



Greta Petrella

Address: Via della Ricerca Scientifica, 00133, Roma, Italy

Email address: petrella@scienze.uniroma2.it

Phone number: (+39) 0672594835

Gender: Female **Date of birth:** 09/11/1988 **Nationality:** Italian

WORK EXPERIENCE

[10/2020 – Current] **Research fellow**

Università degli Studi di Roma "Tor Vergata"

Address: Roma, Italy

City: Roma

Country: Italy

Main activities and responsibilities:

Research in metabolomics field based on NMR spectroscopy.
NMR spectroscopy applied to molecular structural elucidation.

[2022 – Current] **Quality control staff member of LabCAP (accredited laboratory ISO 9001:2015)**

Università degli studi di Roma "Tor Vergata"

City: Roma

Country: Italy

[11/2020 – 04/2021] **Scholarship**

Università degli studi di Roma "Tor Vergata"

City: Roma

Country: Italy

[12/2016 – 10/2017] **Scholarship**

Università degli studi di Roma "Tor Vergata"

Address: Roma, Italy

City: Roma

Country: Italy

Main activities and responsibilities:

Borsa di studio svolta in IRBM, Pomezia (RM), Italy.

EDUCATION AND TRAINING

[10/2017 – 01/2020] **PhD in Chemistry**

Università degli studi di Roma "Tor Vergata"

Address: Via della Ricerca Scientifica, 00133, Rome, Italy

Final grade: Excellent cum laude

Thesis: Metabolomics and Bladder Cancer. Risk factors and prognosis of the most common cancer of the urinary tract

[2012 – 2015] **Master's degree in Chemistry**
Università degli studi di Roma "Tor Vergata"
Address: Roma, Italy
Level in EQF: EQF level 7

[2008 – 2012] **Bachelor's degree in Chemistry**
Università degli studi di Roma "Tor Vergata"
Address: Roma, Italy
Level in EQF: EQF level 6

[2001 – 2006] **Diploma di liceo classico**
Liceo classico "E.Q.Visconti"
Address: Roma

ADVANCED COURSES

[09/07/2018 – 13/07/2018] **"NMR School" - Advance course - GIDRM, 9-13 July 2018**

[10/07/2017 – 14/07/2017] **"NMR School" - Basic course - GIDRM, 10-14 July 2017**

TEACHING ACTIVITIES

Supervisor of thesis in Chemistry, at the University of Rome "Tor Vergata"

- 5 bachelor's theses
- 1 master's thesis

Teaching in graduate courses

- "Organic III" of Chemistry at the University of Rome "Tor Vergata" (3 cfu)
- "Drug Analysis (Module I)" of Pharmacy of the University of Rome "Tor Vergata" (4 cfu)

EDITORIAL ACTIVITIES

[2022 – Current] **Member of the 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".

PUBLICATIONS

[2022]

13) 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

<https://doi.org/10.1007/s00436-022-07426-6>

Fustaino, V., Gimmelli, R., Guidi, A., Lentini, S., Saccoccia*, F., **Petrella, G.*** (co-corresponding 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).

[2021]

12) A Pilot Study on the 1H-NMR Serum Metabolic Profile of Takotsubo Patients Reveals Systemic Response to Oxidative Stress

<https://doi.org/10.3390/antiox10121982>

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).

[2021] **11) Personalized Metabolic Profile by Synergic Use of NMR and HRMS**

<https://doi.org/10.3390/molecules26144167>

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).

[2021]

10) Humulus lupulus Cone Extract Efficacy in Alginate-Based Edible Coatings on the Quality and Nutraceutical Traits of Fresh-Cut Kiwifruit

<https://doi.org/10.3390/antiox10091395>

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).

[2021]

9) Urinary Metabolic Markers of Bladder Cancer: A Reflection of the Tumor or the Response of the Body?

<https://doi.org/10.3390/metabo11110756>

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).

[2020]

8) A Leopard Cannot Change Its Spots: Unexpected Products from the Vilsmeier Reaction on 5,10,15-Tri-

<https://www.mdpi.com/1420-3049/25/16/3583>

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-Triolylcorrole. *Molecules* **2020**, *25*, 3583.

[2020]

7) Drug effects on metabolic profiles of schistosoma mansoni adult male parasites detected by 1h-nmr spectroscopy

<https://doi.org/10.1371/journal.pntd.0008767>

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 by 1h-nmr spectroscopy. *PLoS Neglected Tropical Diseases* **14**, 1–20 (2020).

[2020]

6) Microwave-assisted synthesis of catalytic silver nanoparticles by hyperpigmented tomato skins: A green approach Katya

<https://doi.org/10.1016/j.lwt.2020.110088>

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).

[2020]

5) The Interplay between Oxidative Phosphorylation and Glycolysis as a Potential Marker of Bladder Cancer Progression

<https://doi.org/10.3390/ijms21218107>

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).

[2020]

4) Exploring the potential of microwaves and ultrasounds in the green extraction of bioactive compounds from Humulus lupulus for the food and pharmaceutical industry

<https://doi.org/10.1016/j.indcrop.2020.112888>

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).

