Greta Petrella
Post-doctoral Research Fellow
Dipartimento di Scienze e Tecnologie Chimiche
Università di Roma "Tor Vergata"
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CURRICULUM VITAE

EDUCAZIONE

Ph.D. –Scienze Chimiche

Periodo: Nov 2017 – Gen 2021
Instituto: Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata," Italia
Titolo di tesi: "Metabolomics and Bladder Cancer. Risk factors and prognosis of the most common cancer of the urinary tract."
Supervisore: Prof. Daniel Oscar Cicero
Voto Finale: Excellent cum laude

Tesi magistrale- Chimica

Periodo: Nov 2013 – Ott 2016
Instituto: Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata," Italia
Titolo di tesi: "Effetto dell'occlusione coronarica sul profilo metabolico del siero arterioso"
Supervisore: Prof. Daniel Oscar Cicero

ESPERIENZA DI RICERCA E POSIZIONI ATTUALI

2022- attuale

Supporto Controllo Qualità e Team Leader di "Metodi NMR"
all'interno del LabCAP (laboratorio accreditato ISO 9001:2015) dell'Università di Roma "Tor Vergata"

Mag 2023 – Apr 2025

Assegno di ricerca
Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata," Italia
"Study of cancer cell metabolism for new drug discovery"

Mag 2021 – Apr 2023

Assegno di ricerca
Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata," Italia
"Study of urinary metabolic markers for bladder cancer prognosis"

Nov 2020 - Apr 2021

Borsa di studio
IRBM Science Park, Pomezia (RM), Italia
Laboratorio di Risonanza Magnetica Nucleare
"Metabolomics studies by NMR spectroscopy"

Set 2018 – Nov 2018

Studente Ph.D. ospite

IRCCS Ospedale San Raffaele, Istituto di Ricerca Urologica, Milan, Italia

Nov 2017 - Gen 2021 ***Ph.D.***
Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata," Italia

Gen 2017 - Nov 2017 ***Borsa di studio***
IRBM Science Park, Pomezia (RM), Italy.
Laboratorio di Risonanza Magnetica Nucleare "Metabolomics studies by NMR spectroscopy"

Feb 2016 - Ott 2016 ***Studente magistrale ospite***
IRBM Science Park, Pomezia (RM), Italia
Laboratorio di Risonanza Magnetica Nucleare

ATTUALI INTERESSI DI RICERCA

Metabolomics, Nuclear Magnetic Resonance, Cancer Metabolism, Pharmacometabolomics

PREMI

Set 2021 ***Competizione organizzata dal GIDRM per il premio "miglior tesi di dottorato 2021" (1000,00 €),*** *titolo della tesi: "Metabolomics and Bladder Cancer."*

2014 ***BIOMOD, Harvard University***

ATTIVITA' EDITORIALE

2022 - current ***Membro del Topical Advisory Panel of "Metabolites"***

2022 ***Guest Editor of the special issue: "Cellular Metabolism in the Omics Era."***
A special issue of Metabolites (ISSN 2218-1989). This special issue belongs to the section "Cell Metabolism".

2022 ***Guest Editor of the special issue: "Is Cancer a Metabolic Disease? The Answer of Metabolomics Volume 2"***
A special issue of Metabolites (ISSN 2218-1989). This special issue belongs to the section "Frontiers in Metabolomics".

ATTIVITA' DI INSEGNAMENTO

Ott 2022 - attuale ***Docente a contratto "Drug Analysis module I" (4/8 CFU), Laurea in Farmacia,*** Dipartimento di Biologia, Università di Roma "Tor Vergata", Italia

Ott 2022 - attuale ***Docente a contratto "Chimica Organica III" (3/6 CFU), Corso di laurea triennale in Chimica,*** Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata", Italia

Mar 2022 - attuale ***Docenza (3/6 CFU) "Chemiometria e applicazioni", Corso di laurea magistrale in Chimica,*** Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata", Italia

Mar 2021 - attuale ***Tutor "Spettroscopia NMR di molecole organiche", Corso di laurea magistrale in Chimica,*** Dipartimento di Scienze e Tecnologie Chimiche, Università di Roma "Tor Vergata", Italia

SUPERVISIONE DI STUDENTI

Nove studenti del Corso di laurea Triennale in Chimica e tre studenti del Corso di Laurea Magistrale in Chimica dal 2021 al 2023.

