Laura Russo

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Summary – Biographical sketch

Laura Russo is Associate Professor at University of Milano-Bicocca and Research Affiliate at the Hospital San Gerardo dei Tintori. She is also Visiting Faculty at CÚRAM and Adjunct Lecturer at University of Galway.
Her research is focused on biomaterials for the development of biological tissues and coating of medical devices translational applications. Her research experience dates to 2010, as a PhD student in the BioOrganic research group of the University of Milano-Bicocca, developing a multidisciplinary project exploiting glycoscience in the field of biomaterials for tissue engineering.
In 2010 LR was also Visiting Researcher at Imperial College of London, studying hybrid bioglass based biomaterials for osteochondral tissue regeneration. From 2013 to 2015, as Post-doctoral Fellow at University of Milano-Bicocca, she was a unit coordinator of a research project on smart biomaterials for organoid cell cultures for cardiac tissue engineering. In October 2016, Laura was awarded an SFI Starting Investigator Research Grant (SIRG) at CÚRAM, University of Galway – where she started her research as Principal Investigator on Glycoconjugates Biomaterials for tissue engineering applications. In March 2017, she secured a faculty position at the University of Milano – Bicocca and maintained the position of visiting faculty at CÚRAM. Laura has been awarded the prestigious Junior Research Award for Organic Chemistry in Life Science of the Italian Chemical Society for her scientific contribution on organic chemistry applied to the life science field.
Laura is Member of the Scientific Advisory Board of the startup Biocompatibility Innovation srl and founder of Resyde srl – a start-up company in the field of implantable medical devices.

Education and Training

- **2012**, PhD in Industrial Biotechnologies at the University of Milano-Bicocca, Department of Biotechnology and Biosciences.
- **2007**, School of R&D Management at SDA Bocconi University (Supply Chain Management; - R&D Project Selection; - Operation Performance Measurement).
- **2006**, MSc in Industrial Biotechnologies – Processes and Products - at the University of Milano-Bicocca, Department of Biotechnology and Biosciences ("Enzymes for the production of Vitamin C: studying isolation through affinity chromatography", Prof. Francesco Nicotra).

Professional Experience

- **2024 Research Affiliate** Fondazione IRCCS San Gerardo dei Tintori (University Hospital)
- **2022 Associate Professor** at University of Milano-Bicocca and Visiting Researcher at Cùram - Centre for Research in Medical Devices, National University of Galway, Ireland.
- **2022 Founder** of Resyde srl – start-up on medical devices.
- **2021 Partner and Member of the Advisory Board** of Biocompatibility Innovation srl (BCI) (https://www.biocompatibility.bio/)
- **2018 Adjunct Lecturer** at National University of Ireland, Galway (NUIG). Department of Chemistry.
- **2017 Assistant Professor** at University of Milano-Bicocca, and Visiting Researcher at *Cùram - Centre for Research in Medical Devices, National University of Galway, Ireland.*
- **2016 Principal Investigator** - SFI Foundation SIRG scheme established "to support excellent researchers and innovative research ideas with potential economic and societal impact". Coordination of a research project focused on Glyco-functionalized hydrogels for tissue engineering applications. *Cùram - Centre for Research in Medical Devices, National University of Galway, Ireland*
- **2013** to **2015**, **Unit Coordinator** at University of Milan-Bicocca, Dept. Of Biotechnology and Biosciences, on project founded by CARIPLO Foundation on the design and synthesis of smart biomaterials for 3D cultures and Tissue Engineering.
- **2010**, **Visiting Researcher** at Imperial College of London, Department of Materials, on Design, Synthesis and Functionalization of new hybrid biomaterials for bone tissue engineering - Dr Julian R. Jones.
- **2009 - 2012**, **PhD Student** in Industrial Biotechnology at the University of Milano-Bicocca, Department of Biotechnology and Biosciences, (project on biomaterials synthesis, functionalization and characterization – Mentor: Prof. L. Cipolla).
- **2007 - 2008**, fellowship at Technology Transfer Office of University of Milan Bicocca, (ILONET Project) Technology Transfer Activities (Patents, Spin-Offs and Research Valorisation in Business Community).
- **2007** stage at Notarbatolo e Gervasi S.p.A. (Patent Trademarks Designs, European Trademark Attorneys) on Assessment of patentability. Analysis, drafting and filing of applications for Italian, European or PCT international patents.

Research Experience and Expertise

LR research is focused on the development of innovative biomaterials for life science applications. LR has a multidisciplinary expertise in bioorganic chemistry and glycoscience, material science and biotechnology, with specific interests in life-science/medical/clinical translation. Fundamental aim is to find new solutions through the development of new material-based tools, taking advantage also of last generation AI technologies. Specific interests concern biomaterials functionalization with signaling/targeting molecules such as glycans and peptides and their applications in drug delivery, regenerative medicine and 3D cell cultures. Her research activity to date allowed to design and set up different "click chemistry" strategies for covalent immobilization of several carbohydrates of biological interest on biomaterials for tissue engineering applications. In 2023 LR introduced in her research pathway the support and implementation of AI models for collaborative and predictive synthesis – still the major time-consuming and limiting activity in the translation of smart biomaterials and medical devices. Here, in summary, selected recent research outputs of LR:

A) Development of new synthetic and manufacturing strategies for sustainable biomaterials. LR has long term expertise in the valorization of biomaterials and polymers from natural sources. The research activities in the field address the open challenges to: a) characterize sustainable materials from different sources (proteins, polysaccharides and polyphenols); b) treat and functionalize the polymers using biocompatible approaches to improve their formulation; c) apply new biocompatible methodologies to control manufacturing processes and to improve the applicability of the polymers in both medical and food fields (i.e. bioprintability, coating and formulation). In this field LR is involved in collaboration with companies.

B) Development of extracellular matrix (ECM) mimics for cell fate modulation and 3D biomaterial-based 3D models. LR was among the pioneers in this field, utilizing bioorganic chemistry and glycans-functionalized polymers to craft biomolecular personalized models for cell fate modulation and 3D models. Interest is recently devoted also to the development of ***synthetic biomaterials-based 3D in vitro models.*** LR developed different 3D models for drug screening and to study the effect of biomolecular features on tissue microenvironments and pathological onset. For the first time the specificity of ECM biomolecular identity - specifically ECM glycosignature - in cell fate modulation or pathological onset was demonstrated, opening the way to new paradigms in cancer research.

C) Development of synthetic methodologies to implement medical devices properties. LR has extensive experience on chemistry of biomaterials applied to commercial or pre-clinical medical devices. She is involved in industrial activities aimed to improve implantable medical devices performance using biocompatible synthetic methodologies**.**

Awards and Honors:

- **2017 Award for innovation in research of the Italian Chemical Society** - "Organic Chemistry in Life Science" Award.

- **2018 XVI International Award Federichino 2018**. Federico II Foundation di Jesi, Palermo and Goppinghen.

