

Francesco Amato, PhD

WORK EXPERIENCES & EDUCATION

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| Sep. 2021-present | <p>Postdoctoral fellowship
 Sapienza University of Rome
 Project title: "Synthesis, characterization and applications of Carbon-based Nanosponges"
 Supervisor: Prof. R. Zanoni</p> |
| Feb. 2021-May 2021 | <p>Scientific collaboration agreement
 Agricultural enterprise "Il Pucino"
 Synthesis and characterization of Silver, Copper and Gold nanoparticles</p> |
| Nov. 2017-Apr. 2021 | <p>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</p> |
| May 2016-Jan. 2017
Mar. 2017-Aug. 2017 | <p>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</p> |
| May 2015-Nov. 2015 | <p>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</p> |
| Feb. 2015-Apr. 2015 | <p>Postgraduate training
 University of Palermo (STEBICEF Department)
 Synthesis and characterization of Organoindium (III) complexes with dianionic and tetradentate Schiff bases
 Supervisor: Prof. G. Barone</p> |
| Nov. 2012-Dec. 2014 | <p>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</p> |
| Sept. 2008-Jan. 2013 | <p>Bachelor Degree in Chemistry
 University of Palermo (STEBICEF Department)
 Grade: 96/110
 Thesis title: "Synthesis, characterization and interaction with DNA of [Fe^{III}(dipyrido[3,2-a:2',3'-c]phenazine)bis(glycinate)ClO₄]"
 Supervisor: Prof. G. Barone</p> |

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

Sept. 2003-Jan. 2008 High School diploma - Chemical-Biological Technician
IIS "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. "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, *Energy Technol.* **2022**, 2101059.
2. "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**, e202202397.
3. "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.
4. "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. Zanoni, E. A. Dalchiele, *Nanomaterials*

2022, 12, 43.

5. "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.
6. "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.
7. "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.
8. "Luminescence Efficiency of Si/SiO₂ 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.
9. "Enhancing the luminescence efficiency of silicon-nanocrystals by interaction with H⁺ ions"
M. Cannas, P. Camarda, L. Vaccaro, **F. Amato**, F. Messina, T. Fiore, M. Li Vigni, *Phys. Chem. Chem. Phys.*, **2018**, 20, 10445-10449.
10. "Inkjet printing Ag nanoparticles for SERS hot spots"
C. Miccichè, G. Arrabito, **F. Amato**, G. Buscarino, S. Agnello, B. Pignataro, *Anal. Methods*, **2018**, 10, 3215-3223.
11. "Ag nanoparticles agargel nanocomposites for SERS detection of cultural heritage interest pigments"
F. Amato, C. Miccichè, 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 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.
2. "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.
3. "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.
4. Participation in the International School of Chemistry, September 01-06, 2020, Camerino, Italy.

5. "Synthesis, characterization and applications of Carbon Nanodots", Annual Workshop of the PhD program in Nanotechnology, January 22, 2020, Trieste, Italy. Oral presentation.
6. "Synthesis, characterization and optoelectronic applications of Silicon dioxide@Carbon Nanodots hybrids", **F. Amato**, J. R. Bartoli, M. Prato, 15th Brazilian Polymer Conference (CBPol), October 27-31, 2019, Bento Gonçalves-RS, Brasil. Co-author in the poster presentation.
7. "Synthesis and Applications of Nitrogen-Doped Carbon Dots with Blue Fluorescence", M. C sar Soares, J. R. Bartoli, **F. Amato**, M. Cacioppo, F. Arcudi, M. N. P. Carre o, I. Pereyra, E. Fujiwara, C. K. Suzuki, M. Prato, XVIII Brazil MRS Meeting 2019, September 22-26, Balne rio Cambori , Brasil. Co-author in the poster presentation.
8. Participation in the School of Nanomedicine, October 11-13, 2019, Trieste, Italy.
9. "The Surface properties of Carbon Nanodots", **F. Amato**, G. Ragazzon, M. Prato, Workshop on Low-Dimensional Materials, July 22-23, 2019, San Sebasti n, Spain. Oral presentation.
10. Participation in the "Modena Award 2019" symposium, May 3, 2019, Padova, Italy.
11. "Carbon Nanodots-based hybrids for Oxygen Reduction Reaction", **F. Amato**, L. Ðorđević, F. Arcudi, G. Valenti, L. Meng, F. Paolucci, M. Prato, E-WISPOC, January 29-February 1, 2019, Bressanone, Italy. Poster presentation.
12. "Synthesis, characterization and applications of Carbon Nanodots", Annual workshop of the PhD program in Nanotechnology, January 22, 2019, Trieste, Italy. Oral presentation.
13. "Metodologie da stampa a getto d'inchiostro per la fabbricazione di substrati SERS", C. Miccich , G. Arrabito, **F. Amato**, G. Buscarino, S. Agnello, B. Pignataro, Convegno congiunto delle Sezioni Calabria e Sicilia 2019 della Societ  Chimica Italiana, March 1-2, 2019, Palermo, Italy.
14. Participation in the "XXII International conference on Organic Synthesis", September 16-21, 2018, Florence, Italy.
15. "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.
16. "Streptomyces coelicolor extracellular vesicles", T. Faddetta, S. Castelli, **F. Amato**, C. Miccich , 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.
17. Workshop on analytical data and limit values in Chemistry, October 20, 2010, Palermo, Italy.

Academic training

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.
3. Advanced Organic Chemistry, degree program in Chemistry and Pharmaceutical Technologies (CTF), University of Trieste, 2 hours.

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