatite composite scaffolds for bone regeneration”
09/2001 - 09/2004	Bachelor's degree in Material's science and engineering at Federico II university of Naples Thesis title: “Study for Noise reduction from a cooling tower”

RESEARCH ACTIVITY

Research sectors / Strategic areas	Rapid prototyping, Composite materials, Biomaterials, Chemico-physical characterization, Chemical modification of polymers, 3D printed orthosis
Project Responsibilities	<p>H2020-MSCA-RISE-2016 - Secondment for the development of Research Innovation in Biomaterial Rapid Prototyping (SECOND R.I. – Prop. Num.: 734391). (WP 1 Coordinator). Work activities: Synthesis and characterization of nanocomposites based on natural polymers for the regeneration of osteochondral tissue and the study of the possibility of transferring the scientific results achieved to the market</p> <p>Short Term Mobility Project 2016 “Highly reactive, photo-crosslinkable polymers for 3D-printing of biomedical devices” assigned by National Research Council (CNR) - prot. 0000732 del 11/03/2016. Work activities: Synthesis of a Photo-crosslinkable resin based on chemically-modified polycaprolactone for application in stereolithography</p> <p>EMPATIA (Empowerment del PAzienTE in cAsa” nell’ambito del bando FONDAZIONE CARIPLO – Interventi Emblematici Maggiori 2016 in Provincia di Lecco – cofinanziamento di Regione Lombardia, approvato con DGR n. 6363 del 30/05/2017) (Coordinator OR 3 – back brace realization). Work activities: Design, realization and characterization of a new generation of orthopaedic back braces by 3D printing.</p> <p>H2020-NMBP-TR-IND-2018-2020 MEFISTO (Meniscal functionalised scaffold to prevent knee Osteoarthritis onset after meniscectomy - SEP-210512816). (WP3 Coordinator). Work activities: Realization and characterization of functional scaffolds for meniscus regeneration using additive technologies</p> <p>Fabbricazione ADditiva mediante tecnologia binder Jetting di componenti metallici OsteoINTEGRabili sinterizzati (PR19-PAS-P4 - ADJOINT) (Project coordinator) Work activities: Development and characterization of antibacterial coating based on chemically modified natural polymer for 3D printed metal implant</p>
Institutional Responsibilities	Manager for the laboratory of Biomaterials at the IPCB-CNR and my duties include safety, laboratory supplies, equipment management and supervising chemical synthesis
Publications	Total publication: 30 DOCUMENTS ON ISI, 26 DOCUMENTS ON SCOPUS Publication in the last ten years: 27 according to ISI, 24 according to Scopus Citations: 525 according to ISI; 598 according to Scopus h-index: 13 according to WebofScience, 14 according to Google scholar

Reviewing activities	Guest Editor of 3D Printing and Biomaterials for Biological and Medical Application" - A special issue of International Journal of Molecular Sciences (ISSN 1422-0067).
Awards	10th World Biomaterials Congress (WBC 2016): WBC 2016 trainee Award for the abstract entitled "Synthesis of photocrosslinkable divinyl-fumarate poly-epsilon-caprolactone for stereolithography applications". Montreal, 17th - 22th May 2016.
Main collaborations	<p>Prof. H. Xia - State key Laboratories of Polymer Materials Engineering, Sichuan University – Chengdu – China.</p> <p>Prof Y. Fan - National Engineering Research Center for Biomaterials (NERCB) - Sichuan University - China</p> <p>Prof. D.W. Grijpma - Faculty of Science and Technology (TNW), Advanced Organ bioengineering and Therapeutics (AOT) – University of Twente - Netherland</p> <p>Prof Riccardo Levato - University Medical Center Utrecht (UMCU)- Netherland</p> <p>Prof Matteo Santin - Centre for Regenerative Medicine and Devices – University of Brighton - UK</p>