DATI BIBLIOMETRICI:

Numero totale di pubblicazioni in riviste scientifiche peer-reviewed: 17
H-Index: 7
Numero totale di capitoli di libri: uno in stampa

LISTA DI PUBBLICAZIONI

17. Stefanizzi, V.; Minutolo, A.; Valletta, E.; Carlini, M.; Cordero, F.M.; Ranzenigo, A.; Prete, S.P.; Cicero, D.O.; Pitti, E.; **Petrella, G.**; Matteucci, C.; Marino-Merlo, F.; Mastino, A.; Macchi, B. Biological Evaluation of Triorganotin Derivatives as Potential Anticancer Agents. Molecules, 28, 3856 (2023).

16. Petrella, G. (co-first and corresponding author); Corsi, F.; Ciufolini, G.; Germini, S.; Capradossi, F.; Pelliccia, A.; Torino, F.; Ghibelli, L.; Cicero, D.O. Metabolic Reprogramming of Castration-Resistant Prostate Cancer Cells as a Response to Chemotherapy. Metabolites, 13, 65 (2023).

15. Viceconte, N.; **Petrella, G.** (co-first author); Pelliccia, F.; Tanzilli, G.; Cicero, D.O. Unraveling Pathophysiology of Takotsubo Syndrome: The Emerging Role of the Oxidative Stress's Systemic Status. J. Clin. Med., 11, 7515 (2022).

14. Palmieri, E., Pescosolido, F., Montaina, L., Carcione, R., **Petrella, G.**, Cicero, D.O, Tamburri, E., Battistoni, S., Orlanducci, S. A Sustainable Hydroxypropyl Cellulose-Nanodiamond Composite for Flexible Electronic Applications. Gels 8 (12):783 (2022).

13. Fustaino, V., Gimmelli, R., Guidi, A., Lentini, S., Saccoccia*, F., **Petrella, G.*** (co-correspondig author), Cicero, D. O., & Ruberti, G. Comparative metabolic profiling by 1H-NMR spectroscopy analysis reveals the adaptation of S. mansoni from its host to in vitro culture conditions: a pilot study with ex vivo and GSH supplemented medium-cultured parasites. Parasitology Research 121, 1191–1198 (2022).

12. Vanni, D., Viceconte, N., **Petrella, G.**, Biccirè, F. G., Pelliccia, F., Tanzilli, G., & Cicero, D. O. A pilot study on the ^{1}H-NMR serum metabolic profile of takotsubo patients reveals systemic response to oxidative stress. Antioxidants 10, (2021).

11. Petrella, G., Montesano, C., Lentini, S., Ciufolini, G., Vanni, D., Speziale, R., Salonia, A., Montorsi, F., Summa, V., Vago, R., Orsatti, L., Monteagudo, E., & Cicero, D. O. Personalized metabolic profile by synergic use of NMR and HRMS. Molecules 26, (2021).

10. Carbone, K., Macchioni, V., **Petrella, G.**, Cicero, D. O. & Micheli, L. Humulus lupulus cone extract efficacy in alginate-based edible coatings on the quality and nutraceutical traits of fresh-cut kiwifruit. Antioxidants 10, (2021).

9. **Petrella, G.**, Ciufolini, G., Vago, R. & Cicero, D. O. Urinary metabolic markers of bladder cancer: A reflection of the tumor or the response of the body? Metabolites 11, (2021).

8. Caroleo, F. ; **Petrella, G.** (co-first author); Di Zazzo, L.; Nardis, S.; Berionni Berna, B.; Cicero, D.O.; Paolesse, R. A Leopard Cannot Change Its Spots: Unexpected Products from the Vilsmeier Reaction on 5,10,15-Tritolylcorrole. Molecules, 25, 3583 (2020).

7. Guidi, A., **Petrella, G.** (co-first author), Fustaino, V., Saccoccia, F., Lentini, S., Gimmelli, R., Di Pietro, G., Bresciani, A., Cicero, D. O., & Ruberti, G. Drug effects on metabolic profiles of schistosoma mansoni adult male parasites detected by1h-nmr spectroscopy. PLoS Neglected Tropical Diseases 14, 1–20 (2020).

6. Carbone, K., De Angelis, A., Mazzuca, C., Stantangelo, E., Macchioni, V., Cacciotti, I., **Petrella, G.**, Cicero, D.O., Micheli, L. Microwave-assisted synthesis of catalytic silver nanoparticles by hyperpigmented tomato skins: A green approach. LWT 133, (2020).

5. **Petrella, G.**, Ciufolini, G., Vago, R. & Cicero, D. O. The interplay between oxidative phosphorylation and glycolysis as a potential marker of bladder cancer progression. International Journal of Molecular Sciences 21, 1–13 (2020).

