

Giulia Neri

Curriculum Vitae

PERSONAL PROFILE



Dr Giulia Neri
Junior Researcher (RTD-A)
PhD in Chemical Sciences

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EDUCATION and WORK EXPERIENCE

- 2013 **Master's Degree** in Pharmaceutical Chemistry and Technology at the University of Messina (final mark 110/110 with honours);
- 2015-2016 **PhD visitor** at the National Physical Laboratory (NPL, London, UK);
- 2017 **PhD in Chemical Sciences** *Engineering of graphene materials for biomedical applications. From graphite to new functionalized graphene by top down-approaches*, at the Dept. of Chemical, Biological, Pharmaceutical and Environmental Sciences of the University of Messina;
- 2017-2018 **Post-doctoral researcher** at the Dept. of Chemical Sciences of the Politecnico di Milano, sponsored by a Solvay Group grant;
- 2018-2019 **Post-doctoral researcher** at the Dept. of Chemical Sciences of the Politecnico di Milano, research within the Regione Lombardia 2005-0023 TRANS-ALS project;
- since 2019 **Junior Researcher (RTD-A)** at the Dept. of Chemical, Biological, Pharmaceutical and Environmental Sciences of the University of Messina.

RESEARCH ACTIVITY

Currently main research interest is focused on: *i)* engineering of carbon based nanomaterials (graphene and carbon nanotubes), to develop new nanotheranostic platforms, to employ as sensing and therapeutic tools; *ii)* surface modification and surface properties characterization of biopolymeric materials (to design particle and fiber systems for controlled drug release, as well as contrast agents for ¹⁹F MRI (magnetic resonance image) applications; *iii)* development of multimodal systems based on liposomes and exosomes, dendrimers for biomedical applications.

RESEARCH PROJECTS

- 2016 Research & Mobility Project 2016 *Development of Chemo-(Bio)Sensors for Advanced Applications*;
- 2016 Research & Mobility Project 2016 *Signalosome Complex Activation by New Nanotherapeutic Agents in Virai and Cancer Treatment*;
- 2019 Regione Lombardia Project 2005-0023 *TRANS-ALS Nanovettori Fluorurati per Terapia con mi-RNA*.

TEACHING EXPERIENCE

- 2017-2018 co-supervisor of the master thesis *Development of fluorinated liposomes for ¹⁹F-MRI and gene delivery* in Chemical Engineering at Politecnico di Milano;
- 2019-2020 *Biorganic and Fermentation Chemistry Mod B*, master's degree in Biology at University of Messina;
- 2019-2020 co-supervisor of the master thesis *Hybrid Materials based on graphene and cationic cyclodextrine as carrier for doxorubicine*, in Chemistry at University of Messina;
- 2020/2021 *Supramolecular Chemistry* master's degree in Chemistry at University of Messina.

PUBLICATIONS

1. **Giulia Neri**, Angela Scala, Francesco Barreca, Enza Fazio, Placido G. Mineo, Antonio Mazzaglia, Giovanni Grassi, Anna Piperno. *Engineering of carbon based nanomaterials by ring-opening reaction of reactive azlactone graphene platform* Chem. Commun., 2015, 51, 4846-4849. DOI: 10.1039/c5cc00518c;
2. **Giulia Neri**, Angela Scala, Enza Fazio, Placido G. Mineo, Antonio Rescifina, Anna Piperno, Giovanni Grassi. *Repurposing of oxazolone chemistry gaining access to functionalized graphene nanosheets in a top-down approach from graphite* Chemical Science, 2015, 6, 6961-6970. DOI: 10.1039/c5sc02576a;
3. **Giulia Neri**, Nicola Micale, Angela Scala, Enza Fazio, Antonino Mazzaglia, Placido G. Mineo, Monica Montesi, Silvia Panseri, Anna Tampieri, Giovanni Grassi, Anna Piperno. *Silibinin-conjugated graphene nanoplatfom: Synthesis, characterization and biological evaluation* FlatChem, 2017, 1, 34-41. DOI: 10.1016/j.flatc.2016.10.002;
4. Antonino Mazzaglia, Angela Scala, Giuseppe Sortino, Roberto Zagami, Yanqui Zhu, Maria Teresa Sciortino, Rosamaria Pennisi, Maria Musarra Pizzi, **Giulia Neri**, Giovanni Grassi, Anna Piperno. *Intracellular trafficking and therapeutic outcome of multiwalled carbon nanotubes modified with cyclodextrins and polyethylenimine*