- **2019 ITWIIN High Education Prize 2019.** ITWIIN Association (Italian Association of Women Inventors and Innovators**)**

- **2017 Recognition of Minister of State for Training, Skills and Innovation, John Halligan TD** - as "next leaders of research in Ireland, shaping the research community both in Ireland and internationally"

Institutional Responsibilities

- **2023 - Member of PhD Program Board** - Medicina Traslazionale e Molecolare – DIMET. Università degli Studi di Milano-Bicocca.
- **2023 - Member of PhD Board of Industrial Doctorate** establishment (Translational and Molecular Medicine Chapter).
- **2019 - 2024 President of Bicocca Alumni**. Association of Alumni of University of Milano-Bicocca (https://www.bicoccalumni.it/).

Organization of Workshop/Conferences

1. Member of Organizing Committee of **Nanomedicine 2019**. Workshop on Nanomedicine at University of Milano-Bicocca. 2-3 May 2019.

2. Member of the International Advisory Board of the **6th World Conference on Tissue Engineering International and Regenerative (TERMIS)**, Maastricht 2021.

3. Chair of the Special Symposium on "BM6 Glycoscience in tissue engineering: from glycobiomaterials to glycosignature in regeneration", **6th World Conference on Tissue Engineering International and Regenerative (TERMIS),** Maastricht 2021.

4. Organiser and Chair of the next Special Symposium "Glycomodulation Approaches in Tissue Engineering", **22th European Conference on Tissue Engineering International and Regenerative (TERMIS),** Cracovia, 28 June -1 July 2022

5. Member of the organizing committee of "**Additive manufacturing in healthcare: from 3d printing to bioprinting"** - Lake Como School of Advanced Studies - 5-9 June 2023.

Project Involvement and Coordination

- **Ministero dell'Università e della Ricerca - PRIN 2022. "**Dynamic multifunctional hydrogels for glioblastoma therapy (DINGO)", (**Coordinator**).
- **Next Generation EU (NGEU) _PNNR Plan**. ANTHEM Project "AdvaNced Technologies for Human-centEred Medicine" - PIANO NAZIONALE DEGLI INVESTIMENTI COMPLEMENTARI AL PNRR. Connecting patients and therapists through adaptive environments and intelligent sensors to enhance proximity medicine. (**Pilot 2.3 coordinator.** Smart wearable and portable sensors to monitor human healthiness and pathological states).

- **Ministero della Salute, Ricerca Finalizzata RF-2021-12371959.** "Tackling immunomodulatory properties of stromal cells to improve therapeutic strategies in lung cancer" (30.4.2023-29.4.2026)
- **Fondazione Italiana Diabete (FID)** "Bioengineering of a 3D bio-printed Vascularized Islet Construct for type 1 diabetes" (**Unit Coordinator**)
- ***POR-FESR 2014-2020 Innovazione e Competitività.* PROGETTI STRATEGICI DI RICERCA, SVILUPPO E INNOVAZIONE, Azione I.1.b.1.3-IMMUN-HUB** – Sviluppo di nuove molecole di seconda generazione per immunoterapia oncologica.
- **COST Action CA18132**, Functional Glyconanomaterials for the Development of Diagnostics and Targeted Therapeutic Probes. (**Country Representative, MC Member** UNIMIB PI Laura Russo, on going).
- **Fondo di Ateneo, Quota Competitiva (III/2017). University of Milano-Bicocca.** GLYcan functionalized Synthetic Extracellular Matrices - GLYCOSEM. (**Coordinator**).
- **Ministero della Salute, RICERCA FINALIZZATA 2016** RF-2016-02362946 (1/3/2018-28/2/2021) Theoryenhancing Projects. Title: Dissecting the link between pulmonary stromal changes and lung cancer progression for biomarkers discovery and therapeutic intervention.
- **Horizo2020, NMBP-15-2017 Nanotechnologies for imaging cellular transplants and regenerative processes in vivo:** Project: Integration of Nano- and Biotechnology for beta-cell and islet Transplantation (**Unit PI**).
- **Starting Investigator Research Grant (SIRG)**: Principal Investigator Award on the Project: Glyco-functionalised Hydrogel for Intervertebral Disc Tissue Repair. c/o National University of Ireland (NUI) Galway – Ireland (2016) (**Coordinator**)
- **CARIPLO FOUNDATION**: project 2012-0891 (3/2013-2/2015): Smart nanostructured hydrogelsystems for generation of contractile cardiac organoids (PI Marco Rasponi, Politecnico di Milano; (**UNIMIB Coordinator**).

Invited (IL), Plenary (PL) Keynote (KN) Lectures

1. **IL.** The importance of Glycosignature in ECM tissue models 8th China-Europe Symposium on Biomaterials In Regenerative Medicine (CESB 2024), Nuremberg (Germany).15-18 September 2024
2. **IL.** Glyco-Biomaterials in medical translation: from organ inspired design to AI assisted synthesis. International Carbohydrate Symposium (ICS 2024), Shanghai, July 14-19, 2024.
3. **IL.** XIV SISOC Spanish-Italian Symposium on Organic Chemistry. Glycobiomaterials for the generation of artificial patient-personalized tissues: from functionalization strategies to AI guided synthesis. 25-27 February 2024 Torino
4. **IL**. 3D human tissue mimetics: from ECM mimics design to AI aided synthesis. **IUPAC** 13th International Symposium on Bioorganic Chemistry (ISBOC-13). 18-20 December 2023, Singapore.
5. **KN.** Hyaluronic acid/gelatin based, AI aided, synthesis of 3d human tissue mimetics**. IUPAC** International Symposium on the Chemistry of Natural Products, associated to the International Congress on Biodiversity (IUPAC ISCNP31 & ICOB11). October 15th -19th 2023 Napoli.
6. **IL.** Biomaterials for bioprinting (focus on in-vitro gut modeling). Additive manufacturing in healthcare: from 3d printing to bioprinting". Lake Como School of Advanced Studies - 5-9 June 2023.
7. **IL**. ECM mimetics for 3D Bioprinting applications: the importance of chemical and biomolecular features to guide cell fate. Nanoinnovation 2022, September 21-23, 2022 Rome
8. **IL**. 3D Bioprinted tissue models by click chemistry approaches. School of Nanomedicine 2022. 8th to 10th June 2022, Rome, Italy.

