

# Pontremoli Carlotta

---

Address: Via Francesco De Sanctis 134,  
Torino, 10142  
Mobile Phone: +39 3420650765  
E-mail: carlotta.pontremoli@libero.it  
carlotta.pontremoli@polito.it



## PERSONAL INFORMATION

---

Born May 5, 1989 in Torino (Italy)  
Citizenship: Italian

## WORK HISTORY

---

11.2017 – 10.2020

### PhD STUDENT

POLITECNICO DI TORINO, DISAT

Ph.D. in Material Science and Technology, tutor Prof. Sonia Fiorilli

*Innovative nanomatrices for smart release*

09. 2016 – 08.2017

### RESEARCH FELLOW

POLITECNICO DI TORINO, DISAT

Horizon 2020, MOZART Project Tutor prof. Sonia Fiorilli

*Mesoporous matrices for localized pH-triggered release of the therapeutic ions and drugs*

12. 2015 – 07.2016

### RESEARCH FELLOW

University of Torino, Department of Molecular Biotechnology and Health Sciences, Torino, Italy

Cariplo Project 2013, Tutor Dott.ssa Sonja Visentin

*Nanostructured-initiators for matrix-free, surface-based mass spectrometry imaging of antitumor drugs tissues*

In collaboration with Mario Negri Institute

05. 2015 – 08.2015

### RESEARCH FELLOW

University of Torino, Department of Molecular Biotechnology and Health Sciences, Torino, Italy

Cariplo Project 2013, Tutor Dott.ssa Sonja Visentin

*Gold nanoparticles as nanostructured-initiators for mass spectrometry imaging of antitumor drugs tissues*

In collaboration with Mario Negri Institute

06. 2013 – 12. 2014

**INTERN – MASTER’S DEGREE THESIS**

UNIVERSITA’ DEGLI STUDI DI TORINO, DSTF

03. 2014 – 10.2014

**INTERN - PHARMACIST**

Farmacia Gancia, Monica dott. ssa Dimitri, 35, via Asiago, 10140 Turin, Italy

- Assistance in the sale of SOP, OTC, DPC and prescription drugs.
- Preparation of galenic formulations following Good Manufacturing Practices.
- Formal check of medical prescriptions and of all the mandatory pharmacy registers and documents.

**EDUCATION**

---

12.2015

**PROFESSIONAL PRACTICE EXAM (PHARMACIST)**

11.2008 – 03.2015

**UNIVERSITY OF TORINO**

Master degree in Pharmaceutical sciences (Final mark: 102/110)

Research on the thesis: “Study of interaction between mucins and drugs used in the treatment of Cystic Fibrosis by spectroscopic approaches”

Faculty of Pharmacy, University of Torino

10.2003 – 07.2008

**LICEO CLASSICO “CAMILLO BENSO CONTE DI CAVOUR”**

High school degree (final mark: 80/100)

**PERSONAL SKILLS AND COMPETENCES**

---

Mother tongue            Italian

Other(s) language(s)

**English**  
**French**

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	C1
A1	A1	A1	A1	A1

Common European Framework of Reference for Languages

**Organisational skills** Good time-management skills, sense of organization and autonomous work planning, honed through simultaneous conduction of multiple research projects. Efficiently met deadlines;  
Strong propensity for teamwork, developed by constantly working on research projects involving multiple participants.

**IT skills** Advanced internet, database and archival research skills;  
operating systems known: Microsoft Windows;  
Very good command of Microsoft Office applications;  
Proficient use of Origin software for data analysis and ChemDraw Ultra 8.0;  
CSWA Certificate Mechanical design at the level of Associate

**Communication skills** Good oral communication and data presentation skills, acquired during research activities;  
ability to interpret other people's demands and needs and to establish proficient and satisfying interaction

## **TECHNICAL SKILLS AND COMPETENCES**

---

**Nanomaterials** Mesoporous Bioactive Glasses synthesis (by spray-drier technique), characterization (by SEM, FE-SEM, DLS, XRD, N<sub>2</sub>-Absorption/desorption) and release test of ions and drugs (analysed by ICP -Inductively coupled plasma-)  
Project name: Horizon 2020, MOZART, Mesoporous matrices for localized pH-triggered release of the therapeutic ions and drugs.  
Grafting of silanes and primary/secondary amines to surface silanols of mesoporous bioactive glasses in order to provide them with zwitterionic surfaces.

