

# Curriculum Vitae

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**Name** Luca Pierucci

Address

Telephone

e-mail

Nationality

Day of birth

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## SUMMARY:

Self-motivated, positive attitude to learn and with a strong multidisciplinary scientific background person focused on development of emerging pharmaceutical technologies and "green" processes. Currently working as R&D Scientist at Vornia Ltd, designing and developing biomaterials either for medical devices or for pharmaceutical applications such as drug delivery system. I am also actively participating in R&D team management and in placement of new Vornia's products on the market.

Strongly interested in increasing my knowledge of finance, management, entrepreneurship and leadership skills through online certifications, interpersonal relationships and future business studies.

## PROFESSIONAL EXPERIENCE:

**Jan 2016 – present** **R&D Scientist at Vornia Ltd. (Dublin-Ireland)**

- Design, Characterization, Scale-Up, Manufacturing and Data Analysis of new generation of bio(co)polymer and polymer solution (R&D and Medical Grade) based applications for either medical devices or pharmaceutical applications (i.e. drug delivery, wound healing) utilising "solvent free" methods such as Supercritical Carbon Dioxide (ScCO<sub>2</sub>) technology.
- Supervisor of three researcher/engineer team members.
- Participated in the implementation of Quality Management, Quality System, Design History File (i.e. Work Instructions, Test Procedures, Forms, Records), Auditing, Projects Management, Team Management and launching new products on Market.
- Good knowledge of cGMP and GLP, ISO 13485:2016 guidelines, Cleanroom level 7.

Attendance at: **Kinetics and Reactor Design.**

*In association with Vornia Ltd. (2016)*

**Jun 2015 - Jun 2017** **Research Scientist at University College of Dublin (UCD)**

- Design, synthesis, characterisation, and bio-applications of different-shape polymers by controlled/living free-radical polymerization mechanism (i.e. ATRP, De-ATRP, RAFT, ROP, IP).
- Development and characterisation of HPAEs via Michael Addition for gene/drug delivery.
- Development of new generation of hydrogel (i.e based on HB-PEGDA) based applications for tissue engineering, drug delivery and wound healing.
- Synthesis and extraction in Supercritical Carbon Dioxide (ScCO<sub>2</sub>).
- Design and production of (co)polymer nanoparticles, micro/nano-capsules (i.e. based on PLGA and PLCL co-polymers) and biofilms.
- Handling of different cell cultures, cell transfection, cell availability, Gel Electrophoresis, PCR.

Good knowledge of technical **lab instrumentations** such as: High Pressure-Temperature Reactors for Synthesis and Extraction, GPC, HPLC, GC, AAS, NMR, SEM, TEM, DLS, Rotary Evaporator, Viscometer, Rheometer, UV-Crosslinker, Polarimeter, Freeze-Drying, Microplate Readers.

## PROJECTS:

- **ReBioStent (EUF7):** The main concept of ReBioStent is the production of biodegradable and biocompatible resorbable stents. The project has a consortium of fourteen partner organizations from five countries including Germany, Italy, Ireland, Spain and United Kingdom. The main focus for Vornia is the development of unique polymers with defined mechanical properties, biocompatibility and controlled degradation.  
*In association with Vornia Ltd, 2015-2017.*
- **Neurimp (EUF7):** The goal of the project is the validation of biomaterials structural plasticity and those compatible manufacturing technologies that will enable the generation of a tubular structure containing an intraluminal microstructure based on an array of aligned channels or fibers. This project proposal will take advantage of partners' experience in the design of medical devices composed of natural and synthetic biomaterials and in scaled-up production mechanization technologies for the generation of the most effective peripheral nerve implant.  
*In association with Vornia Ltd, 2015-2017.*
- **HyMedPoly (Horizon2020):** HyMedPoly aims to develop new therapies based on biomedical polymers and inorganic materials. 10 universities and companies from across Europe are creating a cohort of 15 European Industrial Doctorates to synthesize new biopolymers with added antibacterial functionality and develop functionalized bioactive ceramics and glasses that can act as active agents to kill bacteria and prevent their growth. The new material systems from HyMedPoly are aimed at applications such as wound care, implants and bio-film prevention.  
*In association with Vornia Ltd, 2016-2017.*

## EDUCATION:

- 2016-2017**                      **Master of Research (MscRes), Polymer Science**  
*UCD-University College Dublin, Ireland*
- 2010-2015**                      **Master of Science (MSc), Pharmaceutical Chemistry and Technology**  
*Università degli studi di Urbino "Carlo Bo", Italy*

**Lab Experience:** Analytical Chemistry, Synthesis and Extraction, Medicinal Chemistry, Drug Analysis (Quantitative and Qualitative), Formulation Chemistry.

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## CERTIFICATIONS:

- **Fundamentals of Project Planning and Management, Coursera, (Apr-May 2017), Certified.**
- **Leadership Skills Mastery, Udemy (Mar 2017), Certified.**
- **The Complete Financial Analyst Course 2017, Udemy (Feb 2017), Certified.**
- **Industrial Management Course 2016, UCD-University College Dublin (Oct- Nov 2016)**
- **Synthesis of Polymers, MIT OpenCourseWare 10.569 (Jan-Apr 2016)**

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## PUBLICATIONS:

- **Hydrophilic Functionalisation of Poly(L-lactide) Using Short Chain Poly(ethylene glycol): A Strategy for Tuning the Degradation of Resorbable Devices.** Polymer Degradation and Stability.
  - **Star poly( $\beta$ -amino esters) obtained from the combination of linear poly( $\beta$ -amino esters) and polyethyleneimine.** ACS Macro Letters, DOI: 10.1021/acsmacrolett.7b00319.
  - **Combinatorial Development of Hyperbranched Poly( $\beta$ -amino esters) for Nonviral Gene Delivery through A New "A2+B3" Michael Addition Platform.** Journal of the American Chemical Society, in press.
  - **Highly Branched Poly(5-amino-1-pentanol-co-1,4- butanediol diacrylate) for High Performance GeneTransfection.** Polymers, DOI: 10.3390/polym9050161.
  - **Thermo- and pH-Responsive, Coacervate-Forming Hyperbranched Poly( $\beta$ -amino ester)s for Selective Cell Binding.** ACS Applied Materials & Interfaces, DOI: 10.1021/acsami.6b15005.
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**ACCOMPLISHMENTS and AWARDS:**

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- Design, development and placement on the market of the Multi-acrylate hyperbranched Peg-Polymer (HB-PEG-MAPs/multiarms Peg) R&D Grade via Supercritical Carbon Dioxide (ScCO<sub>2</sub>) technology.  
*In association with Vornia Ltd. (2016)*
- Design, development and placement on the market of the Fast Gelling Thiol-Modified Hyaluronic Acid (HA-SH) R&D Grade.  
*In association with Vornia Ltd. (2016)*
- Design, development and placement on the market of the PLGA-PEG-PLGA Triblock R&D Grade via Supercritical Carbon Dioxide (ScCO<sub>2</sub>) technology.  
*In association with Vornia Ltd. (2016)*

**LANGUAGE SKILLS:**

Italian                      Mother tongue

English                      Full professional proficiency.

**IT SKILLS:**

MarvinSketch, ChemDraw, MestReNova, Microsoft Office Package, iOS Operating System, Adobe Photoshop.