9. **IL**. Functionalization strategies and synthetic approaches in 3D printing-Bioprinting Winter School 2022 – From printing set-up to laboratory analysis. 14-16 February 2022, Pavia Italy.
10. **IL**. Generation of multifunctional nanoparticles for enhanced imaging properties of transplanted cells. International Embryo Technology Society. IETS – 48th annual Meeting Georgia, USA 10-13 January 2022.
11. **KN**. Engineered bio-inks for 3D bioprinting: opportunities and challenges for tissue engineering and advanced cell models. 13th Biobarriers - International Conference on Biological Barriers 7-8 September 2021.
12. **IL**. Antibacterial and antiadhesive biomaterials: strategies and applications from nanomaterials to medical devices. Congresso Nazionale Biomateriali 11-14 July 2021, Lecce. Italy
13. **IL.** Bioinks and polymers: biomolecular fingerprints, design, and synthesis of personalized 3D bioprintable ECM mimetics. IV Workshop Bioprinting: Dal Set-Up della Stampa alle Analisi in Laboratorio. 29 Settembre 2020.
14. **IL.** XII edizione del Premio ITWIIN, organizzata da ITWIIN Associazione Italiana Donne Inventrici ed Innovatrici, in collaborazione con Assolombarda e STEAMiamoci. Milano, 17 e 18 novembre 2020
15. **IL.** Pancreatic Tissue Engineering: 3D printing and Bioprinting in Diabetes research. 28° Congresso Nazionale Società Italiana Diabetologia (SID) - Rimini, 2-5 Dicembre 2020.
16. **IL.** Polymers and functionalization with respect the micro-environment. Bioprinting Winter School. Pavia 11-13 February 2020.
17. **IL.** Functionalization of Biomaterials: From diagnostic to Tissue Engineering Applications. **IUPAC** International Symposium on Bioorganic Chemistry (ISBOC-12) 15-18 December 2019, Shenzhen, China.
18. **IL.** Design and synthesis of Bioinks: new 3D bioprintable hybrids polymers. Cellink Collaborative Partnership Conference, May 10th, 2019. Milan, Italy.
19. **IL**. Biomaterials functionalization for nanomedicine applications. Nanomedicine 2019. 2-3 May Milan, Italy
20. **IL.** "Design and synthesis of new bio printable hydrogels: challenges and opportunities of ECM mimetics. 2nd Bioprinting Workshop: From printing set-up to laboratory analysis. University of Pavia, 20 February 2019.
21. **IL.** Materials to repair biology. Biomedical materials for the repair of tissues and organs. CarboMet 'GlycoMaterials' workshop. 24-25th January 2019, Grenoble, France.
22. **IL.** Bioprintable inks: design, synthesis and preparation of new biomaterials for cell culture models and tissue engineering applications. 1st Bioprinting Workshop: From printing set-up to laboratory analysis. University of Pavia, 12 October 2018.
23. **PL.** Glycans and biomaterials: from nanomedicine applications to 3D bioprinted cell culture models. XVI Convegno-Scuola Chimica dei Carboidrati (XVI CSCC 2018). Pontignano (SI) 17-20 June 2018.
24. **PL.** When glycochemistry meets biomaterials: from design to application of synthetic glyco-tools. XXVI National Conference of Italian Chemical Society. Paestum 10-14 September 2017.
25. **IL.** Neoglycosylated collagen for neuronal regeneration. 1° International Conference on the Glycobiology of Nervous System. September 2-5, Seoul, Korea 2017
26. **IL.** Scaffolds for neuronal differentiation. (Nanomib - University Milano-Bicocca). NanoInnovation 2016, Rome 20-23 September 2016.
27. **IL.** Nuovo materiale ibrido 3D per ingegneria tissutale cartilaginea. Expò Sanità, 20° mostra al servizio della sanità, 18-21 May 2016 – Bologna

Invited Seminars

1. Biomaterials in clinical translation: from synthesis of 3D tissue mimetics to AI-assisted synthetic strategies. Università degli Studi di Padova. 4th April 2024, Padova, IT.
2. Glycobiomaterials in translation: from synthetic strategies to AI assisted formulation. University of Bristol. 20th March 2024, UK.
3. Personalized 3D in vitro tissue mimetics: from smart biomaterials to AI assisted formulation strategies. Imperial College of London. 17th November 2023, London UK
4. Functional Biomaterials: synthetic efforts for the development of smart medical devices and 3D ECM mimics. Ronzoni Institute, 14th October 2021, Milan, Italy
5. Biomaterials for tissue engineering and 3D cell constructs: synthetic efforts and formulation strategies. 20 February 2020, National University of Galway, Ireland, Dept of Chemistry
6. Glyco-Biomaterials for regenerative medicine applications and 3D culture models. 21 February 2020 Maynooth University, Dublin Ireland
7. Synthetic efforts to generate biomaterials for tissue engineering and 3D bioprintable in vitro models. 4 October 2019 CNR, Catania.
8. Chemical Approach for personalized Medicine. University of Padua, Dept of Chemistry. 26 July 2017. Padua IT
9. Biomaterials and tissue engineering: synthetic approach for bioactive scaffolds. Dept of Chemistry 4 May 2017, National University of Ireland, Galway (NUIG) – Ireland
10. Extracellular Matrix mimetics: from tissue engineering to cell cultures models" 13 November 2017. Fondazione Tettamanti, Monza. Milano.

Oral Communications

1. Glycosignature in Human Tissue Model Libraries Aided by Artificial Intelligence. **L. Russo**, Convegno Scuola Chimica dei carboidrati (XVIII CSCC 2023) 25-28 June 2023. Pontignano (Siena).
2. 3D bioprinted colon cancer models: glycosignature induces cell fate. **L. Russo.** XL Convegno Nazionale della Divisione di Chimica Organica CDCO2022) 11-16th September 2022. Palermo
3. Engineered bio-inks for 3D bioprinting: opportunities and challenges for tissue engineering and advanced cell models. Debrecen Colloquium on Carbohydartes 2020 in 2022. 24-27th August 2022. Debrecen
4. Glycans in tissue engineering: 3D Bioprintable glycopolymers. **L. Russo**. 4th GlycoBasque Meeting, November 11-12, San Sebastian, Spain.
5. Chemoselective synthesis of triple-functionalizes nanoparticles for multimodal in vivo imaging of pancreatic β-cells. **L. Russo** et al. XXVII Conference of Italian Chemical Society (SCI2021) 14-23 September 2021, Milan.
6. Glycobiomaterials for development of medical devices: from printable 3D cultures to regenerative medicine. **L. Russo,** et al. 2nd COST Meeting GlycoNanoprobes. 16 Dicembre 2020
7. Glyco-biomaterials for tissue engineering and 3D in vitro studies: Functionalization strategies and future outlook. **L. Russo**, et al. 1st Meeting COST ACTION 18132 GLYCOnanoPROBES 18th – 20th November 2019
8. 3D bioprintable Glycobiomaterials: design and synthesis of glycoconjugate polymers for 3D in vitro studies. **L. Russo**, et al. Eurocarb 2019. Leiden
9. Design and synthesis of 3D printable biomaterials for tissue engineering and 3D in vitro models. **L. Russo**, et al. XXXIX Convegno Nazionale della Divisione di Chimica Organica, CDCO Torino 2019**.** 8-12 November 2019. Torino, Italy
10. New 3D printable glyco-biomaterials: synthesis and characterization of scaffolds for advanced 3D organoids and in vitro models. 25 International Symposium on Glycoconjugates. **Russo, L**. et al. August 25th-31st 2019. Milan.

11. Nanostructured glyco-ECM mimetics: glycosylated tools for lung cancer cell biology studies. **L. Russo**, et al. International School of Nanomedicine. "New trends in nanomedicine". Erice (TP) 8-13 April 2017
12. Glyco-biomaterials for tissue engineering and 3D in vitro studies: Functionalization strategies and future outlook. **L. Russo**, et al. 1st Meeting COST ACTION 18132 GLYCOnanoPROBES 18th – 20th November 2019.
13. Cartilage regeneration with neoglycosylated collagen patches. **L. Russo**, et al (2013). SISC XXXIII Congresso Nazionale 3-4 Ottobre, Pavia
14. Design of Smart Biomaterials. (2010) **L. Russo**, et al. Italian-Spanish Joint Workshop Milano (Italy), 22 April 2010.