Gold nanoparticles synthesis, characterization (by UV-Vis spectroscopy, TEM, SEM and DLS) and functionalization (e.g PEG, <sup>18</sup>F-FDG, RGD etc)

Project name: nATT (Nano-Amplified Targeted Therapy) project financed by INFN.  
Collaborations: INFN sez. Torino, A.O. Ordine del Mauriziano di Torino and CNR Pisa

Project name: Cariplo 2013 Gold nanoparticles as nanostructured-initiators for mass spectrometry imaging of antitumor drugs tissues  
In collaboration with Mario Negri Institute

Halloysite nanotubes functionalization for TRPM8 channel targeting

Project name: Biologie et sciences du cancer, Institut National du Cancer 2014 Identification of ion channels functional signature for the metastatic prostate cancer prognostic and targeting

Collaboration with laboratory of Prof. Prevarskaya, INSERM, Lille, France

Project name: San Paolo 2015

Collaboration with Prof. Alessandra Fiorio Pla, Department of Life Sciences and Systems Biology

**Protein analysis**

Study of interaction between protein (in particular mucin and albumin) and drugs by spectroscopic approaches (UV-Vis spectroscopy, fluorescence spectroscopy, stopped-flow).

**PUBLICATIONS**

---

1. Carlotta **Pontremoli**, Isabel Izquierdo-Barba, Giorgia Montalbano, María Vallet-Regí, Chiara Vitale-Brovarone, Sonia Fiorilli  
*“Strontium-releasing mesoporous bioactive glasses with low-fouling zwitterionic surface as advanced biomaterials for bone tissue regeneration”*  
Journal of Colloid and Interface Science, 563, **2020**
2. Giorgia Montalbano, Giorgia Borciani, Carlotta **Pontremoli**, Gabriela Ciapetti, Monica Mattioli- Belmonte, Sonia Fiorilli and Chiara Vitale-Brovarone  
*“Development and Biocompatibility of Collagen-Based Composites Enriched with Nanoparticles of Strontium Containing Mesoporous Glass”*  
Materials, 12, **2020**
3. Monica Boffito‡, Carlotta **Pontremoli‡**, Sonia Fiorilli, Rossella Laurano, Gianluca Ciardelli and Chiara Vitale-Brovarone  
*“Injectable thermosensitive formulation based on polyurethane hydrogel/mesoporous glasses for sustained co-delivery of functional ions and drugs”*  
Pharmaceutics, 11 (10), **2019**
4. Sonia Fiorilli, Giulia Molino, Carlotta **Pontremoli**, Giorgio Iviglia, Elisa Torre, Clara Cassinelli, Marco Morra, Chiara Vitale-Brovarone  
*“The Incorporation of Strontium to Improve Bone-Regeneration Ability of Mesoporous Bioactive Glasses”*  
Materials, 11 (5), **2018**