[2019]

3) Salivary Metabolome and Soccer Match: Challenges for Understanding Exercise induced Changes

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6680540/>

Pitti, E., **Petrella, G.**, Di Marino, S., Summa, V., Perrone, M., D'Ottavio, S., Bernardini, A., & Cicero, D. O. (2019). Salivary Metabolome and Soccer Match: Challenges for Understanding Exercise induced Changes. *Metabolites*, *9*(7), 141. <https://doi.org/10.3390/metabo9070141>

[2019] **2) 5,10,15-Tris(4-sulfonatophenyl)corrole Synthesis**

<https://chemistry-europe.onlinelibrary.wiley.com/doi/abs/10.1002/ejoc.201901155>

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. (2019), 5,10,15-Tris(4-sulfonatophenyl)corrole Synthesis. *Eur. J. Org. Chem.*, 2019: 6525-6533. doi:[10.1002/ejoc.201901155](https://doi.org/10.1002/ejoc.201901155)

[2016]

1) A New Sustainable And Innovative Work For Paper Artworks Cleaning Process : Gellan Hydrogel Combine

https://pdfs.semanticscholar.org/9b38/7ccd04fde7cb8b5534e8a4368bcd9411624a.pdf?_ga=2.176186213.1967057648.1597016948-1973584344.1597016948

Petrella, G., Mazzuca, C., Micheli, L., Cervelli, E., Fazio, D.D., Iannuccelli, S., Sotgiu, S., Palleschi, G., & Palleschi, A. (2016). A new sustainable and innovative work for paper artworks cleaning process: Gellan hydrogel combined with hydrolytic enzymes.

CONFERENCES AND SEMINARS

[27/10/2015 – 28/10/2015]

"Green Conservation of Cultural Heritage", Roma, Italy, on October 27-28 2015

[01/09/2016 – 03/09/2016] **"ECIS 2016 Training Course", Roma, 1-3 September 2016**

[27/11/2014] **"Spectro Day", Shimadzu, Roma, 27 November 2014**

HONOURS AND AWARDS

[2021] **GIDRM PhD Graduate Award (2000€) Awarding institution:** Gruppo Italiano Discussione Risonanze Magnetiche (GIDRM)

[2014] **Honours and awards**

BIOMOD 2014, Harvard Univeristy

ORAL PRESENTATIONS

[04/10/2022 – 05/10/2022]

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 (EDM-2022 CONGRESS) on Oct 04 - 05, 2022 at London, UK

[27/09/2022 – 30/09/2022]

Metabolism evolution of prostate cancer cells during the development of chemoresistance

Italian-French International Conference on Magnetic Resonance, Jointly organized by the GIDRM and GERM, on 27-30 September 2022, Milan (Italy)

[07/09/2021 – 09/09/2021] **The synergic use of UHPLC-HRMS and NMR in metabolomics**

GIDRM, XLIX National Congress on Magnetic Resonance, Online

[19/11/2019 – 21/11/2019]

How NMR data could assist MS hit classification in an untargeted metabolomics analysis?

Advances in NMR and MS Based Metabolomics, Lucca on November 20th – 22nd, 2019, *How NMR data could assist MS hit classification in an untargeted metabolomics analysis? Our case study: bladder cancer*

[18/09/2018 – 20/09/2018]

A comprehensive urinary metabolomic approach based on NMR and LC-HRMS to identify bladder cancer

GIDRM, XLVII National Congress on Magnetic Resonance, Torino, 19-21 September 2018, *A comprehensive urinary metabolomic approach based on NMR and LC-HRMS to identify bladder cancer*

[26/10/2015 – 27/10/2015]

A new sustainable and innovative work for paper artworks cleaning process

YOCOCU, Green Conservation of Cultural Heritage, Rome, Italy on October 27, 2015, *A new sustainable and innovative work for paper artworks cleaning process: Gellan hydrogel combined with hydrolytic enzymes.*

POSTERS

[2022]

Exploring the link between cell metabolism and the risk of bladder cancer progression

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

Italian-French International Conference on Magnetic Resonance Jointly organized by the GIDRM and GERM

27-30 September 2022, Milan

[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 Milano Bicocca, 2022

[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, Claudai 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. Petrella, N. Viceconte, G. Tanzilli, D.O.Cicero

XLIX National Congress on Magnetic Resonance, 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 1H-NMR 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, 2019

[2018]

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, Ventura, 2018

[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 2018

[2017]

Drug effects on metabolic profiles of Schistosoma mansoni adult male parasites by 1H-NMR 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 2017

[2017]

A Metabolomic Study of Urinary Biomarkers in Bladder Cancer based on NMR Spectroscopy". Paper presented at "Advances in NMR and MS Based Metabolomics

G. Petrella, S. Lentini, G. Di Pietro, V. Summa, A. Salonia, R. Vago, D.O. Cicero

GIDRM, Padova 2017

[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 2016.

[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 2015 - Non destructive and microanalytical technique in art and cultural heritage, Catania, 2015.