



Cristina Parisi

Personal Informations

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Languages: Italian, English
Italy

Work Experience

March 2023 – Present

Assistant Professor (RTD-A) (CHEM/03 – General and Inorganic Chemistry) at Department of Drug and Health Sciences, University of Catania, Italy.

Aprile 2022 – Settembre 2022

Visiting PhD Student under the supervision of Prof. Cameron Alexander at Molecular Therapeutics and Formulation Division, School of Pharmacy, University of Nottingham, UK.

April 2019 – October 2019

Post-graduate fellowship at Photochemistry Laboratory of Prof. Salvatore Sortino, Department of Drug and Health Sciences of University of Catania.

“Synthesis and structural, spectroscopic and photochemical characterization of fluorescent photosensitizers”.

April 2018 – April 2019

Post-graduate fellowship at Photochemistry Laboratory of Prof. Salvatore Sortino, Department of Drug and Health Sciences of University of Catania.

“Synthesis and characterization of NO photodonors and their conjugates with doxorubicin”.

Education and Training

October 2019 – October 2022

PhD Student – International Ph.D. in Chemical Science (cycle XXXV) at Department of Chemical Science, University of Catania under the supervision of Prof. Salvatore Sortino (PhD thesis has been defended on 6th December 2022).

PhD Project: Development of Fluorescent Nitric Oxide Photoreleasing Constructs Activatable by Visible Light.

October 2015 – November 2017

Master’s Degree in Organic and Bioorganic Chemistry (Class LM-54) achieved at University of Catania with a final grade of 110/110 with honours.

October 2011 – July 2015

Bachelor’s degree in Food and Environmental Toxicology (Class L-29) achieved at University of Catania with a final grade of 110/110 with honours.

Teaching activities

- Supervisor and Co-supervisor of MSc Theses.
- Lecturer in General and Inorganic Chemistry, MSc in Pharmacy, Department of Drug and Health Sciences, University of Catania..

Scientific activity

- **28** Articles in Peer-Reviewed International Journals;
- One article as part of the themed collection: *2021 Chemical Science HOT Article Collection*;
- **8** Cover Pages in International Journals;
- **22** Presentations at National and International Conferences, one as *Invited Keynote Speaker*.
- **1** Prize for the Best Flash Oral Communication at the “*Italian Photochemistry Meeting 2023*” organized by the *Gruppo Italiano di Fotochimica*.
- Award for Scientific Productivity within the HEAL ITALIA PNRR Project, in recognition of outstanding research quality and significant scientific contributions to the project.

Articles and Review

1. **Parisi C.**; Failla M.; Fraix A.; Rescifina A.; Rolando B.; Lazzarato L.; Cardile V.; Graziano A.C.E.; Fruttero R.; Gasco A.; Sortino S.; A molecular hybrid producing simultaneously singlet oxygen and nitric oxide by single photon excitation with green light, *Bioorg. Chem.*, **2019**, 85, 18 – 22.
2. **Parisi C.**; Failla M.; Fraix A.; Rolando B.; Giaquinto E.; Spyraakis F.; Gazzano E.; Riganti C.; Lazzarato L.; Fruttero R.; Gasco A.; Sortino S.; Fluorescent Nitric Oxide photodonors based on BODIPY and Rhodamine antennae, *Chem. Eur. J.*, **2019**, 25, 11080-11084.
3. Fraix A.; Catanzaro O.; Di Bari I.; Conte C.; Seggio M.; **Parisi C.**; Nostro A.; Ginestra G.; Quaglia F.; Sortino S.; Visible light-activatable multicargo microemulsions with bimodal photobactericidal action and dual colour fluorescence, *J. Mater. Chem. B*, **2019**, 7, 5257-5264.
4. Fraix A.; **Parisi C.**; Failla M.; Chegaev K.; Spyraakis F.; Lazzarato L.; Fruttero R.; Gasco A.; Sortino S.; NO Release Regulated by Doxorubicin as Green Light-Harvesting Antenna, *Chem. Commun.* **2020**, 56, 6332-6335.
5. **Parisi C.**; Fraix A.; Guglielmo S.; Spyraakis F.; Rolando B.; Lazzarato L.; Fruttero R.; Gasco A.; Sortino S.; DNA-Targeted NO Release Photoregulated by Green Light, *Chem. Eur. J.*, **2020**, 26, 13627 –13633.
6. **Parisi C.**; Seggio M.; Fraix A.; Sortino S.; A High-Permorming Metal-Free Photoactivatable NO Donor with a Green Fluorescent Reporter, *ChemPhotoChem*, **2020**, 4, 742-748.
7. **Parisi C.**; Failla M.; Fraix A.; Menilli L.; Moret F.; Reddi E.; Spyraakis F.; Rolando B.; Lazzarato L.; Fruttero R.; Gasco A. and Sortino S.; A Generator of Peroxynitrite Activatable with Red Light, *Chem. Sci.*, **2021**, 12, 4740-4746. **(This article is part of the: 2021 Chemical Science HOT Article Collection).**
8. Fraix A.; **Parisi C.**; Seggio M.; Sortino S.; Nitric Oxide Photoreleasers with Fluorescent Reporting, *Chem. Eur. J.*, **2021**, 27, 12714-12725.
9. **Parisi C.**; Moret F.; Fraix A.; Menilli L.; Failla M.; Sodano F.; Conte C.; Quaglia F.; Reddi E.; Sortino S.; Doxorubicin–NO Releaser Molecular Hybrid Activatable by Green Light to Overcome Resistance in Breast Cancer Cells. *ACS Omega*, **2022**, 7, 9, 7452–7459.