5. Carlotta **Pontremoli**, Monica Boffito, Sonia Fiorilli, Rossella Laurano, Alessandro Torchio, Alessandra Bari, Chiara Tonda-Turo, Gianluca Ciardelli, Chiara Vitale-Brovarone  
*“Hybrid injectable platforms for the in situ delivery of therapeutic ions from mesoporous glasses”*  
 Chemical Engineering Journal 340, (2018), pp. 103-113
6. Carlotta **Pontremoli**, Nadia Barbero, Guido Viscardi, Sonja Visentin  
*“Insight into the interaction of Inhaled Corticosteroids (ICS) with human serum albumin: a spectroscopic-based study”*  
 Journal of Pharmaceutical Analysis 8, 1, (2018), pp. 37-44
7. Edoardo Ceci-Ginistrelli, Carlotta **Pontremoli**, Diego Pugliese, Nadia Barbero, Nadia G. Boetti, Claudia Barolo, Sonja Visentin, Daniel Milanese  
*“Drug release kinetics from biodegradable UV-transparent hollow calcium-phosphate glass fibers “*  
 Materials Letters 191 (2017) pp. 116-118
8. Carlotta **Pontremoli**, Nadia Barbero, Guido Viscardi, Sonja Visentin  
*“Mucin–drugs interaction: the case of theophylline, prednisolone and cephalexin”*  
 Bioorganic & Medicinal Chemistry 23 (2015) pp. 6581–6586
9. Giulia Caron, Sonja Visentin, Carlotta **Pontremoli**, Giuseppe Ermondi  
*“Profile of the intermolecular forces governing the interaction of drugs with mucin”*  
 International Journal of Pharmaceutics 488 (2015), pp. 67-69

**ORAL COMMUNICATIONS, PRESENTATIONS AND CONFERENCES**

---

1. EORS 2019, European Orthopaedic Research Society, Maastricht, The Netherlands, October 2-4, 2019  
*“Mesoporous bioactive glasses as smart platform to stimulate bone regeneration”*
2. GFMAT-BIO-4, 2nd Global Forum on Advanced Materials and Technologies for Sustainable Development (GFMAT-2) and the 4th International Conference on Innovations in Biomaterials, Biomanufacturing, and Biotechnologies (Bio-4), Toronto, Canada, July 21–26, 2019  
*“Mesoporous bioactive glasses as multifunctional devices for bone regeneration”*
3. CIEC 16, 16<sup>th</sup> European International Conference on Ceramics, Torino, Italy, September 9-11, 2018  
*“Promising strategies to improve the therapeutic effect of mesoporous bioactive glasses for bone regeneration”*  
 C. Pontremoli, **Enrico Peretti**, A. Bari, C. Vitale-Brovarone and S. Fiorilli

4. AIM 2018, Advanced Inorganic Materials: Green and Unconventional Synthesis Approaches and Functional Assessment, Padova, Italy, September 5-7, **2018**  
*"Pro-osteogenic Mesoporous Glasses with zwitterionic surface for bone regeneration"*  
**Enrico Peretti**, C. Pontremoli, C. Vitale-Brovarone, S. Fiorilli
5. EUROMAT 2017, European Congress and Exhibition on Advanced Materials and Processes, Thessaloniki, Greece  
 September 17-22, **2017**  
*Ion-doped mesoporous bioactive glass nanoparticles for wound healing applications*  
 Alessandra Bari, Sonia Fiorilli, **Carlotta Pontremoli**, Joanna Shepherd, Anthony J Bullock, Sheila Macneil, Chiara Vitale-Brovarone
6. EUROMAT 2017, European Congress and Exhibition on Advanced Materials and Processes, Thessaloniki, Greece  
 September 17-22, **2017**  
*Mesoporous glasses doped with ions: biocompatibility, osteogenic activity and antibacterial effect*  
**Carlotta Pontremoli**, Alessandra Bari, Giorgio Iviglia, Elisa Torre, Clara Cassinelli, Marco Morra, Sonia Fiorilli, Chiara Vitale-Brovarone
7. XIX Scuola di Scienza e Tecnologia dei Materiali, Ischia, Italy  
*"Materials science and technologies approaches to biomedical challenges"*  
 July 9-12, **2017**
8. MICRO- AND NANO-TECHNOLOGIES FOR HEALTH *Politecnico di Torino*  
 June 19, **2017**
9. PSL\* Chemical Biology Symposium, Paris, France  
 December 8-9, **2016**  
*DNA-Drug interaction: a kinetic study*  
 Sonja Visentin, Carlotta **Pontremoli**, Noemi Gibin, Nadia Barbero
10. Workshop & NIS Colloquium, Department of Chemistry, University of Torino  
 October 6th-7th **2016**  
*Drug release kinetics from biodegradable UV-transparent hollow calcium-phosphate glass fibers*  
 Edoardo Ceci-Ginistrelli, Carlotta **Pontremoli**, Diego Pugliese, Nadia Barbero, Nadia G. Boetti, Claudia Barolo, Sonja Visentin, Daniel Milanese
11. Workshop & NIS Colloquium, Department of Chemistry, University of Torino  
 October 6th-7th **2016**  
*Gold Nanoparticles usable for photothermal therapy: a study of the interaction with Mucin*  
 Sonja Visentin, Carlotta **Pontremoli**, Martina Coletti, Cecilia Padovan, Nadia Barbero
12. First Joint Congress of the French and Italian Photochemists and Photobiologists  
 Bari, Ex-Palazzo delle Poste