Colloids and Surfaces B: Biointerfaces, 2018, 163, 55–63. DOI: 10.1016/j.colsurfb.2017.12.028;

5. Anna Piperno, Angela Scala, Antonino Mazzaglia, **Giulia Neri**, Rosaria Pennisi, Maria Teresa Sciortino, Giovanni Grassi. *Cellular signaling pathways activated by functional graphene nanomaterials* International Journal of Molecular Sciences, 2018, 19, 3365. DOI: 10.3390/ijms19113365;
6. Davide Barreca, **Giulia Neri**, Angela Scala, Enza Fazio, Davide Gentile, Antonio Rescifina, Anna Piperno. *Covalently immobilized catalase on functionalized graphene: effect on the activity, immobilization efficiency, and tetramer stability*, Biomaterials Science, 2018, 6, 3231-3240. DOI: 10.1039/c8bm00850g;
7. Enza Fazio, Alessandro Ridolfo, **Giulia Neri**. *Thermally activated noble metal nanoparticles incorporated in electrospun fiber-based drug delivery systems* Current Nanomaterials, 2019, 4, 21-31. DOI: 10.2174/1573407214666180914121929;
8. **Giulia Neri***, Salvatore Spadaro, Francesco Barreca, Saveria Santangelo, Fortunato Neri, Enza Fazio*. *Ag/PMA electrospun scaffolds as a drug delivery system* Current Nanomaterials, 2019, 4, 32-38. DOI: [10.2174/2405461504666190416144047](https://doi.org/10.2174/2405461504666190416144047), [*Corresponding Author];
9. **Giulia Neri**, Enza Fazio, Placido Giuseppe Mineo, Angela Scala, Anna Piperno. *SERS sensing properties of new graphene/gold nanocomposite* Nanomaterials, 2019, 9, 1236. DOI: 10.3390/nano9091236;
10. Anna Piperno, Antonino Mazzaglia, Angela Scala, Rosamaria Pennisi, Roberto Zagami, **Giulia Neri**, Serena M. Torcasio, Consolato Rosmini, Placido G. Mineo, Monica Potara, Monica Focsan, Simion Astilean, Grace Guoying Zhou, Maria Teresa Sciortino. *Casting Light on Intracellular Tracking of a New Functional Graphene-Based MicroRNA Delivery System by FLIM and Raman Imaging* ACS Appl. Mater. Interfaces, 2019, 11, 46101. DOI: 10.1021/acsami.9b15826;
11. **Giulia Neri***, Carmelo Corsaro, Enza Fazio. *Plasmon-Enhanced Controlled Drug Release from Ag-PMA Capsules* Molecules, 2020, 25, 2267. DOI: 10.3390/molecules25092267 [*Corresponding Author];
12. Wanda Celentano, **Giulia Neri**, Francesco Distante, Min Li, Piergiorgio Messa, Cristina Chirizzi, Linda Chaabane, Floryan De Campo, Pierangelo Metrangolo, Francesca Baldelli Bombelli, Francesco Cellesi. *Design of fluorinated hyperbranched polyether copolymers for ¹⁹F MRI nanotheranostics* Polym. Chem., 2020, 11, 3951. DOI: 10.1039/d0py00393j;
13. Annalaura Cordaro, **Giulia Neri**, Maria Teresa Sciortino, Angela Scala, Anna Piperno. *Graphene-Based Strategies in Liquid Biopsy and in Viral Diseases Diagnosis* Nanomaterials, 2020, 10, 1014. DOI: 10.3390/nano10061014;