Commission of Trust:

- **Editorial Advisory Board Member** of *Carbohydrate Polymers* – Elsevier.
- **Editorial Advisory Board Member** of *Chemistry Europe* – Wiley.
- **Editorial Board Member** of *Translational Oncology* (TRANON) – Elsevier.
- **Board of Assistant Editors** of *Journal of Materials Science: Materials in Medicine* – Springer Nature.
- **Editorial Board Member** of Organic Materials - Georg Thieme Verlag KG - Thieme Gruppe.
- **Guest Editor** of "Frontiers in Chemistry" Special Issue on "Glyco-tools to track unsolved medical needs".
- **Referee for peer reviewed scientific journals**: Advanced Materials, Advanced Healthcare Materials, Journal of the American Chemical Society, Acta Biomaterialia, ACS Applied Materials & Interfaces, ACS Applied Biomaterials, Chemistry of Materials ACS, Langmuir, Biomacromolecules, Biomaterial Science, Macromolecules, Carbohydrate Polymers, Current Opinion in Chemical Biology, Carbohydrate Research, Colloids and Surfaces B: Biointerfaces, Digestive and Liver Disease, International Journal of Pharmaceutics, European Journal of Pharmaceutics and Biopharmaceutics, Journal of Colloid and Interface Science, Journal of the Royal Society Interface, The International Journal of Artificial Organs, Pure and Applied Chemistry, Journal of Functional Biomaterials.
- **Grant referee for International and National Funding Agencies**: H2020 – ITN-IF CHEM, European Science Foundation, UK Research and Innovation (UKRI), La Caixa Foundation, Austrian Science Fund (FWF), Fundação para a Ciência e a Tecnologia, I. P. (FCT), IRC - Irish Research Council, Technology Croatian Science Foundation (HRZZ), National Science Centre, Poland (NCN), Banco di Sardegna, University of Florence, University of Camerino.
- **Panel Member for International and National Funding Agencies:** FCT - Fundação para a Ciência e a Tecnologia, I. P. (FCT); H2020 *RIA* Collaborative Large Projects European Commission

Didactic activities

- 2023 - 2024 **Professor – Robotic and AI in Medicine, EU-PNNR course for high-school students.**
- 2023 - 2024 **Professor - 3D Models for Glioblastoma Research. PhD in Neuroscience. UNIMIB.**
- **2023 - 2024 Chemistry for Nanomedicine.** I Semester– Chemistry for Nanomedicine. Chemistry.
- **2023 - 2024 Organic Chemistry Laboratory.** II Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biotechnology (I year).
- **2023 - 2024 Organic Chemistry Laboratory.** II Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biotechnology (I year).
- **2023 - 2024 Organic Chemistry Laboratory.** I Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biological Science (I year).
- **2022 – 2023 Professor** - II Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biotechnology (I year).
- **2022 – 2023 Professor** - II Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biotechnology (I year).
- **2022 – 2023 Professor** - I Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biology (III year).
- **2022 – 2023 Professor** – I Semester– Chemistry for Nanomedicine. Chemistry.
- **2021 – 2022 Professor** - II Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biotechnology (I year).
- **2021-2022- Professor.** I Semester – Chemistry for Nanomedicine. Chemistry.
- **2020 – 2021 Professor** - I Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biological Sciences (I year).
- **2020-2021– Professor** - II Semester - Organic Chemistry Course – University of Milano-Bicocca; Exercises of Organic Chemistry, Biotechnology Course (II Semester; I Year).
- **2020-2021- Professor.** I Semester. I Semester – Chemistry for Nanotechnology. Chemistry (Nanomedicine module)
- **2019 - 2020 – Professor** - II Semester - Organic Chemistry Course – University of Milano-Bicocca; Exercises of Organic Chemistry, Biotechnology Course (II Semester; I Year).
- **2019-2020. Professor.** I Semester. I Semester – Chemistry for Nanotechnology. Chemistry (Nanomedicine module)
- **2018 - 2019 – Professor** - II Semester - Organic Chemistry Course – University of Milano-Bicocca; Exercises of Organic Chemistry, Biotechnology Course (II Semester; I Year).
- **2018 - 2019 – Professor** - II Semester - Organic Chemistry Course – University of Milano-Bicocca; Exercises of Organic Chemistry, Chemistry Course (II Semester; I Year).
- **2018-2019. Professor.** I Semester. I Semester – Chemistry for Nanotechnology. Chemistry (Nanomedicine module)
- **2017 -2018**. Second Semester – Lessons on biomaterials and bioprinting. Department of Medicine and Surgery (Second Semester, Biochemistry course)
- **2017 -2018**. First Semester– Lessons on biomaterials and bioprinting. Chemistry (First

Semester, Nanotechnology)

- **2017 - 2018** – **Professor** - II Semester - Organic Chemistry Course – University of Milano-Bicocca; Exercises of Organic Chemistry, Biotechnology Course (II Semester; I Year).
- **2017 - 2018** - **Professor -** II Semester - Organic Chemistry Course – University of Milano-Bicocca; practical based course for undergraduate students of Biotechnology (I year, II Semester).
- **2015 – 2016 Contract Professor** - I Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biological Sciences (I year).
- **2015 – 2016 Contract Professor** - I Semester - Organic Chemistry Laboratory Course, University of Milan-Bicocca; practical based course for undergraduate students of Biological Sciences (I year).
- **2013 – 2014 Tutor**, Organic Chemistry Laboratory Course. University of Milano-Bicocca Practical based course for undergraduate students of Biological Sciences
- **2012 – 2013 Tutor**, Organic Chemistry Laboratory Course. University of Milano-Bicocca Practical based course for undergraduate students of Biological Sciences.
- **2010 - 2011 Tutor**, Organic Chemistry Laboratory Course. University of Milano-Bicocca Practical based course for undergraduate students of Biotechnology.
- **2008 - 2009 Tutor**, Organic Chemistry Laboratory Course. University of Milano-Bicocca Practical based course for undergraduate students of Biotechnology.
- **2007 - 2008 Tutor**, Organic Chemistry Laboratory Course. University of Milano-Bicocca Practical based course for undergraduate students of Biotechnology.
- **2006 - 2007 Tutor**, Organic Chemistry Laboratory Course. University of Milano-Bicocca Practical based course for undergraduate students of Biological Sciences.
- **2005 - 2006 Tutor**, Organic Chemistry Laboratory Course. University of Milano-Bicocca Practical based course for undergraduate students of Biotechnology.
- **2005 - 2006 Tutor**, Organic Chemistry Laboratory Course. University of Milano-Bicocca Practical based course for undergraduate students of Biological Sciences.