REPRESENTATIVE PUBLICATIONS

1. Ronca, A., Ambrosio, L., & Grijpma, D. W. (2013). Preparation of designed poly (d, l-lactide)/nanosized hydroxyapatite composite structures by stereolithography. *Acta biomaterialia*, 9(4), 5989-5996. IF: 8.947
2. Ronca, A., Ambrosio, L., & Grijpma, D. W. (2012). Design of porous three-dimensional PDLLA/nano-hap composite scaffolds using stereolithography. *Journal of applied biomaterials & functional materials*, 10(3), 249-258. IF: 2.604
3. Ronca, A., Guarino, V., Raucci, M. G., Salamanna, F., Martini, L., Zeppetelli, S., ... & Ambrosio, L. (2014). Large defect-tailored composite scaffolds for in vivo bone regeneration. *Journal of Biomaterials Applications*, 29(5), 715-727. IF: 2.646
4. Ronca, A., Guarino, V., Raucci, M. G., Salamanna, F., Martini, L., Zeppetelli, S., ... & Ambrosio, L. (2014). Mineralized fiber reinforced composites for in vivo bone regeneration. *Journal of tissue engineering and regenerative medicine*, 8, 496. IF: 3.963
5. De Santis, R., D'Amora, U., Russo, T., Ronca, A., Gloria, A., & Ambrosio, L. (2015). 3D fibre deposition and stereolithography techniques for the design of multifunctional nanocomposite magnetic scaffolds. *Journal of Materials Science: Materials in Medicine*, 26(10), 1-9. IF: 3.896
6. Guarino, V., Veronesi, F., Marrese, M., Giavaresi, G., Ronca, A., Sandri, M., ... & Ambrosio, L. (2016). Needle-like ion-doped hydroxyapatite crystals influence osteogenic properties of PCL composite scaffolds. *Biomedical Materials*, 11(1), 015018. IF: 3.715
7. Ronca, A., Maiullari, F., Milan, M., Pace, V., Gloria, A., Rizzi, R., ... & Ambrosio, L. (2017). Surface functionalization of acrylic based photocrosslinkable resin for 3D printing applications. *Bioactive Materials*, 2(3), 131-137. IF: 16.44
8. Zhang, B., Pei, X., Zhou, C., Fan, Y., Jiang, Q., Ronca, A., ... & Zhang, X. (2018). The biomimetic design and 3D printing of customized mechanical properties porous Ti6Al4V scaffold for load-bearing bone reconstruction. *Materials & Design*, 152, 30-39. IF: 7.991
9. Ronca, A., Ronca, S., Forte, G., Zeppetelli, S., Gloria, A., De Santis, R., & Ambrosio, L. (2018). Synthesis and characterization of divinyl-fumarate poly-ε-caprolactone for scaffolds with controlled architectures. *Journal of tissue engineering and regenerative medicine*, 12(1), e523-e531. IF: 3.963.

10. D'Amora, U., Ronca, A., Raucci, M. G., Lin, H., Soriente, A., Fan, Y., ... & Ambrosio, L. (2018). Bioactive composites based on double network approach with tailored mechanical, physico-chemical, and biological features. *Journal of Biomedical Materials Research Part A*, 106(12), 3079-3089. IF: 5.09
11. Ronca, A., D'Amora, U., Raucci, M. G., Lin, H., Fan, Y., Zhang, X., & Ambrosio, L. (2018). A combined approach of double network hydrogel and nanocomposites based on hyaluronic acid and poly (ethylene glycol) diacrylate blend. *Materials*, 11(12), 2454. IF: 3.748
12. Raucci, M. G., D'Amora, U., Ronca, A., Demitri, C., & Ambrosio, L. (2019). Bioactivation routes of gelatin-based scaffolds to enhance at nanoscale level bone tissue regeneration. *Frontiers in bioengineering and biotechnology*, 7, 27. IF: 5.890
13. Ronca, A., Rollo, G., Cerruti, P., Fei, G., Gan, X., Buonocore, G. G., & Ambrosio, L. (2019). Selective laser sintering fabricated thermoplastic polyurethane/graphene cellular structures with tailorable properties and high strain sensitivity. *Applied Sciences*, 9(5), 864. IF: 2.679
14. Gan, X., Wang, J., Wang, Z., Zheng, Z., Lavorgna, M., Ronca, A., & Xia, H. (2019). Simultaneous realization of conductive segregation network microstructure and minimal surface porous macrostructure by SLS 3D printing. *Materials & Design*, 178, 107874. IF: 7.991
15. D'Amora, U., Ronca, A., Raucci, M. G., Dozio, S. M., Lin, H., Fan, Y., ... & Ambrosio, L. (2019). In situ sol-gel synthesis of hyaluronan derivatives bio-nanocomposite hydrogels. *Regenerative biomaterials*, 6(5), 249-258. IF: 5.17
16. Zhang, L., D'Amora, U., Ronca, A., Li, Y., Mo, X., Zhou, F., ... & Raucci, M. G. (2020). In vitro and in vivo biocompatibility and inflammation response of methacrylated and maleated hyaluronic acid for wound healing. *RSC advances*, 10(53), 32183-32192. IF: 4.036
17. Bychanok, D., Gorokhov, G., Plyushch, A., Ronca, A., Lavorgna, M., Xia, H., & Kuzhir, P. (2020). Terahertz optics of materials with spatially harmonically distributed refractive index. *Materials*, 13(22), 5208. IF: 3.623
18. Raucci, M. G., D'Amora, U., Ronca, A., & Ambrosio, L. (2020). Injectable functional biomaterials for minimally invasive surgery. *Advanced healthcare materials*, 9(13), 2000349. IF: 9.933
19. Rollo, G., Ronca, A., Cerruti, P., Gan, X. P., Fei, G., Xia, H., & Ambrosio, L. (2020). On the synergistic effect of multi-walled carbon nanotubes and graphene nanoplatelets to enhance the functional properties of SLS 3D-printed elastomeric structures. *Polymers*, 12(8), 1841. IF: 4.329
20. Redaelli, D. F., Abbate, V., Storm, F. A., Ronca, A., Sorrentino, A., De Capitani, C., & Frascini, P. (2020). 3D printing orthopedic scoliosis braces: A test comparing FDM with thermoforming. *The International Journal of Advanced Manufacturing Technology*, 111(5), 1707-1720. IF: 3.226
21. Venumbaka, S. A., Covarubias, M., Cesaro, G., Ronca, A., Capitani, C. D., Ambrosio, L., & Sorrentino, A. (2020, September). Application of Multi Materials Additive Manufacturing Technique in the Design and Manufacturing of Hand Orthoses. In *International Conference on Computers Helping People with Special Needs* (pp. 461-468). Springer, Cham.
22. D'Amora, U., Ronca, A., Raucci, M. G., & Ambrosio, L. (2022). Overview of scaffolds processing technologies. In *Tissue Engineering Using Ceramics and Polymers* (pp. 215-262). Woodhead Publishing.
23. Ferroni, L., Gardin, C., D'Amora, U., Calzà, L., Ronca, A., Tremoli, E., ... & Zavan, B. (2022). Exosomes of mesenchymal stem cells delivered from methacrylated hyaluronic acid patch improve the regenerative properties of endothelial and dermal cells. *Biomaterials Advances*, 213000. IF: 7.328