14. **Giulia Neri**, Giuliana Mion, Andrea Pizzi, Wanda Celentano, Linda Chaabane, Michele R. Chierotti, Roberto Gobetto, Min Li, Piergiorgio Messa, Floryan De Campo, Francesco Cellesi, Pierangelo Metrangolo, Francesca Baldelli Bombelli. *Fluorinated-PLGA Nanoparticles for Enhanced Drug Encapsulation and ¹⁹F-NMR Detection* Chem. Eur. J., 2020, 26, 10057 – 10063. DOI: 10.1002/chem.202002078;
15. Daniela Caccamo, Monica Currò, Riccardo Ientile, Elisabetta AM Verderio, Angela Scala, Antonino Mazzaglia, Rosamaria Pennisi, Maria Musarra-Pizzo, Roberto Zagami, **Giulia Neri**, Consolato Rosmini, Monica Potara, Monica Focsan, Simion Astilean, Anna Piperno, Maria Teresa Sciortino. *Intracellular Fate and Impact on Gene Expression of Doxorubicin/Cyclodextrin-Graphene Nanomaterials at Sub-Toxic Concentration* Int. J. Mol. Sci., 2020, 21, 4891. DOI:10.3390/ijms21144891;
16. Claudia Foti, Placido Giuseppe Mineo, Angelo Nicosia, Angela Scala, **Giulia Neri**, Anna Piperno. *Recent Advances of Graphene Based Strategies for Arsenic Remediation* Front. Chem., 2020, 8, 1155. DOI: 10.3389/fchem.2020.60823;
17. Antonio Santoro, Giovanni Bella, Giuseppe Bruno, **Giulia Neri**, Zahra Akbari, Francesco Nicolò. *Cocrystal versus salt, a matter of hydrogen bonds in two benzoic acid crystals* Journal of Molecular Structure, 2021, 1229, 129801. DOI: <https://doi.org/10.1016/j.molstruc.2020.129801>;
18. Domenico Franco, Giovanna Calabrese, Salvatore Petralia, **Giulia Neri**, Carmelo Corsaro, Lucia Forte, Stefano Squarzone, Salvatore Guglielmino, Francesco Traina, Enza Fazio, Sabrina Conoci. *Antimicrobial Effect and Cytotoxic Evaluation of Mg-Doped Hydroxyapatite Functionalized with Au-Nano Rods* Molecules, 2021, 26, 1099. DOI: 10.3390/molecules26041099;
19. Enza Fazio, Salvatore Spadaro, Carmelo Corsaro, **Giulia Neri**, Salvatore Gianluca Leonardi, Fortunato Neri, Nehru Lavanya, Chinnathambi Sekar, Nicola Donato, Giovanni Neri. *Metal-Oxide Based Nanomaterials: Synthesis, Characterization and Their Applications in Electrical and Electrochemical Sensors* Sensors, 2021, 21, 2494. DOI: 10.3390/s21072494;
20. **Giulia Neri**, Annalaura Cordaro, Angela Scala, Massimiliano Cordaro, Antonino Mazzaglia, Anna Piperno. *PEGylated bis-adamantane carboxamide as guest bridge for graphene poly-cyclodextrin gold nanoassemblies* Journal of Molecular Structure, 2021, 1240, 130519. DOI: <https://doi.org/10.1016/j.molstruc.2021.130519>.

PATENT

Designation as inventor

- *Fluorinated poly(lactic-co-glycolic acid) polymers and corresponding nanoparticles and drug encapsulated nanoparticles*. Francesca Baldelli Bombelli, Pierangelo Metrangolo, Francesco Cellesi, **Giulia Neri**, Giuliana Mion, Floryan De Campo, Vincenzo Arcella, European patent 18179257.3-1114, 22-06-2018.