PUBLICATIONS

Bibliometric indexes

Publications	***Corresponding Author**	**Invited Lectures**	**Invited Seminars**
69	21	27	10
	^First Author	**Oral Comm.**	**Book Chapters**
	15	15	13
Bibliometric indexes: Scopus H-index **25,** cit 2214 **– Google Scholar** H-index **26,** cit **2324**			
Field - Weighted Citation Impact 2014 – 2023: FWCI:2.123 (Last Author) - (Source Scopus 2014-2023)			

✓ **Articles:**

2024

69. Viale, F., Ciprandi, M., Leoni, L., Sierri, G., Renda, A., Barbugian, F., et al. Biodegradable SPI-based hydrogel for controlled release of nanomedicines: a potential approach against brain tumors recurrence. Journal of Drug Delivery Science and Technology. (**2024**) 96, 105672.
68. Barbugian F., Cadamuro F., Nicotra, F., Riccardi, C., Russo, L. Plasma-Treated Collagen Functionalized With Chondroitin Sulfate as Bioactive and Nanostructured Extracellular Matrix Mimics. Nanomedicine, (**2024**) 19(9), 799.
67. Porpiglia N.M., Tagliaro I., Pellegrini B., Alessi A., Tagliaro F., Russo L. Cadamuro F., Musile G., Antonini C., Bertini, S. Chitosan derivatives as dynamic coatings for transferrin glycoform separation in capillary electrophoresis. International Journal of Biological Macromolecules. (**2024**) 254, 127888.

2023

66. Cadamuro F., Ferrario M., Akbari R., Antonini C., Nicotra F., **Russo L**.* Tyrosine Glucosylation of Collagen Films Exploiting Horseradish Peroxidase (HRP) . Carbohydrate Research (**2023**) 533, 108938 (IF 3.1).
65. Cadamuro, F., Ardenti V., Nicotra F., **Russo L***. Alginate–Gelatin Self-Healing Hydrogel Produced via Static–Dynamic Crosslinking. Molecules (**2023**) 28(6), 2851.
64. Preventing extrinsic mechanisms of bioprosthetic degeneration using polyphenols, Valves. European Journal of Cardio-thoracic Surgery. R. John Melder, F. Naso, F. Nicotra, **L. Russo**, I. Vesely, S. Ratna Tuladhar, A. M. Calafiore, A. Gandaglia, S. Korossis. European Journal of cardio-thoracic surgery (**2023**) 3;63(4):ezac583
63. Meniscal Allograft Transplants in Skeletally Immature Patients: A Systematic Review of Indications and Outcomes. M. Turati, L. Boerci, M. Piatti, **L. Russo**, L. Rigamonti, F. Buonanotte, A. Courvoisier, G. Zatti, D. Piscitelli, M. Bigoni. (**2023**), Healthcare, 11(9): 1312.
62. Loi, G., Stucchi, G., Scocozza, F, Cansolino, L., Cadamuro F., Delgrosso, E., Riva F., Ferrari C., **Russo, L***, Conti M. Characterization of a Bioink Combining Extracellular Matrix-like Hydrogel with Osteosarcoma Cells: Preliminary Results. Gels. (**2023**) 9(2), 129.
61. Cadamuro, F., Nicotra F., **Russo L*** 3D printed tissue models: From hydrogels to biomedical applications. *J Control Release* 2023, 354, 726-745.
60. Cadamuro F., Marongiu L, Marino M., Tamini N., Nespoli L., Zucchini N., Terzi A., Altamura D., Gao Z., Giannini C., Bindi G., Smith A., Magni F., Bertini S., Granucci F., Nicotra F., **Russo L.***, 3D bioprinted colorectal cancer models based on hyaluronic acid and signaling glycans, *Carbohydrate Polymers*, (**2023**) 302, 120395.
67. Cadamuro F., Sampaolesi S., Bertolini G., Roz L., Nicotra F., **Russo L***., Click Chemistry protocol for 3D bioprintable Elastin-Hyaluronic acid hydrogels, *ChemNanoMat*, (**2023**) 9, 2, e202200508.

2022

58 Multivalent γ-PGA-Exendin-4 conjugates to target pancreatic β-cells. L. Rossi, K. Kerekes, J. Kovács-Kocsi, Z. Korhegyi, M. Bodnar, E. Fazekas, E. Prepost, C. Pignatelli, E. Caneva, F. Nicotra, **L. Russo***, Chem Bio Chem (**2022**), e202200196.
57. Givinostat-liposomes: anti-tumor effect on 2D and 3D glioblastoma models and pharmacokinetics L. Taiarol, C. Bigogno, S. Sesana, M. Kravicz, F. Viale, E. Pozzi, L. Monza, V. A. Carozzi, C. Meregalli, S. Valtorta, R. M. Moresco, M. Koch, F. Barbugian, **L. Russo**, M. Dondio, C. Steinkühler, F. Re. Cancers (**2022**) 14, 12.

56 Role and Therapeutic Implications of Glycosylation in Neuroinflammation. A. L. Rebelo, M. Tumin Chevalier, **L. Russo**, A. Pandit. Trends in Molecular Medicine (2022), 28, 4, 270-289 (IF 13.6)

55 Bioactive, degradable and tough hybrids for bone regeneration. F. Tallia, Ting H-K, Page S., J. Clark, S. Li, **L. Russo**, M. Stevens, J. Jones. Frontiers Materials, Biomaterials (**2022**) 9, 2022.

2021

---

54. Glyco-tools to crack unsolved biomedical needs. F. Marcelo, C. Nativi, **L. Russo***, A. Silipo, T. Velasco-Torrijos. Frontiers in Chemistry 2021, 9, 789839.

53 Glycans and diagnostic in nanomedicine. **L. Russo***. Nanomedicine, 2021, 16(21),1839–1842. (IF 5.5)

52 Combined analytical approaches to standardize and characterize biomaterials formulations: Application to chitosan-gelatin cross-linked hydrogels. S. Magli, L. Rossi, C. Consentino, S. Bertini, F. Nicotra, **L. Russo*** Biomolecules. (**2021**), 11(5), 683.

51 Sweet tailoring of glyco-modulatory extracellular matrix-inspired biomaterials to target neuroinflammation. A. L. Rebelo, M. T. Chevalier, **L. Russo**, A. Pandit. Cell Report in Physical Science (**2021**), 2, 100321.

50. Biomedical Hydrogels Fabricated Using Diels–Alder Crosslinking. F. Cadamuro, L. Russo, F. Nicotra. *European Journal of Organic Chemistry*. (**2021**) 2021(3), 374–382.

49. C. Gardelli, **L. Russo*,** L. Cipolla, M. Moro, F. Andriani, O. Rondinone, F. Nicotra, G. Sozzi, G. Bertolini, L. Roz*. Differential glycosylation of collagen modulates lung cancer stem cell subsets through β1 integrin-mediated interactions. *Cancer Science*, (**2021**) 112(1), 217–230.

2020

---

48. Glycans in nanomedicine: where are we now? **L. Russo**. (**2020**) *Nanomedicine*. 15(24):2325.

47. 3D Extracellular Matrix mimics: synthesis of inspired materials and cell fate inducing factors. J. Nicolas, S. Magli, L. Rabbachin, S. Sampaolesi, F. Nicotra, **L. Russo*.** (**2020**) *Biomacromolecules*. 21(6), pp. 1968-1994**.**

46. Design and synthesis of chitosan – gelatin hybrid hydrogels for 3D printable in vitro models. S. Magli, G. B. Rossi, G. Risi, S. Bertini, C. Cosentino, L. Crippa, E. Ballarini, G. Cavaletti, L. Piazza, E. Massironi, F. Nicotra, **L. Russo***. (**2020**) Frontiers in Chemistry, 8, 524.

