

## PERSONAL INFORMATION Francesco Amato

WORK EXPERIENCES  
& EDUCATION

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- Sep. 2021-present      **Postdoctoral fellowship**  
Sapienza University of Rome  
Project title: "Synthesis, characterization and applications of Carbon-based Nanosponges"  
Supervisor: Prof. P. Altimari
- Nov. 2017-Apr. 2021      **PhD in Nanotechnology**  
University of Trieste (Department of Chemical and Pharmaceutical Sciences)  
Thesis title: "Synthesis, characterization and applications of Carbon Nanodots"  
Supervisor: Prof. M. Prato
- May 2016-Jan. 2017  
Mar. 2017-Aug. 2017      **Postgraduate scholarship**  
ATeN Center UniPa (Advanced Technologies Network Center)  
Nanotechnology for the diagnostic of the cultural heritage: preparation and characterization of nanomaterials for Surface Enhanced Raman Scattering applications  
Supervisor: Prof. S. Agnello
- May 2015-Nov. 2015      **Postgraduate scholarship**  
University of Palermo (Department of Physics and Chemistry) & Laviosa Minerals Srl  
Design, synthesis and characterization of nanohybrid systems clay/surfactant  
Supervisor: Prof. M. L. Turco Liveri
- Feb. 2015-Apr. 2015      **Postgraduate training**  
University of Palermo (STEBICEF Department)  
Synthesis and characterization of Organoindium (III) complexes with dianionic and tetradentate Schiff bases  
Supervisor: Prof. G. Barone
- Nov. 2012-Dec. 2014      **Master Degree in Chemistry**  
University of Palermo (Department of Physics and Chemistry)  
Grade: 110/110 cum Laude  
Thesis title: "Synthesis and characterization of triorganotin (IV) complexes of polydentate Schiff bases"  
Supervisor: Dr. M. Scopelliti
- Sept. 2008-Jan. 2013      **Bachelor Degree in Chemistry**  
University of Palermo (STEBICEF Department)  
Grade: 96/110  
Thesis title: "Synthesis, characterization and interaction with DNA of [Fe<sup>III</sup>(dipyrido[3,2-a:2',3'-c]phenazine)bis(glycinate)ClO<sub>4</sub>]"  
Supervisor: Prof. G. Barone

Dec. 2011-Mar. 2012 Academic training in Mass Spectrometry  
Centro Grandi Apparecchiature (CGA), Palermo

Sept. 2003-July 2008 High School diploma - Chemical-Biological Technician  
ISS "E. Ascione" Palermo  
Grade: 97/100

## PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Job-related skills UV-Vis, AAS, circular dichroism, fluorescence, FT-IR, Raman and SERS spectroscopies  
Mass spectrometry and thermogravimetric analysis  
AFM and TEM microscopies  
Synthesis and characterization of carbon-based nanomaterials  
Synthesis and characterization of metal-based nanoparticles  
Solid-state synthesis

Computer skills Knowledge of the following O.S.: Windows, Linux Based and MacOS  
Knowledge of the following analysis programs: OriginLab, Scidavis, Magic Plot and Excel

## ADDITIONAL INFORMATION

### Publications

1. "Unlocking the stability of Reduced Graphene Oxide nanosheets in biological media via use of sodium ascorbate"  
**F. Amato**, G. Perini, G. Friggeri, A. Augello, A. Motta, L. Giaccari, R. Zanoni, M. De Spirito, V. Palmieri, A. G. Marrani, M. Papi, *Adv. Mater. Interfaces* **2023**, 2300105.
2. "One-pot carboxyl enrichment fosters water dispersibility of reduced graphene oxide: a combined experimental and theoretical assessment"  
**F. Amato**, A. Motta, L. Giaccari, R. Di Pasquale, F. A. Scaramuzzo, R. Zanoni, A. G. Marrani, *Nanoscale Adv.* **2023**, 5, 893-906.
3. "Tailoring the Chemical Structure in Nitrogen-Doped Carbon Dots for Nano-Aminocatalysis in Aqueous Media"  
G. Gentile, M. Marmone, C. Rosso, **F. Amato**, C. Lanfrat, G. Filippini, M. Prato, *ChemSusChem* **2023**, e202202399.

