



## Greta Petrella

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

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Via della Ricerca Scientifica, 00133, Roma, Italy

### WORK EXPERIENCE

10/2020 – CURRENT – Rome, Italy

**RESEARCH FELLOW** – UNIVERSITÀ DEGLI STUDI DI ROMA TOR VERGATA

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

**Address** Roma, Italy

12/2016 – 09/2017

**SCHOLARSHIP STUDENT** – UNIVERSITÀ DEGLI STUDI DI ROMA "TOR VERGATA"

Internship student in the field of metabolomics by NMR spectroscopy.  
IRBM, Pomezia (RM), Italy.

**Address** Roma, Italy

### EDUCATION AND TRAINING

10/2017 – 01/2020 – Rome, Italy

**PHD IN CHEMISTRY** – Università degli studi di Roma "Tor Vergata"

**Address** Via della Ricerca Scientifica, 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 – Roma, Italy

**MASTER'S DEGREE IN CHEMISTRY** – Università degli studi di Roma "Tor Vergata"

**Address** Roma, Italy | **Level in EQF** EQF level 7

2008 – 2012 – Roma, Italy

**BACHELOR'S DEGREE IN CHEMISTRY** – Università degli studi di Roma "Tor Vergata"

**Address** Roma, Italy | **Level in EQF** EQF level 6

2001 – 2006 – Roma

**DIPLOMA DI LICEO CLASSICO** – Liceo classico "E.Q.Visconti"

**Address** Roma

## ● EDITORIAL ACTIVITY

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2022 – CURRENT

### Member of the Topical Advisory Panel of "Metabolites"

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2022

### Guest Editor of the special issue: "Cellular Metabolism in the Omics Era"

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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"

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A special issue of Metabolites (ISSN 2218-1989). This special issue belongs to the section "Frontiers in Metabolomics".

## ● PUBLICATIONS

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### 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

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<https://doi.org/10.1007/s00436-022-07426-6> – 2022

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).

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

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<https://doi.org/10.3390/antiox10121982> – 2021

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) Personalized Metabolic Profile by Synergic Use of NMR and HRMS

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<https://doi.org/10.3390/molecules26144167> – 2021

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

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<https://doi.org/10.3390/antiox10091395> – 2021

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

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<https://doi.org/10.3390/metabo11110756> – 2021

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

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<https://www.mdpi.com/1420-3049/25/16/3583> – 2020

Caroleo, F.<sup>#</sup>; **Petrella, G.**<sup>#</sup> (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-Triolcorrole. *Molecules* **2020**, *25*, 3583.

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

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<https://doi.org/10.1371/journal.pntd.0008767> – 2020

Guidi, A.<sup>#</sup>, **Petrella, G.**<sup>#</sup> (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).

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

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<https://doi.org/10.1016/j.lwt.2020.110088> – 2020

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

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<https://doi.org/10.3390/ijms21218107> – 2020

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

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<https://doi.org/10.1016/j.indcrop.2020.112888> – 2020

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

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<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6680540/> – 2019

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>

## 2) 5,10,15-Tris(4-sulfonatophenyl)corrole Synthesis

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<https://chemistry-europe.onlinelibrary.wiley.com/doi/abs/10.1002/ejoc.201901155> – 2019

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)

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

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[https://pdfs.semanticscholar.org/9b38/7ccd04fde7cb8b5534e8a4368bcd9411624a.pdf?\\_ga=2.176186213.1967057648.1597016948-1973584344.1597016948](https://pdfs.semanticscholar.org/9b38/7ccd04fde7cb8b5534e8a4368bcd9411624a.pdf?_ga=2.176186213.1967057648.1597016948-1973584344.1597016948) - 2016

**Petrella, G.**, Mazzuca, C., Micheli, L., Cervelli, E., Fazio, D.D., Iannucelli, 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**

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07/09/2021 – 09/09/2021

**GIDRM, XLIX National Congress on Magnetic Resonance, Online**

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11/09/2019 – 13/09/2019

**"XLVIII National Congress on Magnetic Resonance", GIDRM, L'aquila, Italy on 11-13 September 2019**

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03/02/2019 – 08/02/2019

**Metabolomics and Human Health, Gordon Research Conference, Ventura (CA) on February 3 - 8, 2019**

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19/09/2018 – 21/09/2018

**XLVII National Congress on Magnetic Resonance, GIDRM, Torino, Italy on 19-21 September 2018**

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14/11/2017 – 16/11/2017

**Advances in NMR and MS based metabolomics", Padova, Italy on November 14-16 2017**

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27/10/2015 – 28/10/2015

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

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01/09/2016 – 03/09/2016

**"ECIS 2016 Training Course", Roma, 1-3 September 2016**

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27/11/2014

**"Spectro Day", Shimadzu, Roma, 27 November 2014**

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## ● **HONOURS AND AWARDS**

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2021

**GIDRM PhD Graduate Award (2000€) – Gruppo Italiano Discussione Risonanze Magnetiche (GIDRM)**

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2014

**Honours and awards**

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**BIOMOD 2014, Harvard Univeristy**

## ● **PRESENTATIONS**

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07/09/2021 – 09/09/2021

**The synergic use of UHPLC-HRMS and NMR in metabolomics**

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**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?**

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**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**

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**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**

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**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.*

## ● **POSTER**

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2022

### **Contribution of 3D architecture to the energy metabolism of bladder cancer cellular models**

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*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**

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*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**

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*D. Vanni, E. Pitti, G. Petrelli, 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**

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*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**

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*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**

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*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**

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*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**

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*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**

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*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**

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*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**

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*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.

## ● COURSES

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09/07/2018 – 13/07/2018

**"NMR School" - Advance course - GIDRM, 9-13 July 2018**

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10/07/2017 – 14/07/2017

**"NMR School" - Basic course - GIDRM, 10-14 July 2017**

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