

Serena De Santis

DoB 7th June 1985

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Dedicated Chemistry researcher with expertise in the fields of functionalization of surfaces for sensors and biomedical applications, synthesis and characterization of polymeric nanoparticles for drugs delivery and micro-FTIR study for biological tissues. Scientific divulger and teacher, with many years of experience at renowned Universities.

RESEARCH EXPERIENCE

- December 2018 - present* **Assistant Professor**
Università degli studi Roma Tre – Department of Engineering
Project: Surface functionalization for sensors and biomedical applications
- May 2017- April 2018* **Research Fellow**
Sapienza Università di Roma – Department of Chemistry
Project: Polymer-peptide bioconjugates for therapeutic uses
- March 2016 – April 2017* **Research Fellow**
Sapienza Università di Roma – Department of Chemistry
Project: Synthesis and characterization of self-assembling nanoparticles from pH- and / or heat-sensitive peptide-polymer bioconjugates "
- March 2015 – February 2016* **Research fellow**
Sapienza Università di Roma – Department of Chemistry
Project: New generation biosensors based on choline - amino acids ionic liquids: structural characterization of liquid and the active surface and improvement of device properties
- October 2013 – January 2015* **Postdoctoral fellow**
Sapienza Università di Roma – Department of Chemistry
"Polimeri a peso molecolare, polidispersione ed architettura controllata tramite ATRP per la preparazione di nanoparticelle autoassemblanti e sistemi termosensibili".

EDUCATION

- December 2012* **Ph.D in Chemical Science**
Sapienza Università di Roma – Department of Chemistry in collaboration with "CASPUR - Consorzio interuniversitario per le Applicazioni di Supercalcolo Per Università e Ricerca).
Dissertation: Theoretical and experimental methods for the dynamic and structural study of protein systems.
- July 2009* **Master's degree** with honors (110 e lode/110)
Sapienza Università di Roma – Department of Chemistry
Dissertation: Thermoresponsive nanoparticles from interpolyelectrolyte complexes of block copolymers.
- September 2007* **Bachelor's Degree** with honors (110 e lode/110)
Sapienza Università di Roma – Department of Chemistry
Dissertation: Detection of Fe (II) non-heme halogenases involved in the biosynthesis of halogenated metabolites.

SELECTED SCIENTIFIC PUBLICATIONS

1. Serena De Santis*, Giovanni Sotgiu, Francesco Porcelli, Martina Marsotto, Giovanna Iucci, Monica Orsini. **A simple cerium coating strategy for titanium oxide nanotubes bioactivity enhancement.** *Nanomaterials* **2021**, 11(2), 445
2. Serena De Santis*, Giovanni Sotgiu, Anna Crescenzi, Chiara Taffon, Anna Candita Felici, Monica Orsini. **"On the chemical composition of psammoma bodies microcalcifications in thyroid cancer tissues"** *Journal of Pharmaceutical and Biomedical Analysis*, **2020**, 190, 113534
3. A. Zancla, S. De Santis, G. Sotgiu, C. Taffon, A. Crescenzi, M. Orsini. **"Micro-FTIR spectroscopy as robust tool for psammoma bodies detection in papillary thyroid carcinoma"** *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, **2020**, 229, 117984
4. C. Battocchio, S. Concolato, S. De Santis, M. Fahlman, G. Iucci, M. Santi, G. Sotgiu, M. Orsini. **"Chitosan functionalization of titanium and Ti6Al4V alloy with chloroacetic acid as linker agent"** *Materials Science & Engineering C*, **2019**, 99, 1133–1140.
5. S. De Santis, F. Novelli, F. Sciubba, S. Casciardi, S. Sennato, S. Morosetti, A. Scipioni, G. Masci. **"Switchable length nanotubes from a self-assembling pH and thermosensitive linear L,D-peptide-polymer conjugate"** *Journal of Colloid and Interface Science*, **2019**, 547, 256-266. IF: 5.091
6. S. De Santis, C. La Mesa, G. Masci. **"On the upper critical solution temperature of PNIPAAm in an ionic liquid: Effect of molecular weight, tacticity and water."** *Polymer*, **2017**, 120, 52-58. DOI: 10.1016/j.polymer.2017.05.059
7. S. De Santis, R. Chiaraluce, V. Consalvi, F. Novelli, M. Petrosino, P. Punzi, F. Sciubba, C. Giordano, G. Masci, A. Scipioni. **"PEGylated β -sheet breaker peptides as inhibitors of β -amyloid fibrillization."** *ChemPlusChem*, **2017**, 82, 241 – 250.
8. S. De Santis, G. Masci, F. Casciotta, R. Caminiti, E. Scarpellini, M. Campetella, L. Gontrani. **"Cholinium-Amino Acid based Ionic Liquids: a new method of synthesis and physico-chemical characterization"**. *Physical Chemistry Chemical Physics*, **2015**, 17, 20687-20698. DOI: 10.1039/C5CP01612F
9. S. De Santis, M. Diociaiuti, C. Cametti, G. Masci. **"Hyaluronic Acid and Alginate Covalent Nanogels by Template Cross-Linking in Polyion Complex Micelle Nanoreactors."** *Carbohydrate Polymers*, **2014**, 101, 96-103.
10. S. De Santis, R. D. Ladogana, G. Masci, M. Diociaiuti. **"Pegylated and Thermosensitive Polyion Complex Micelles by Self-Assembly of Two Oppositely and Permanently Charged Diblock Copolymers"** *Macromolecules*, **2010**, 43 (4), 1992-2001.

OTHER

March 2014 – **Professor of General Chemistry**
Università degli studi Roma Tre – Department of Engineering

English: comprehension level B2; spoken level C1; written production C1. (Evaluation according to the Common European Framework of Reference for Languages).