10. **Parisi C.** §; Longobardi G. §; Graziano A. C. E. §; Fraix A.; Conte C.; Quaglia F.; Sortino S.; A molecular dyad delivered by biodegradable polymeric nanoparticles for combined PDT and NO-PDT in cancer cells. *Bioorg. Chem.*, **2022**, 128, 106050.
11. Fraix, A. §; **Parisi, C.** §; Longobardi, G. §; Conte, C.; Pastore, A.; Stornaiuolo, M.; Graziano, A.C.E.; Alberto, M.E.; Francés-Monerris, A.; Quaglia, F.; Sortino, S.; Red-Light-Photosensitized NO Release and Its Monitoring in Cancer Cells with Biodegradable Polymeric Nanoparticles. *Biomacromolecules*, **2023**, 24, 3887-3897.
12. Laneri, F.; Conte, C.; **Parisi, C.**; Catanzano, O.; Fraix, A.; Quaglia, F.; Sortino, S.; On the photobehaviour of curcumin in biocompatible hosts: The role of H-abstraction in the photodegradation and photosensitization. *J. Photochem. Photobiol. B: Biology*, **2023**, 245, 112756.
13. Martins, T. J. §; **Parisi, C.** §; Suzuki, Y.; Hashimoto, T.; Nostro, A.; Ginestra, G.; Hayashita, T.; Sortino, S.; Supramolecular Assemblies of Fluorescent Nitric Oxide Photoreleasers with Ultrasmall Cyclodextrin Nanogels. *Molecules*, **2023**, 28, 5665.
14. Laneri, F.; Seggio, M.; **Parisi, C.**; Béni, A.; Fraix, A.; Malanga, M.; Sortino, S.; Mixed β - γ -Cyclodextrin Branched Polymer with Multiple Photo-Chemotherapeutic Cargos. *ACS Appl. Polym. Mater.* **2023**, 5, 7918–7926.
15. **Parisi, C.**; Pastore, A.; Stornaiuolo, M.; Sortino, S.; A fluorescent probe with an ultra-rapid response to nitric oxide. *J. Mater. Chem. B*, **2024**, 12, 5076–5084.
16. Laneri, F.; **Parisi, C.**; Seggio, M.; Fraix, A.; Longobardi, G.; Catanzano, O.; Quaglia, F.; Sortino, S.; Supramolecular red-light-photosensitized nitric oxide release with fluorescence self-reporting within biocompatible nanocarriers. *J. Mater. Chem. B*, **2024**, 12, 6500–6508.
17. Martins, T.J. §; **Parisi, C.** §; Pinto, J. G.; Brambilla, I. P. R.; Malanga, M.; Ferreira-Strixino, J.; Sortino, S.; Stepwise Nitric Oxide Release and Antibacterial Activity of a Nitric Oxide Photodonor Hosted within Cyclodextrin Branched Polymer Nanocarriers. *ACS Med. Chem. Lett.*, **2024**, 15, 857 – 863.
18. Martins, T.J. §; **Parisi, C.** §; Pinto, J. G.; Brambilla, I. P. R.; Melilli, B.; Aleo, D.; Ferreira-Strixino, J.; Sortino, S.; Simultaneous photoactivation of a fluoroquinolone antibiotic and nitric oxide with fluorescence reporting. *J. Mater. Chem. B*, **2024**, 12, 7626–7634.
19. Basile, S. §; **Parisi, C.** §; Bellia, F.; Zimbone, S.; Arrabito, G.; Gulli, D.; Pignataro, B.; Giuffrida, M. L.; Sortino, S.; Copani, A.; Red-Light-Photosensitized Tyrosine 10 Nitration of β -Amyloid1-42 Diverts the Protein from Forming Toxic Aggregates. *ACS Chem. Neurosci.*, **2024**, 15, 2916–2924.
20. Laneri, F.; **Parisi, C.**; Natile, M.M.; Sortino, S.; Electronic interaction-enhanced NO photorelease and photothermal conversion in N-doped carbon dot nanoconjugates. *J. Mater. Chem. B*, **2024**, 12, 11817–11825.
21. **Parisi, C.**; Laneri, F.; Fraix, A.; Sortino, S.; Multifunctional Molecular Hybrids Photoreleasing Nitric Oxide: Advantages, Pitfalls, and Opportunities. *J. Med. Chem.*, **2024**, 67, 16932–16950.
22. **Parisi, C.**; Laneri, F.; Martins, T.J.; Fraix, A.; Sortino, S.; Nitric Oxide-Photodelivering Materials with Multiple Functionalities: From Rational Design to Therapeutic Applications. *ACS Appl. Mater. Interfaces.*, **2024**, 16, 59697–59720.
23. Longobardi, G. §; **Parisi, C.** §; Sodano, F.; Catanzano, O.; Di Porzio, A.; Randazzo, A.; Sortino, S.; Quaglia, F.; Light-Activatable Hyaluronic Acid-Derivatives Releasing Nitric Oxide and Their Delivery in the Skin. *Adv. Healthc. Mater.*, **2025**, 14, 2500589.