REPRESENTATIVE PATENTS

1. Brevetto Nazionale (Brevetto per modello di utilità) - Strumento per uso riabilitativo
Nr. Brevetto: 202019000001526
Design, realization and characterization of rehabilitation tools (a puppet-shaped object), with a body, a head, and at least two pairs of limbs movable with respect to the body by means of ball joints. The tools have been realized by using 3D printing technique and it was designed for the rehabilitation purpose.

ADDITIONAL INFORMATION

Organization of session or mini-symposium in international & national conferences	Workshop Young scientist forum (YSF) 2021 - Innovative Strategies and biomaterials for antibiotic-resistance in the context of the National Society for Biomaterials 2021 (SIB 2021) Final Workshop SECOND. R.I. Project "A Horizon 2020 MSCA-RISE experience - Innovation in health, from ideas to applications: a system approach to design customized functional tissue analogues in the context of the Italian Society for Biomaterials congress 2019 (SIB 2019) Caserta, Italy Young Scientists Forum Workshop on "Additive manufacturing for biomedical applications", in the context of the Italian Society for Biomaterials congress 2019 (SIB 2019) Caserta, Italy
Organization of international & national conferences	National congress of the Italian Society for Biomaterials 2021 (SIB 2021). 11-14 July 2021. Lecce Italy
Invited talks to national and international conferences and/or Schools	A. Ronca, Medical application for 3D printing: from regeneration to rehabilitation. Workshop on polymer nanocomposites for 3D-printing of enhanced porous structures, 03 rd to 05 th October 2019, Capri (Italy). Advanced Biocompatible Scaffolds Obtained Through Rapid Prototyping for Tissue Engineering Applications. 15 th December 2015, Invited by Prof. Jianping Xie, Full Professor of molecular & cellular microbiology, molecular immunology, microbial pharmaceuticals at School of Life Sciences, Southwest University, China Bioactive composite scaffolds for bone regeneration: from the process to the biological validation. 26 th March 2014. Invited by Prof. Yau Yau Tse, Industrial Placement (DIS) Coordinator and Departmental Seminar Coordinator at the Department of Materials, Loughborough University, UK
Professional committees and activities	Member of Italian Society for Biomaterials (SIB). Member of European Society for Biomaterials (ESB). Member of the Italian Association for Materials Engineering (AIMAT). Italian Local Chapter for the Young Scientist forum of the European Society For Biomaterials (YSF-ESB).

DATA TREATMENT

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Date: 29/06/2022

Signature