45. Glycan-Functionalized Collagen Hydrogels Modulate the Glycoenvironment of a Neuronal Primary Culture. A.L Rebelo, J. Bizeau, **L Russo***, A. Pandit* (**2020**) *Biomacromolecules*, 21, 2681-2694.

44. Integration of nano- and biotechnology for beta-cell and islet transplantation in type-1 diabetes treatment. A. A. Dinnyes, A. Schnur, S. Muenthaisong, P. Bartenstein, C-T. Burcez, N. Burton, C. Cyran, P. Gianello E. Kemter, G. Nemeth, F. Nicotra, E. Prepost, Y. Qiu, L. Russo, A. Wirth, E. Wolf, S. Ziegler, J. Kobolak (**2020**). *Cell Proliferation*, 53(5),e12785

43. Coupling quaternary ammonium surfactants to the surface of liposomes improves both antibacterial efficacy and host cell biocompatibility. C. V. Montefusco-Pereira, B. Formicola, A. Goes, F. Re, C.A. Marrano, F. Mantegazza, C. Carvalho-Wodarz, G. Fuhrmann, E. Caneva, F. Nicotra, C-M. Lehr, **L. Russo***. (**2020**) European Journal of Pharmaceutics and Biopharmaceutics, 149, 12-20.

2019

---

42. The synergistic effect of chlorotoxin-mApoE in boosting drug-loaded liposomes across the BBB. B. Formicola, R.Dal Magro, C. V. Montefusco-Pereira, C.-M. Lehr, M. Koch, **L. Russo**, G. Grasso, M. A. Deriu, A. Danani, S. Bourdoulous, F. Re. (**2019**) *Journal of Nanobiotechnology* 17, 115.

41. A new approach for glyco-functionalization of collagen biomaterials.I. Figuereido, A. Paiotta, R. Dal Magro, R. Corti, F. Re, V. Cassina, E. Caneva, F. Nicotra and **L. Russo***. (**2019**) International Journal of Molecular Sciences. 20(7), 1747.

40. Glycans in Nanomedicine, Impact and Perspectives. Sampaolesi S., Nicotra F., **Russo L.*** (**2019**) Future Medicinal Chemistry, 11(1), 43-60.

39. Phage-displayed peptides targeting specific tissues and organs. Andrieu J, Re F, **Russo L**, Nicotra F. (**2019**). *Journal of Drug Targeting*, 27, 5-6, 555-565. DOI: 10.1080/1061186X.2018.1531419.

2018

38. Glycosylation and Integrin regulation in cancer G. Marsico, **L. Russo**, F. Quondamatteo, A. Pandit (**2018)** *Trends in Cancer, Cell Press.* 4(8),537-552 *doi.org/10.1016/j.trecan.2018.05.009*
37. Maltose conjugation to PCL: Advanced structural characterization and preliminary biological properties. V. Secchi, R. Guizzardi, **L. Russo**, V. Pastori, M. Lecchi, S. Franchi, G. Iucci, C. Battocchio, L. Cipolla. (**2018**) Journal of Molecular Structure, 1159, 74-78.
36. Bouncing and 3D printable hybrids with self-healing properties. F. Tallia, **L. Russo**, S. Li, A. Orrin, X. Shi, S. Chen, J. Steele, S. Meille, J. Chevalier, P. D. Lee, M. Stevens, L. Cipolla, J.R Jones (**2018**) *Horizon Chem* doi: 10.1039/C8MH00027A

2017

35. Functionalizing natural polymers with alkoxysilane coupling agents: Reacting 3-glycidoxypropyl trimethoxysilane with poly(γ-glutamic acid) and gelatin. L. Connell, Gabrielli, **L. Russo**, L. Cipolla, J. R. Jones. *Polymer chemistry* (**2017**) *8, 1095-1103.*

2016

34. Bioresponsive hydrogels: chemical strategies and perspectives in tissue engineering. A. Sgambato, L. Cipolla, **L. Russo*** (**2016**) *Gels* (Special Issue Polymers in Tissue Engineering) 2(4): 28. doi: 10.3390/gels2040028.
33. Glycomics: new challenges and opportunities in regenerative medicine. **L. Russo**, L. Cipolla. *Chemistry - A European Journal* (**2016**). doi: 10.1002/chem.201602156
31. Multivalent ligand mimetics of LecA from P. aeruginosa: synthesis and NMR studies. D. Bini, R. Marchetti, **L. Russo**, A. Molinaro, A. Silipo, L. Cipolla. *Carbohydrate Research* (**2016**) 429:23-8. The Collaggrecan: Synthesis and Visualization of an Artificial Proteoglycan. M. Raspanti, E. Caravà, A. Sgambato, A. Natalello, **L. Russo**, L. Cipolla. *International journal of biological macromolecules* 86:65-70 (**2016**). doi: 10.1016/j.ijbiomac.2016.01.051.

2015

28. Different Sialoside Epitopes on Collagen Film Surfaces Direct Mesenchymal Stem Cell Fate. A. Sgambato, **L. Russo**, M. Montesi, S. Panseri, M. Marcacci, E. Caravà, M. Raspanti, L. Cipolla (**2015**), *ACS Applied Materials & Interfaces*. 8(24):14952-7. DOI: 10.1021/acsami.5b08270
27. Gelatin hydrogels via thiol-ene chemistry. **L. Russo**, A. Sgambato, R. Visone, P. Occhetta, M. Moretti, M. Rasponi, F. Nicotra, L. Cipolla. (**2015**) *Monatsh Chem.* 147:3;587–592 DOI 10.1007/s00706-015-1614-5
26. Galactose grafting on poly(<epsilon>-caprolactone) substrates for tissue engineering: a preliminary study. **L. Russo**, T. Russo, C. Battocchio, F. Taraballi, A. Gloria, U. D'Amora, R. De Santis, G. Polzonetti, F. Nicotra, L. Ambrosio, L. Cipolla. *Carbohydrate Research* (**2015**) 405, 39-46. DOI: 10.1016/j.carres.2014.07.027
25. VA-086 methacrylate gelatine photopolymerizable hydrogels: A parametric study for highly biocompatible 3d cell embedding. Occhetta P., Visone R., **Russo L**., Cipolla L., Moretti M., Rasponi M. *Journal of Biomedical Materials Research Part A*. **2014**, 103(6):2109-17, DOI: 10.1002/jbm.a.35346