4. Carbone, K., Macchioni, V., **Petrella, G.** & Cicero, D. O. Exploring the potential of microwaves and ultrasounds in the green extraction of bioactive compounds from Humulus lupulus for the food and pharmaceutical industry. Industrial Crops and Products 156, (2020).

3. Pitti, E., **Petrella, G.**, Di Marino, S., Summa, V., Perrone, M., D'Ottavio, S., Bernardini, A., & Cicero, D. O. Salivary Metabolome and Soccer Match: Challenges for Understanding Exercise induced Changes. Metabolites, 9(7), 141 (2019).

2. Caroleo, F., Nardis, S., **Petrella, G.**, Bischetti, M., Cicero, D.O., Genovese, D., Mummolo, L., Prodi, L., Randazzo, R., D'Urso, A. and Paolesse, R. 5,10,15-Tris(4-sulfonatophenyl) corrole Synthesis. Eur. J.Org. Chem., 2019: 6525-6533 (2019).

1. **Petrella, G.**, Mazzuca, C., Micheli, L., Cervelli, E., Fazio, D.D., Iannuccelli, S., Sotgiu, S., Palleschi, G., & Palleschi, A. A new sustainable and innovative work for paper artworks cleaning process: Gellan hydrogel combined with hydrolytic enzymes. International Journal Of Conservation Science, 7(1), 273-280. (2016).

PRESENTAZIONI A CONGRESSI

Set 2023 "A personalized urinary metabolic profile for bladder cancer patients: an application of the SYNHMET method". XXVIII National Meeting on Medicinal Chemistry, Società Chimica Italiana, Chieti (Italy)

Ott 2022 "Cell metabolism in the omics era: a study on the occurrence of chemoresistance in neuroendocrine prostate cancer cells" 3rd Edition of World Congress on Endocrinology, diabetes, and metabolism, London (UK)

Set 2022 "Metabolism evolution of prostate cancer cells during the development of chemoresistance." GIDRM, XLX National Congress on Magnetic Resonance, Milan (Italy)

Set 2021 "The synergic use of UHPLC-HRMS and NMR in metabolomics." GIDRM, XLIX National Congress on Magnetic Resonance, Online

Nov 2019 "How could NMR data assist MS hit classification in an untargeted metabolomics analysis? Our case study: bladder cancer." Advances in NMR and MS Based Metabolomics, GIDRM and iMASS, Lucca (Italy)

Set 2018 "A comprehensive urinary metabolomic approach based on NMR and LC–HRMS to identify bladder cancer." GIDRM, XLVII National Congress on Magnetic Resonance, Torino (Italy)

Ott 2015 "A new sustainable and innovative work for paper artworks cleaning process." YOCOCU, Green Conservation of Cultural Heritage, Rome (Italy)

POSTER

2023 New psychoactive substances: a study of urinary metabolic changes of opioid-treated mice by SYNHMET method. Petrella G., Ciufolini G., Cortese F., Montesano C., Di Francesco G., Sergi M., Marti M., Cicero D.O. – 50th National Congress on Magnetic Resonance, Univeristà di Roma La Sapienza (Italy)

2023 The application of NMR and UHPLC-HRMS in determining the most accurate and complete urinary metabolic profile. G. Petrella, G. Ciufolini, F. Cortese, C. Montesano, G. Di Francesco, M. Sergi, M. Marti, D.O. Cicero - GIDRM DAY: quantitative and non-targeted nmr for the protection of health and food, Bari (Italy)

2023 Microplastics in marine sediments facing a river mouth: identification and quantification through the Nuclear Magnetic Resonance spectroscopy. Papini G., Petrella G., Cicero D.O., Boglione C., Rakaj A. "Recent Trends in Microplastic Research", COST Project PRIORITY (Jena, Germany)

2023 Cellular metabolism and risk stratification in bladder cancer. G. Ciufolini, A. Ruberti, G. Petrella, V. Pasquale, S. Rota, G. Ducci, G. Campioni M. Bonanomi, R. Vago, E. Sacco, M. Vanoni, D.O. Cicero. Gordon Research Conference, Examining the Intersection Between Systemic and Cellular Metabolism and Lifestyle Factors to Understand Health and Disease, Barga (Italy)

2023 Cellular metabolism in the omics era: metabolic reprogramming of castration-resistant prostate cancer cells as a response to chemotherapy. Petrella, G., Corsi, F., Ciufolini, G., Germini, S., Capradossi, F., Pelliccia, A., Torino, F., Ghibelli, L., and Cicero, D.O., Gordon Research Conference, Examining the Intersection Between Systemic and Cellular Metabolism and Lifestyle Factors to Understand Health and Disease, Barga (Italy)