September 19 – 22, **2016**

*Mucin–drugs interaction: the case of theophylline, prednisolone and cephalexin*

Carlotta **Pontremoli**, Nadia Barbero, Guido Viscardi, Sonja Visentin

13. ESTRO Conferences 35, Torino, Italy

April 29 – May 3, **2016**

*Measurements of Reactive Oxygen Species production induced by Gold Nanoparticles*

L. Bocchini, A. Gobbato, A. Attili, C. Cutaia, V. Ferrero, C. **Pontremoli**, L. Radici, M. Stasi, S. Visentin, P. Cerello. Selected for oral communication

14. "ICTR-PHE International Conference on Translational Research in Radio-Oncology | Physics for Health in Europe" CICG, Geneva, Switzerland

February 15-19, **2016**

*Measurements of Reactive Oxygen Species production induced by Gold Nanoparticles in Radiotherapy protocols*

P. Cerello, L. Bocchini, A. Gobbato, A. Attili, C. Cutaia, V. Ferrero, C. **Pontremoli**, L. Radici, M. Stasi, S. Visentin. Selected for oral communication

15. Flash- Oral communication: "S.A.Y.C.S. Sigma-Aldrich Young Chemists Symposium"

Rimini, 27-29 October, **2015**

*Mucin–drugs interaction: the case of theophylline, prednisolone and cephalexin*

Carlotta **Pontremoli**, Nadia Barbero, Guido Viscardi, Sonja Visentin

16. "N&N15 Nanoscience & Nanotechnology Conference"

INFN- Laboratori nazionali di Frascati, September 28- October 2, **2015**

*Carbon nanotubes, Halloysite nanotubes and Gold nanoparticles: an overview of some applications for biomedical purposes*

Sonja Visentin, Alessandra Fiorio-Pla, Piergiorgio Cerello, Daniele Avanzato, Carlotta **Pontremoli**. Selected for oral communication

17. "International Conference of Applied Mineralogy and Advanced Materials" Castellaneta marina 7-12 June **2015**

*TRPM8 Channel-functionalized halloysite nanotubes to target tumor vascularization*

Alessandra Fiorio Pla, Francesco Bacchi, Carlotta **Pontremoli**, Sonja Visentin. Selected for oral communication

18. "Biophysic@Rome", 28-29 May, **2015**

*New squaraine dyes for photodynamic therapy*

Nadia Barbero, Loredana Serpe, Roberto Canaparo, Federica Foglietta, Claudia Barolo, Guido Viscardi, Carlotta **Pontremoli**, Sonja Visentin. Selected for oral communication

19. Kickoff Meeting Nanomed /PRIN 2010, Bologna 23-24 April **2015**

*Differen aspects of the use of nanomaterials in anticancer therapy*  
Sonja Visentin, Loredana Serpe, Roberto Canaparo, Nadia Barbero, Carlotta  
**Pontremoli**, Alessandra Fiorio Pla, Claudio Medana

Autorizzo il trattamento dei dati in conformità a quanto previsto dal DL 196/03.

A handwritten signature in brown ink, appearing to read "Carlotta Pontremoli", is centered on the page. The signature is written in a cursive style with a horizontal line crossing through the middle of the letters.