2014

24. In vitro biological behaviour of neoglycosylated collagen matrices. **L. Russo**, A. Sgambato, P. Giannoni, R. Quarto, S. Vesentini, A. Gautieri, L. Cipolla. *Med Chem Comm* (**2014**) 5, 1208. DOI:10.1039/C4MD00056K
23. Bioactivity of surface tethered Osteogenic Growth Peptide motifs. S. Panseri§, **L. Russo§**, M. Montesi, F. Taraballi, C. Cunha, M. Marcacci, L. Cipolla. *Med Chem Comm* (**2014**) **5**, 899-903 DOI:10.1039/C4MD00112E *§ Equal Contribution*
22. A model study for chemoselective surface tethering of bioactive molecules via methylglyoxal. F. Taraballi, **L. Russo**, C. Battocchio, G. Polzonetti, F. Nicotra, and L. Cipolla. *Org. Biomol. Chem.* (**2014**) 12, 4089. DOI:10.1039/C4OB00160E
21. Neoglucosylated collagen matrices drive neuronal cells to differentiate. **L. Russo**, A. Sgambato, M. Lecchi, V. Pastori, M. Raspanti, A. Natalello, S. M. Doglia, F. Nicotra, L. Cipolla. *ACS Chemical Neuroscience* (**2014**). 5(4):261-5. **DOI:** 10.1021/cn400222s
20. Dendrons Synthesis and Immobilization on Biomaterial Surface by a Double Click. Bini, D; **Russo, L**; Battocchio, C; Natalello, A; Polzonetti, G; Doglia, S; Nicotra, F; Cipolla, L. *Organic Letters* (**2014**). 16(5), 1298-1301. DOI: 10.1021/ol403476z
19. Thiol-ene mediated neoglycosylation of collagen patches: a preliminary study. **L. Russo**, C. Battocchio, V. Secchi, E. Magnano, S. Nappini, F. Taraballi, L. Gabrielli, F. Comelli, A. Papagni, B. Costa, G. Polzonetti, F. Nicotra, A. Natalello, S. M. Doglia, and L. Cipolla. *Langmuir* (**2014**). *30* (5), 1336–1342. DOI: 10.1021/la404310p
18. Carbonate hydroxyapatite functionalisation: a comparative study toward (bio)molecules fixation **L. Russo**, F. Taraballi, C. Lupo, A. Poveda, J. Jiménez-Barbero, M. Sandri, A. Tampieri, F. Nicotra, L. Cipolla. *Interface Focus* 20130040. (**2014**) 4:1, 2042-8901. doi: 10.1098/rsfs.2013.0040
17. Exploring GPTMS reactivity against simple nucleophiles: chemistry beyond hybrid materials fabrication. L. Gabrielli, L. Connell, **L. Russo**, J. Jimenez-Barbero, F. Nicotra, L. Cipolla, J. R. Jones. *RSC Advances* (**2014**), 4, 1841. DOI: 10.1039/c3ra44748k
16. Carbohydrate-functionalized collagen matrices: design and characterization of a novel neoglycosylated biomaterial. **L. Russo**, A. Gautieri, M. Raspanti, F. Taraballi, F. Nicotra, S. Vesentini, L. Cipolla. *Carbohydrate Research* (**2014**) 389, 12-17. DOI: 10.1016/j.carres.2013.11.008

2013

15. Glucosamine grafting on poly(□-caprolactone): a novel glycated polyester as substrate for tissue engineering. **L. Russo**, A. Gloria, T. Russo, U. D'Amora, F. Taraballi, R. De Santis, L. Ambrosio, F. Nicotra, L. Cipolla. *RSC Advances* (**2013**), 3(18):6286-6289. DOI: 10.1039/C3RA40408K
14. Novel Silica/bis(3-aminopropyl) polyethylene glycol inorganic/organic hybrids by sol gel chemistry**. L. Russo**, E.M. Valliant, F. Nicotra, J. Jimenez-Barbero, L. Cipolla, J.R. Jones. *Materials Chemistry and Physics* (**2013**), 140 (1):168-175. doi: 10.1016/j.matchemphys.2013.03.016.
14. Epoxide opening versus silica condensation during sol-gel hybrid biomaterials synthesis. L. Gabrielli, **L. Russo**, A. Poveda, J. R. Jones,F. Nicotra,J. Jiménez-Barbero, L. Cipolla. *Chemistry – A European Journal* (**2013**), 19(24):7856-64. doi: 10.1002/chem.201204326

2012

12. Recent Approaches to Novel Antibacterials Designed After LPS Structure and Biochemistry. Luca Gabrielli, Alice Capitoli, Davide Bini, Francesca Taraballi, Cristina Lupo, **Laura Russo**, Laura Cipolla *Current drug targets* (**2012**); 13(11):1458-71. DOI: 10.2174/138945012803530242
11. The influence of plasma technology coupled to chemical grafting on the cell growth compliance of 3D hydroxyapatite scaffold. **L. Russo**, S. Zanini, P. Giannoni, E. Landi, A. Villa, N. Shaik, M. Sandri, C. Riccardi, R. Quarto, S. M. Doglia, L. Cipolla, and F. Nicotra *Journal of Materials Science Materials in Medicine*. (**2012**) 23(11):2727-38. doi: 10.1007/s10856-012-4727-y

2011

10. Sugar-decorated hydroxyapatite: an inorganic material bioactivated with carbohydrates. **L. Russo**, E. Landi, A. Tampieri, A. Natalello, S.M. Doglia, L. Gabrielli, L. Cipolla, F. Nicotra. *Carbohydrate Research* (**2011**), 346(12):1564-8. doi: 10.1016/j.carres.2011.04.044
9. Diazo transfer on material surfaces: a novel method for azido functionalisation. **L. Russo**, S. Zanini, C. Riccardi, F. Nicotra, L. Cipolla. *Materials Today*. (**2011**) 14(4), 164-169. DOI:10.1016/S1369-7021(11)70088-8

2010

8. Kdo: a critical monosaccharide for bacteria viability. L. Cipolla, L. Gabrielli, D. Bini, **L. Russo** and N. Shaikh. *Nat. Prod. Rep.* (**2010**). 27(11):1618-29. DOI: 10.1039/C004750N.
7. Ultrasonic assisted Fischer glycosylation: generating diversity for glycochemistry, N. Shaikh, **L. Russo**, L. Cipolla, F. Nicotra. *Molecular Diversity* (**2010**), DOI: 10.1007/s11030-010-9281-2.
6. Discovery and design of carbohydrate-based therapeutics. L. Cipolla, A.C. Araújo, D. Bini, L. Gabrielli**, L. Russo**, N. Shaikh. *Exp. Opin. Drug Discov*. (**2010**) 5 (8), 721-737. doi: 10.1517/17460441.2010.497811
5. Molecular dynamics investigation of cyclic natriuretic peptides: Dynamic properties reflect peptide activity. E. Papaleo, **L. Russo**, N. Shaikh, L. Cipolla, P. Fantucci, L. De Gioia. *J. Mol. Graph. Model*. (**2010**) 28:834-841. doi: 10.1016/j.jmgm.2010.03.003
4. Carbohydrate Mimetics and Scaffolds: Sweet Spots in Medicinal Chemistry. L. Cipolla, B. La Ferla, C. Airoldi, C. Zona, A. Orsato, N. Shaikh, **L. Russo**, F. Nicotra, *Future medicinal Chemistry*, (**2010**) 2:587-599. doi:10.4155/fmc.10.8.