24. Laneri, F. §; **Parisi, C.** §; Andriago, V.; Guerra Pinto, J.; Cortez Marcolino, L.; Ferreira-Strixino, J.; Natile, M.M.; Sortino, S.; N-Doped Carbon Dot-Based Nanoconjugates with Simultaneous Generation of Nitric Oxide and Singlet Oxygen for Phototherapeutic Applications. *ACS Appl. Nano Mater.*, **2025**, 8, 13083–13091.
25. **Parisi, C.** §; Ferreri, L. §; Martins, T.J. §; Laneri, F.; Sollima, S.; Azzolina, A.; Cusimano, A.; D'Antona, N.; Consoli, G.M.L.; Sortino, S.; A calix[4]arene-based supramolecular nanoassembly targeting cancer cells and triggering the release of nitric oxide with green light. *Beilstein J. Nanotechnol.*, **2025**, 16, 1003-1013.
26. Laneri, F.; **Parisi, C.**; Sortino, S.; Multifaceted Effects of a Multiple Nitric Oxide Photoreleaser and its Photoproducts on Amyloid- β Aggregation. *ChemBioChem*, **2025**, 27, e202500667.
27. **Parisi, C.**; Laneri, F.; Di Porzio, A.; Melilli, B.; Aleo, D.; Randazzo, A.; Quaglia, F.; Sortino, S.; A Molecular Hybrid for Double Stepwise Nitric Oxide Photorelease with Double Fluorescence Readout in Living Cells. *Chem. Biomed. Imaging* **2026**, 4, 5, 846–853
28. Perez-Lloret, M. §; **Parisi, C.** §; Laneri, F.; Leone, G. M.; Barbagallo, C.; Mangano, K.; Nicoletti, F.; Béni, S.; Malanga, M.; Sortino, S.; Phototherapeutic β -Cyclodextrin-Branched Polymer Releasing Nitric Oxide with Fluorescent Self-Reporting and Its Combination with Doxorubicin. *Biomacromolecules*, **2026**, 27, 5, 3399–3409.
29. **Parisi, C.**; Laneri, F.; Ullah, A.; Quaglia, F.; Sortino, S.; NO-PDT and chemotherapy: spatiotemporal control to achieve therapeutic synergy. *Photochem. Photobiol. Sci.*, **2026**, DOI: <https://doi.org/10.1007/s43630-026-00947-4>
30. Laneri, F. §; **Parisi, C.** §; Andriago, V.; Leone, G. M.; Mangano, K.; Nicoletti, F.; Natile, M. M.; Sortino, S.; β -Cyclodextrin-Coated N-Doped Carbon Dots for Red-Light-Controlled Nitric Oxide Release and Photothermal Therapy. *ACS Appl. Nano Mater.* **2026**, 9, 28, 13577–13588