4. "Graphene oxide-mediated copper reduction allows comparative evaluation of oxygenated reactive residues exposure on the materials surface in a simple one-step method"  
V. Palmieri, **F. Amato**, A. G. Marrani, G. Friggeri, G. Perini, A. Augello, M. De Spirito, M. Papi, *Appl. Surf. Sci.* **2023**, *615*, 156315.
5. "Understanding the nature of graphene oxide functional groups by modulation of the electrochemical reduction: a combined experimental and theoretical approach"  
I. Ferrari, A. Motta, R. Zaroni, F. A. Scaramuzzo, **F. Amato**, E. A. Dalchiele, A. G. Marrani, *Carbon* **2023**, *203*, 29.
6. "Self-Healing and Reprocessable Oleic Acid-Based Elastomer with Dynamic S-S Bonds as Solvent-Free Reusable Adhesive on Copper Surface"  
L. Pettazoni, F. Leonelli, A. G. Marrani, L. M. Migneco, F. Vetica, L. Celio, V. Napoleone, S. Alfano, A. Colecchia, **F. Amato**, V. Di Lisio, A. Martinelli, *Polymers* **2022**, *14*(22), 4919.
7. "Green In Situ Synthesis of Silver Nanoparticles-Peptide Hydrogel Composites: Investigation of Their Antibacterial Activities"  
R. Binaymotlagh, A. Del Giudice, S. Mignardi, **F. Amato**, A. G. Marrani, F. Sivori, I. Cavallo, E. G. Di Domenico, C. Palocci, L. Chronopoulou *Gels* **2022**, *8*, 700.
8. "Efficient and Stable Perovskite Solar Cells Based on Nitrogen-Doped Carbon Nanodots"  
S. Collavini, **F. Amato**, A. Cabrera-Espinoza, F. Arcudi, L. Đorđević, I. Kosta, M. Prato, J. L. Delgado, *Energy Technol.* **2022**, *10*, 2101059.
9. "Transfer of Axial Chirality to the Nanoscale Endows Carbon Nanodots with Circularly Polarized Luminescence"  
S. Di Noja, **F. Amato**, F. Zinna, L. Di Bari, G. Ragazzon, M. Prato, *Angew. Chemie Int. Ed.* **2022**, *61*, e202202397.
10. "Nuclear Magnetic Resonance Reveals Molecular Species in Carbon Nanodot Samples Disclosing Flaws"  
B. Bartolomei, A. Bogo, **F. Amato**, G. Ragazzon, M. Prato, *Angew. Chem. Int. Ed.* **2022**, *61*, e202200038.
11. "Effect of Electrolytic Medium in the Electrochemical Reduction of Graphene Oxide on Si(111) as Probed by XPS"  
A. G. Marrani, A. Motta, **F. Amato**, R. Schrebler, R. Zaroni, E. A. Dalchiele, *Nanomaterials* **2022**, *12*, 43.
12. "Agarose-Based Fluorescent Waveguide with Embedded Silica Nanoparticle-Carbon Nanodot Hybrids for pH Sensing"  
**F. Amato**, M. C. Prado Soares, T. Destri Cabral, E. Fujiwara, C. Monteiro de Barros Cordeiro, A. Criado, M. Prato, J. R. Bartoli, *ACS Appl. Nano Mater.* **2021**, *4*, 9738-9751.

13. "Mapping the Surface Groups of Amine-Rich Carbon Dots Enables Covalent Catalysis in Aqueous Media"  
G. Filippini, **F. Amato**, C. Rosso, G. Ragazzon, A. Vega-Peñaloza, X. Companyó, L. Dell'Amico, M. Bonchio, M. Prato, *Chem* **2020**, *6*, 3022-3037.
14. "Nitrogen-doped Carbon Nanodots/PMMA Nanocomposites for Solar Cells Applications"  
**F. Amato**, M. Cacioppo, F. Arcudi, M. Prato, M. Mituo, E. G. Fernandes, M. N. P. Carreño, I. Pereyra, J. R. Bartoli, *Chem. Eng. Trans.* **2019**, *74*, 1105-1110.
15. "Luminescence Efficiency of Si/SiO<sub>2</sub> Nanoparticles Produced by Laser Ablation"  
M. Cannas, P. Camarda, L. Vaccaro, **F. Amato**, F. Messina, T. Fiore, S. Agnello, F. M. Gelardi, *Phys. Status Solidi A* **2019**, *216*, 1800565.
16. "Enhancing the luminescence efficiency of silicon-nanocrystals by interaction with H<sup>+</sup> ions"  
M. Cannas, P. Camarda, L. Vaccaro, **F. Amato**, F. Messina, T. Fiore, M. Li Vigni, *Phys. Chem. Chem. Phys.* **2018**, *20*, 10445-10449.
17. "Inkjet printing Ag nanoparticles for SERS hot spots"  
C. Micciché, G. Arrabito, **F. Amato**, G. Buscarino, S. Agnello, B. Pignataro, *Anal. Methods* **2018**, *10*, 3215-3223.
18. "Ag nanoparticles agar gel nanocomposites for SERS detection of cultural heritage interest pigments"  
**F. Amato**, C. Micciché, M. Cannas, F. M. Gelardi, B. Pignataro, M. Li Vigni, S. Agnello, *Eur. Phys. J. Plus* **2018**, *133*, 74.