CONFERENCE

1. **Giulia Neri**, Angela Scala, Anna Piperno, Giovanni Grassi, Enza Fazio, Francesco Barreca. *Functionalized Graphene-based materials as nanoplatform for drug delivery*. XXV Congresso Nazionale della Società Chimica Italiana, Arcavacata di Rende (CS, Italy), 07-12 September 2014;
2. **Giulia Neri**, Anna Piperno, Angela Scala, Francesco Barreca, Enza Fazio, Placido Giuseppe Mineo, Antonino Mazzaglia, Giovanni Grassi. *Azalactone-Functionalized Graphene as Reactive Nanoplatforms for the Design of Advanced Materials*. Convegno Congiunto delle sezioni Sicila e Calabria SCI 2014, Palermo (Italy) 1-2 December 2014. (Oral Communication);
3. Antonino Mazzaglia, Giovanni Sortino, Anna Piperno, Giulia Neri, Angela Scala, Giovanni Grassi, MariaTeresa Sciortino. *Nanoplatforms based on cyclodextrin-modified multiwalled carbon nanotube as antiviral drug delivery systems*. Fourth International Conference on Multifunctional, Hybrid and Nanomaterials, Barcellona (Spain) 9-13 March 2015;
4. **Giulia Neri**, Nicola Micale, Angela Scala, Enza Fazio, Placido G. Mineo, Giuseppe Sortino, Antonino Mazzaglia, Giovanni Grassi, Anna Piperno. *Synthesis of Nanotherapeutics based on G/HA platforms for osteosarcoma targeting*. Soft Interaction in Bio-nanostructures, Roccalumera (ME, Italy) 23 July 2015;
5. Angela Scala, Anna Piperno, Giulia Neri, Giovanni Grassi, Pennisi R., Maria Teresa Sciortino, Giuseppe Sortino, Antonino Mazzaglia. *Nanoplatforms based on Cyclodextrin Polyethyleneimine- Multiwalled Carbon Nanotube Conjugates for Gene and Drug Delivery*. XII Congresso Nazionale di Chimica Supramolecolare (Supramol 2015), Giardini Naxos (ME, Italy), 27-30 September 2015;
6. Anna Piperno, Giulia Neri, Angela Scala, Enza Fazio, Placido G Mineo, Antonio Rescifina, Giovanni Grassi. *Synthesis and characterization of graphene/gold nanocomposites*. 2nd International Conferences on Enhanced Spectroscopies (ICES 2015), Messina (Italy) 12-15 October 2015;
7. **Giulia Neri**, Nicola Micale, Angela Scala, Enza Fazio, Antonino Mazzaglia, Placido G. Mineo, Monica Montesi, Silvia Panseri, Anna Tampieri, Giovanni Grassi, Anna Piperno. *Silibinin-Conjugated Graphene and Hyaluronic Acid Platforms for Osteosarcoma Targeting*. Annual Conference and Expo on Biomaterials, London (UK), 14-16 March 2016;
8. **Giulia Neri**, Angela Scala, Anna Piperno. *Engineering of Graphene Nanomaterials by Oxazolone Chemistry*. 41st “A. Corbella” International Summer School on Organic Synthesis (ISOS 2016), Gargnano (BS, Italia), 12-17 June 2016. (Oral Communication);

9. Anna Piperno, Giulia Neri, Nicola Micale, Angela Scala, Giovanni Grassi *Engineering of Graphene Nanomaterials for Biomedical Applications*. 16st “Giornate Scientifiche Borsisti CINMPIS”, Rende (CS, Italy), 16-17 December 2016;
10. **Giulia Neri**, Angela Scala, Enza Fazio, Placido G. Mineo, Antonino Rescifina, Giovanni Grassi, Anna Piperno. *An Innovative Top Down Approach to Obtain Functionalized Graphene Layers*. Società Chimica Italiana Workshop delle Sezioni Sicilia e Calabria 2016-17, Messina (ME, Italy) 9-10 February 2017. (Oral Communication);
11. Pierangelo Metrangolo, Francesca Baldelli Bombelli Francesca, Giuliana Mion, Giulia Neri, Francesco Cellesi, Floryan De Campo. *Innovative polymer nanoparticles for ¹⁹F-MRI and drug delivery applications*. 22nd International Symposium on Fluorine Chemistry, Oxford (UK), 22-27 July 2018;
12. **Giulia Neri**. *Multibranched polyfluorinated BODIPY dyes: Innovative dual-mode imaging agents*. OrBIItaly – Organic Bioelectronics Italy, Center for Nano Science and Technologies, Milano (MI, Italy), 17-19 October 2018;
13. **Giulia Neri**, Maria I. Martinez Espinoza, Lorenzo Sori, Andrea Pizzi, Pierangelo Metrangolo, Valentina Dichiarante, Giancarlo Terraneo, Marco Cavazzini, Francesca Baldelli Bombelli. *An Innovative Class of Dual-Mode Imaging Agents based on Multibranched Polyfluorinated BODIPY Dyes*. 14th International Symposium on Macrocyclic and Supramolecular Chemistry, Lecce (Italy) 2-6 June 2019;
14. **Giulia Neri**, Marina Alhelì Carrer, Nazeeha Ayaz, Gabriele Candiani, Pierangelo Metrangolo, Francesca Baldelli Bombelli. *Fluorinated liposome nanovector for ¹⁹F-MRI and gene delivery applications*. SUPRAMOL2019, Lecce (Italy) 6-8 June 2019;