§ Equally contributed

Cover Pages

1. Cover Feature: *Chem. Eur. J.*, 2019, 25, Issue 47, 10974.
2. Inside Front Cover: *Chem. Commun.* 2020, 56, 6332-6335.
3. Back Cover Page: *Chem. Sci.*, 2021, 12, 4740-4746.
4. Front Cover: *J. Mater. Chem. B.* 2024, 12, 4991 – 4992.
5. Front Cover: *J. Med. Chem.* 2024, 67, 16932-16950
6. Front cover: *Chem. Biomed. Imaging* 2026, 4, 5, 846–853
7. Cover: *Biomacromolecules* **2026**, 27, 3399-3409.
8. Front Cover: *ACS Appl. Nano Mater.* **2026**, 9, 28, 13577–13588

Presentations at National and International Conferences

1. **Poster presentation:** Fluorescent NO Photodonors Activatable with Green Light.
Parisi C.; Failla M.; Fraix A.; Rolando B.; Gazzano E.; Riganti C.; Lazzarato L.; Fruttero R.; Gasco A., Sortino S.
In: UK-IT Joint Meeting on Photochemistry 2019.Lipari. 24 – 26 June 2019.
2. **Oral presentation:** A Novel Fluorescent Generator of Peroxynitrite Activatable with Red Light.
Parisi C., Failla M., Fraix A., Menilli L., Moret F., Reddi E., Rolando B., Lazzarato L., Gasco A., Sortino S.
In: 19th Congress of the European Society of Photobiology. Online meeting and Salzburg, 30 August – 3 September 2021.

3. **Poster presentation:** A Novel Fluorescent Generator of Peroxynitrite Activatable with Red Light.
Parisi C., Failla M., Fraix A., Menilli L., Moret F., Reddi E., Rolando B., Spyraakis F., Lazzarato L., Fruttero R., Gasco A., Sortino S.
 In: Giornate del Gruppo Italiano di Fotochimica. Online meeting, 23 – 24 September 2021.

4. **Oral presentation:** A Doxorubicin-NO Releaser Molecular Hybrid Activatable by Green Light to Overcome Resistance in Breast Cancer Cells.
Parisi C., Moret F., Fraix A., Menilli L., Failla M., Sodano F., Conte C., Quaglia F., Reddi E., Sortino S.
 In: Italian Photochemistry Meeting 2021. Torino, 16–18 December 2021.

5. **Poster presentation:** Enhancing the anticancer activity of doxorubicin via simultaneous delivery with a peroxynitrite generator using polyester based polymeric nanoparticles.
Parisi C., Can Oz U., ElSherbeny A., Sortino S., Alexander C.
 In: Young Researchers Meeting 2022. Nottingham, 18–19 July 2022.

6. **Poster presentation:** Polyester based polymeric nanoparticles for doxorubicin delivery against resistant cancer cell.
Parisi C., Moradi E., Can Oz U., ElSherbeny A., Sortino S., Alexander C.
 In: Annual Meeting of the British Society for Nanomedicine. Swansea, 22-23 August 2022.

7. **Oral presentation:** A Doxorubicin-NO Releaser Molecular Hybrid Activatable by Green Light to Overcome Resistance in Breast Cancer Cells.
Parisi C., Moret F., Fraix A., Menilli L., Failla M., Sodano F., Conte C., Quaglia F., Reddi E., Sortino S.
 In: Autumn Meeting for Young Chemists in Biomedical Sciences – AMYC2022. Napoli, 17 – 19 October 2022.

8. **Oral presentation:** A novel molecular dyad for combined PDT and NO-PDT in cancer cells.
Parisi C., Longobardi G., Graziano A.C.E., Fraix A., Conte C., Quaglia F., Sortino S.
 In: Photonline, SP2P Web-conference organized by and for young researchers – 2nd edition. 1 –2 February 2023

9. **Oral presentation:** Red Light Photosensitized NO Release and Its Monitoring in Cancer Cells with Biodegradable Polymeric Nanoparticles.
Parisi C., Fraix A., Longobardi G., Conte C., Pastore A., Stornaiuolo M., Graziano A.C.E., Alberto M.E., Moneris A.F., Quaglia F., Sortino S.
 In: NanoBio&Med2023. Barcellona, 21 –23 November 2023.