2022 Contribution of 3D architecture to the energy metabolism of bladder cancer cellular Models. V. Pasquale, G. Ducci, G. Campioni, S. Rota, E. Arrigoni, S. Busti, M. Bonanomi, G. Ciufolini, G. Petrella, R. Vago, D.O. Cicero, D. Gaglio, E. Sacco and M. Vanoni.1st Workshop of the SIB group "Tumor Biochemistry" From genes to

metabolites through proteins: dealing with human health and disease, Univeristà di Milano Bicocca (Italy)

2021 Preliminary contribution to the quantitative evaluation of polystyrene microplastics in the marine sediments facing the mouth of the Tiber River. Papini G., Boglione C., Petrella G., Cicero D.O., Rakaj A. 'Ecology for an Ecological Transition' – XXX Congresso della Società Italiana di Ecologia, Lecce (Italy)

2021 Triorganotin derivatives act as metabolic inhibitors towards oral squamous cell carcinoma (OSCC) cells through suppression of glucose uptake. Beatrice Macchi, Elena Valletta, Antonella Minutolo, Claudia Matteucci, Franca Cordero, Oscar Daniel Cicero, Greta Petrella, Francesca Marino-Merlo, Antonio Mastino. 3rd MMCS: Shaping Medicinal Chemistry for the New Decade

2021 NMR plasma metabolomics and lipidomics can anticipate cardiac ischemic risk. D. Vanni, E. Pitti, G. Petrellla, N. Viceconte, G. Tanzilli, D.O.Cicero. XLIX National Congress on Magnetic Resonance, GIDRM, Online, 2021

2021 Exo-metabolomics fingerprint of bladder cancer progression using 1H-NMR. G. Ciufolini, G. Petrella, R. Vago, D. O. Cicero. XLIX National Congress on Magnetic Resonance, Online, 2021

2019 Drug effects on metabolic profiles of Schistosoma mansoni adult male parasites by 1HNMR spectroscopy. G. Petrella, A. Guidi, V. Fustaino, S. Lentini, G. Di Pietro, F Saccoccia, R Gimmelli, A. Bresciani, D.O. Cicero, and G.Ruberti. XLVIII National Congress on Magnetic Resonance, L'Aquila (Italy)

2019 A comprehensive urinary metabolomic approach based on NMR and LC–HRMS to identify bladder cancer. G. Petrella, S. Lentini, G. Di Pietro, L. Orsatti, C. Montesano, R. Speziale, V. Summa, A.Salonia, R. Vago, E.S. Monteagudo, D.O. Cicero. Gordon Conference, Metabolomics and Human Health, Ventura (California, USA)

2018 Metabolomic Study of Urinary Biomarkers in Bladder Cancer Based on NMR Spectroscopy. G. Petrella, S. Lentini, G. Di Pietro, L. Orsatti, C. Montesano, R. Speziale, V. Summa, A.Salonia, R. Vago, D.O. Cicero. Baveno (Italy)

2017 Drug effects on metabolic profiles of Schistosoma mansoni adult male parasites by 1HNMR spectroscopy. A. Guidi, S. Lentini, G. Di Pietro, F Saccoccia, G. Petrella, R Gimmelli, A. Bresciani, D.O. Cicero, and G. Ruberti. Advances in NMR and MS Based Metabolomics, GIDRM, Padova (Italy)

2017 A Metabolomic Study of Urinary Biomarkers in Bladder Cancer based on NMR Spectroscopy. G. Petrella, S. Lentini, G. Di Pietro, V. Summa, A. Salonia, R. Vago, D.O. Cicero. "Advances in NMR and MS Based Metabolomics", GIDRM, Padova (Italy)

2016 The effect of coronary occlusion on arterial serum metabolites. D.O. Cicero, G. Petrella, C.S. Di Marino, V. Summa, N. Viceconte, G. Tanzilli, L. Iannetta, E. Mangieri, C. Gaudio. GIDRM, Modena (Italy)

2015 A selective paper artwork cleaning process using modified Gellan hydrogel. C. Mazzuca, L. Micheli, E. Cervelli, G. Petrella, C. Cristini, S. Iannuccelli, et al. Technart -

Non-destructive and microanalytical technique in art and cultural heritage, Catania (Italy)

MEMBRO DI SOCIETA' SCIENTIFICHE

Gen 2023 - attuale ***Membro della "Società chimica italiana" (SCI)***

Set 2017 - attuale ***Membro del "Gruppo italiano di discussione risonanze magnetiche" (GIDRM)***