3. C-type natriuretic peptide: structural studies, fragment synthesis and preliminary biological evaluation in human osteosarcoma cell lines. N. Shaikh, **L. Russo**, E. Papaleo, P. Giannoni, L. De Gioia, F. Nicotra, R. Quarto, L. Cipolla. Wiley Periodicals, *Inc. Biopolymers (Pept Sci)*. (**2010**) 94: 213–219. doi: 10.1002/bip.21336

2009

2. Carbohydrate scaffolds in chemical genetic studies. F. Nicotra, L. Cipolla, B. La Ferla, C. Airoldi, C. Zona, A. Orsato, N. Shaikh, **L. Russo**. *J. Biotechnol*. (**2009**) 144 (3):234-241. doi: 10.1016/j.jbiotec.2009.05.014
1. Solid-phase supported mimic of GDP-L-galactose. B. La Ferla, **L. Russo**, C. Airoldi, F. Nicotra. *Tetrahedron: Asymm.* (**2009**), (20), 744-745. DOI:10.1016/j.tetasy.2009.03.005

✓ Patents

- U.S. Provisional Patent Application 62/129,145. Promotion of Neuronal Tissue Regeneration. Inventors: Francesco Nicotra, Laura Francesca Cipolla, Marzia Maria Lecchi, Laura Russo. 6 March **2015**.
- WO2017168168A1. Hybrid Materials and Process For Production Thereof. Francesca Tallia, Julian R. Jones, Laura Cipolla, Laura Russo. April **2016**.

✓ Book Chapters

1. Carbohydrates in Tissue Engineering. **L. Russo***, F. Nicotra. *Wiley Eds*, Edited by Luigi Lay and Roberto Adamo. (**2022**) Accepted – In press
2. Chemical Strategies for 3D printable biomaterials. F. Barbugian, F. Cadamuro, **L. Russo***. *In* Bioprinting From Multidisciplinary Design to Emerging opportunity. *Elsevier Eds*, Edited by M. Marino & M. Conti. CH4, 87-107
3. Diagnostic Glycotools. F. Barbugian, F. Cadamuro, S. Magli, F. Nicotra*, L. Rossi, **L. Russo***. Carbohydrate Chemistry Volume 45. SPR Royal Society of Chemistry) (RSC). Edited by A. Reuter, Y. Quineau. Accepted
4. Glycans and hybrid glyco-materials for artificial cell microenvironment fabrication. C. Pignatelli, F. Cadamuro, S. Magli, L. Rossi, **L. Russo*** and F. Nicotra* *ISBN: 978-1-78801-368-0* (SPR Royal Society of Chemistry) **2020**.
5. Glycofunctionlized Biomaterials in neuroregeneration. **L.Russo**, A. Sgambato, R. Guizzardi, S. Vesentini, L. Cipolla, F. Nicotra. Chapter pp 179-198, in Drug and gene delivery to central nervous system. **2017**, ISBN 978-3-319-57696-1.

6. Carbohydrates, Biomaterials and Tissue Engineering Applications. **Russo L**., Calloni I., Origgi D., Cetin Telli F., Cipolla L. In book: Carbohydrate Chemistry: State of the Art and Challenges for Drug Development. *An Overview on Structure, Biological Roles, Synthetic Methods and Application as Therapeutics* (**2015**) ISBN: 978-1-78326-719-4.
7. Trehalose mimics as bioactive compound. Bini D., Sgambato A., Gabrielli L., **Russo L**., Cipolla L. DOI: 10.1002/9781118733103.ch14 In book: Biotechnology of Bioactive Compounds: Sources and applications. (**2015**)
8. Multivalent glycidic constructs toward anticancer therapeutics. Francesco Nicotra, Luca Gabrielli, Davide Bini, **Laura Russo**, Antonella Sgambato and Laura Cipolla. SPR Vol 40, Chapter 23, 2014, Print ISBN: 978-1-84973-965-8, DOI:10.1039/9781849739986-00491
9. Materials biofunctionalization for tissue regeneration. Laura Cipolla, **Laura Russo**, Nasrin Shaikh, Francesco Nicotra. Polymeric Biomaterials: Medicinal and Pharmaceutical Applications, 715-736, Volume 2. Taylor & Francis Inc, CRC Press, **2013**. DOI: 10.1201/b13758-28
10. Trehalose mimetics as inhibitors of trehalose processing enzymes. D. Bini, F. Cardona, L. Gabrielli, **L. Russo** and L. Cipolla. Carbohydrate Chemistry, 2012, 1-44. DOI: 10.1039/9781849732765.
11. Smart biomaterials: the contribution of glycoscience" Special Periodical Reports, SPR Carbohydrate Chemistry Cipolla, L.; **Russo, L**.; Taraballi, F.; Lupo, C.; Bini, D.; Gabrielli, L.; Capitoli, A.; Nicotra, F. Special Periodical Reports, SPR Carbohydrate Chemistry**, 2012**, Vol. 38, ISBN: 9781849734394.
12. Toward Anticancer Therapeutics Based on Glycidic Structures. Gabrielli L., Capitoli A., **Russo L**., Bini D., Taraballi F.,Lupo C. and Cipolla L. Advances in anti-cancer agents in medicinal chemistry, vol. 1, chapt. 4 (2013) DOI:10.2174/97816080549611130201, ISBN: 978-1-60805-715-3
13. Underexploited targets in LPS biogenenesis for the design of antibacterials L. Cipolla, L. Gabrielli, D. Bini, and **L. Russo**. Antimicrobial Drug Discovery: Emerging Strategies. CABI, Nosworthy Way, Wallingford OX10 8DE, UK. (2012) ISBN: 9781845939434

Press Reviews

- ***3D bioprinting and biomimetic tissue models***
  Several press releases, TV and newspaper notifications and interview.
- ***Recognition of Minister of State for Training, Skills and Innovation, John Halligan TD*** - as "next leaders of research in Ireland, shaping the research community both in Ireland and internationally".
  Several Press releases - newspaper notifications.
- ***Self-repair 3D printed material for osteochondral tissue regeneration:*** More than 30.000 visualization on Social Media, Several press releases (**more than 80**) - radio, TV and newspaper notifications and interview.

Selected Press Reviews

- **TG5 National Edition**. 3D Bioprinting and biomaterials for tissue regeneration.
- **TG Leonardo**. 3D bioprinting and Tissue models 21/05/2019
- **Tg1 National Edition**, "Bionic Bone"- 26 May 2016
- **Il Sole 24 Ore**, Creato in laboratorio l'osso bionico che si stampa in 3D. 26/05/2016
- **Tgr Leonardo**: "Osso Bionico" auto-riparante, la ricerca e il finanziamento del Miur. 24/05/2016.
- **Rai News**. L'osso bionico sviluppato dall'Universita' di Milano-Bicocca e dall'imperial College di Londra.13/05/2016
- **Repubblica Tv**, L'osso bionico che si stampa in 3D e si ripara da solo quando si rompe. 12/5/16
- **Corriere**, Osso Bionico stampato in 3D. 12/05/2016
- **Materials Today (Elsevier Journal)** "New bio-glass can mimic mechanical properties of cartilage" 20/05/2016
- **Dailymail UK** "Silicon implant 'helps worn knees to regrow': thousands of patients could be spared Surgery" 13/05/2016
- **New Zeland Herald**, "Silicon implant may help worn knees to regrow" 13/05/2016
- **Sciencedaily.com** New bio-glass could make it possible to re-grow or replace cartilage 13/05/2016