10. **Oral presentation:** Red-Light-Photosensitized NO Release and Its Monitoring in Cancer Cells with Biodegradable Polymeric Nanoparticles.
Parisi C., Fraix A., Longobardi G., Conte C., Pastore A., Stornaiuolo M., Graziano A.C.E., Quaglia F., Sortino S.
 In: Italian Photochemistry Meeting 2023. Sestri Levante, 14–16 December 2023.

11. **Poster presentation:** Photopharmaceutical strategies with molecular systems, supramolecular constructs and nanomaterials to overcome MDR in cancer cells.
Parisi C., Sortino S.
 In: Forum Nazionale sulla Medicina di Precisione. Palermo, 13 – 15 June 2024.

12. **Oral presentation:** A fluorescent probe with an ultra-rapid response to nitric oxide.
Parisi C., Pastore A., Stornaiuolo M., Sortino S.
 In: Italian Photochemistry Meeting 2024. Roma, 5–7 December 2024.

13. **Oral presentation:** A Fluorescent sensor for the ultra-rapid detection of nitric oxide.
Parisi C., Pastore A., Stornaiuolo M., Sortino S.

In: Chemical Nanoscience Early Career Spring Symposium 2025. Londra, 9–10 April 2025.

14. **Oral presentation:** Supramolecular Red-Light-Photosensitized Nitric Oxide Release Within Biocompatible Nanocarriers.
Parisi C., Laneri F., Longobardi G., Fraix A., Conte C., Pastore A., Stornaiuolo M., Graziano A.C.E., Seggio M., Catanzano O., Quaglia F., Sortino S.
In: Mid-Season Sustainable Pharmaceutical Applications Conference (MiSuSPharma) 2025. Napoli, 5–6 May 2025.
15. **Oral presentation:** An N-Doped Carbon Dots Nanoconjugate for the Simultaneous Generation of Nitric Oxide and Singlet Oxygen with Green Light.
Parisi C., Laneri F., Andriago V., Guerra Pinto J., Cortez Marcolino L., Ferreira-Strixino J., Natile M.M., Sortino S.
In: 21st Congress of the European Society for Photobiology. Bari, 24–28 August 2025.
16. **Oral presentation:** Light-Responsive Cyclodextrin-Based Platforms for Controlled Nitric Oxide Release.
Parisi C., Martins T.J., Laneri F., Malanga M., Quaglia F., Sortino S.
In: 8th European Cyclodextrin Conference. Milano, 9 – 12 September 2025.
17. **Oral presentation as Invited Keynote Speaker**, dal titolo: Light-Controlled Nitric Oxide Release from Hyaluronic Acid Derivatives for Skin Delivery.
Parisi C., Longobardi G., Sodano F., Catanzano O., Di Porzio A., Randazzo A., Quaglia F., Sortino S.
In: NanolInnovation 2025. Roma, 15 – 19 September 2025.
18. **Poster presentation:** A Novel Supramolecular Approach for Red-Light-Photosensitized Nitric Oxide Release.
Parisi C., Laneri F., Longobardi G., Fraix A., Conte C., Pastore A., Stornaiuolo M., Graziano A.C.E., Seggio M., Catanzano O., Quaglia F., Sortino S.
In: The 5th International Online Conference on Nanomaterials. Online conference, 22 – 24 September 2025.
19. **Oral presentation:** Light-Triggered Nitric Oxide –Releasing Hyaluronic Acid Derivatives and Their Application in Skin Delivery.
Parisi C., Longobardi G., Sodano F., Catanzano O., Di Porzio A., Randazzo A., Quaglia F., Sortino S.
In: NanoBio&Med2025. Barcellona, 2 –4 December 2025.
20. **Oral presentation:** A novel fluorescent sensor for the ultra-fast detection of nitric oxide.
Parisi C., Laneri F., Pastore A., Stornaiuolo M., Sortino S.
In: 6th International Electronic Conference on Applied Sciences (ASEC2025). Online, 9–11 December 2025.
21. **Oral presentation:** A fluorescent probe with an ultra-rapid response to nitric oxide in living cells.
Parisi C., Pastore A., Stornaiuolo M., Sortino S.
In: The 6th International Conference on Fluorescent Biomolecules and their Building Blocks (FB³). Torino, 8–11 March 2026.
22. **Oral presentation:** Green light-triggered generation of peroxynitrite exploiting doxorubicin as photoredox catalyst.
Parisi C., Sollima S., Laneri F., Di Porzio A., Randazzo A., Quaglia F., Sortino S.
In: Italian Photochemistry Meeting 2026 (IPM2026). Bologna, 10–12 Giugno 2026.

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