#### Participation to conferences, schools & workshops

1. "The functionalization of graphene oxide as a route towards reduced graphene oxide with an increased water-dispersibility", Graphene 2023, June 27-30, 2023, Manchester, United Kingdom. Oral presentation.
2. "The functionalization of graphene oxide as a way for the preparation of water-dispersible graphene and nanocomposites", First Symposium for Young Chemists: Innovation and Sustainability (SYNC2022), June 20-23, 2022, Roma, Italy. Oral presentation.
3. "The carboxylation of Graphene Oxide. A DFT study", R. Di Pasquale, **F. Amato**, A. Motta, A. G. Marrani, R. Zanoni, First Symposium for Young Chemists: Innovation and Sustainability (SYNC2022), June 20-23, 2022, Roma, Italy. Co-author in the poster presentation.
4. "Insights on graphene oxide reactivity via XPS, Raman and UV-Vis spectroscopy", L. Giaccari, **F. Amato**, A. Motta, R. Zanoni, A. G. Marrani, First Symposium for Young Chemists: Innovation and Sustainability (SYNC2022), June 20-23, 2022, Roma, Italy. Co-author in the poster presentation.
5. Participation in the International School of Chemistry, September 01-06, 2020, Camerino,

Italy.

6. "Synthesis, characterization and applications of Carbon Nanodots", Annual Workshop of the PhD program in Nanotechnology, January 22, 2020, Trieste, Italy. Oral presentation.
7. "Synthesis, characterization and optoelectronic applications of Silicon dioxide@Carbon Nanodots hybrids", **F. Amato**, J. R. Bartoli, M. Prato, 15<sup>th</sup> Brazilian Polymer Conference (CBPol), October 27-31, 2019, Bento Gonçalves-RS, Brasil. Co-author in the poster presentation.
8. "Synthesis and Applications of Nitrogen-Doped Carbon Dots with Blue Fluorescence", M. César Soares, J. R. Bartoli, **F. Amato**, M. Cacioppo, F. Arcudi, M. N. P. Carreño, I. Pereyra, E. Fujiwara, C. K. Suzuki, M. Prato, XVIII Brazil MRS Meeting 2019, September 22-26, Balneário Camboriú, Brasil. Co-author in the poster presentation.
9. Participation in the School of Nanomedicine, October 11-13, 2019, Trieste, Italy.
10. "The Surface properties of Carbon Nanodots", **F. Amato**, G. Ragazzon, M. Prato, Workshop on Low-Dimensional Materials, July 22-23, 2019, San Sebastián, Spain. Oral presentation.
11. Participation in the "Modena Award 2019" symposium, May 3, 2019, Padova, Italy.
12. "Carbon Nanodots-based hybrids for Oxygen Reduction Reaction", **F. Amato**, L. Đorđević, F. Arcudi, G. Valenti, L. Meng, F. Paolucci, M. Prato, E-WISPOC, January 29-February 1, 2019, Bressanone, Italy. Poster presentation.
13. "Synthesis, characterization and applications of Carbon Nanodots", Annual workshop of the PhD program in Nanotechnology, January 22, 2019, Trieste, Italy. Oral presentation.
14. "Metodologie da stampa a getto d'inchiostro per la fabbricazione di substrati SERS", C. Miccichè, G. Arrabito, **F. Amato**, G. Buscarino, S. Agnello, B. Pignataro, Convegno congiunto delle Sezioni Calabria e Sicilia 2019 della Società Chimica Italiana, March 1-2, 2019, Palermo, Italy.
15. Participation in the "XXII International conference on Organic Synthesis", September 16-21, 2018, Florence, Italy.
16. "Antibacterial and antitumoral activities of new organotin(IV)-Schiff bases derivatives", M. Scopelliti, **F. Amato**, R. Alduina, P. Cancemi, S. Rubino, XVII Workshop on PharmacoBioMetallics, February 16-17, 2018, University of Naples "Federico II", Italy. Co-author in the poster presentation.
17. "Streptomyces coelicolor extracellular vesicles", T. Faddetta, S. Castelli, **F. Amato**, C. Miccichè, G. Nasillo, G. Buscarino, D. Chillura Martino, S. Agnello, A. Palumbo Piccionello, G. Gallo, A. M. Puglia, XXXII SIMGBM Congress-Microbiology 2017, September 17-10, 2017, Palermo, Italy.
18. Workshop on analytical data and limit values in Chemistry, October 20, 2010, Palermo,

## Academic training

Italy.

Course on Transmission Electron Microscopy analysis (TEM) at the department of Life Sciences, University of Trieste, 30 hours.

## Tutoring activity

1. *Co-advisor* in the master thesis of A. Bogo, "Synthesis, purification and characterization of chiral Carbon Dots". Master degree in Chemistry, University of Trieste, July 2021.
2. General Chemistry with laboratory and elements of Organic, Bachelor's degree program in Geology, University of Trieste, 35 hours, 2019-2020.
3. Advanced Organic Chemistry, degree program in Chemistry and Pharmaceutical Technologies (CTF), University of Trieste, 2 hours, 2020.

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