

**EDUCATION AND TRAINING**

November 2018 – present

**Ph.D student in Pharmaceutical Sciences (XXXIV cycle)**

Sapienza University of Rome – Department of Chemistry and Technologies of Drug, P.le Aldo Moro 5, 00185 Rome, Italy.

TUTOR: Prof. Luisa Mannina

April 2021 – July 2021

**Aboard period at Institut de Chimie Radicalaire (ICR), University Aix-Marseille**

TUTOR: Prof. Aura Tintaru

October 2013 – July 2018

**Master's Degree in Pharmaceutical Chemistry and Technology achieved with full marks (110/110 cum laude)**

"G. D'Annunzio" University of Chieti-Pescara – Department of Pharmacy, Via dei Vestini 31, 66013 Chieti, Italy.

TUTOR: Dr. Simone Carradori

• Thesis title: Synthesis of new carvacrol derivatives with potential anti-*Helicobacter pylori* activity

**AWARDS**

Sapienza University of Rome. Borsa di mobilità all'estero per studenti di dottorato. Grant (€): 6000

**PRINCIPAL INVESTIGATOR OF RESEARCH CONTRACTS**

Framework

Sapienza – Progetti per Avvio alla Ricerca - Tipo 1 2020

Title

Caratterizzazione chimica di estratti di radice di Gentiana lutea L. e Gentiana dinarica Beck abruzzese attraverso un approccio multimetodologico. Grant (€): 1000

**PARTICIPATION TO PROJECTS**

Framework

**Sapienza – University Research Project 2018**

Title

"La Canapa industriale: sviluppo e valorizzazione di una nuova filiera agroalimentare ecosostenibile"

Role

Participant; member of the research team.

Framework

**Sapienza – University Research Project 2019**

Title

"Identificazione di biomarcatori di aderenza alla Dieta Mediterranea in una popolazione universitaria di Sapienza (GONG) mediante analisi metabolomica NMR"

Role

Participant; member of the research team.

**ORGANIZATION OF MEETINGS, CONFERENCES, WORKSHOPS**

6 May 2019

New Horizons in cannabis research: medical and food applications– Sapienza University of Rome.

Role

Secretariat

22 September 2020

La canapa industriale: sviluppo e valorizzazione di una nuova filiera agroalimentare ecosostenibile– Sapienza University of Rome.

Role

Secretariat

**SEMINARS**

18 October 2019

"Metodologie avanzate nello studio dei prodotti della filiera della Cannabis Sativa"– Master di II livello in "I Manager Chiave nell'Azienda Nutraceutica e Cosmeceutica", Sapienza University of Rome.

**TUTORING ACTIVITY**

University of Chieti-Pescara "G. D'Annunzio": Tutoring activity for students in Inorganic Chemistry (academic year: 2017/2018)

Sapienza University of Rome: Tutoring activity for high school students for the activity "How to write a scientific paper" (academic years: 2018/2019, 2019/2020, 2020/2021)

Sapienza University of Rome: Tutoring activity for students in Inorganic Chemistry (academic year: 2020/2021)

## MEMBERSHIP

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Member of the Italian Group of Magnetic Resonance Discussion (GIDRM) since 2019

Member of the Italian Chemistry Society (SCI) since 2020

Member of the Italian Society of Food Chemistry (ITACHEMFOOD) since 2020

## PARTICIPATION TO SCHOOLS

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XXI Scuola Nazionale di Risonanza Magnetica Nucleare - GIDRM/Università di Torino, Torino, 7-12 Luglio 2019

XXII Scuola Nazionale di Risonanza Magnetica Nucleare - GIDRM/Università di Torino, Modalità telematica, 20-23 Luglio 2020

Giornate di Approfondimento te(le)matico in Chemiometria 2020-DIFAR/Università di Genova, Modalità telematica, 11 e 18 Dicembre 2020

## POSTER CONTRIBUTIONS

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**1 M. Spano**, A.P. Sobolev, D. Capitani, E. Campiglia, S. Balducci, C. Ingallina, A.M. Giusti, G. Vinci, S. Ciano, L. Mannina. "NMR characterization of hemp products from Lazio". *XLVIII National Congress on Magnetic Resonance*. L'Aquila, 11-13 September 2019

**2 M. Spano**, A.P. Sobolev, D. Capitani, E. Campiglia, S. Balducci, C. Ingallina, A.M. Giusti, G. Vinci, S. Ciano, L. Mannina. "Metabolic profile of hemp flowers from Lazio: an NMR study". *Advances in NMR and MS-based Metabolomics*. Lucca, 20-22 November 2019.

**3 M. Spano**, C. Ingallina, A.P. Sobolev, C. Esposito, C. Santarcangelo, A. Baldi, M. Daglia, L. Mannina. "NMR and UPLC-ESI-MS/MS characterization of potato cultivars from North Italy". *Foodomics 6th edition*. Cesena, 14-16 October 2020.

**4. M. Spano**, A.P. Sobolev, G. Di Matteo, A. Tintaru, L. Mannina. "NMR metabolite profile of hemp products: the case of inflorescences and hemp seed oil". *Journées RMN du Grand Sud 2021*. Clermont Ferrand, 1-2 July 2021

## ORAL CONTRIBUTIONS

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1. **M. Spano**, A.M. Giusti. "Clorofille e carotenoidi nelle varietà monoiche di *Cannabis sativa* L.: influenza delle pratiche agronomiche". *La Canapa industriale: sviluppo e valorizzazione di una nuova filiera agroalimentare ecosostenibile. Primo anno di attività*. Viterbo, 4 July 2019

2. **M. Spano**. "Studio del profilo metabolomico di infiorescenze di canapa monoica durante la crescita". *La Canapa industriale: sviluppo e valorizzazione di una nuova filiera agroalimentare ecosostenibile*. Roma (online meeting), 22 September 2020

3. **M. Spano**. "*Cannabis sativa* L. inflorescences chemical profiling through a multimethodological approach". *Foodomics 6th edition*. Cesena, 14-16 October 2020

4. **M. Spano**. "Profilo NMR metabolomico di campioni di zucca protetti da biofilm". *Progetto ORTOPACKHEALTH: Il packaging per gli alimenti ad alto valore nutrizionale: metodologie avanzate per nuove soluzioni*. Roma (online meeting), 16 June 2021

5. **M. Spano**. "NMR metabolite profile of hemp products: the case of inflorescences and hemp seed oil". *Journées RMN du Grand Sud 2021*. Flash presentation, Clermont Ferrand, 1-2 July 2021

6. **M. Spano**. "Hemp products: NMR characterization of inflorescences and hemp seed oils". *XLIX National Congress on Magnetic Resonance*. Online congress, 8-10 September 2021

## LIST OF PUBLICATIONS

**Papers in peer-reviewed journals:**

Number of publications with first name/co-first name: 5

- 1 C. Ingallina, A. Cerreto, L. Mannina, S. Circi, S. Vista, D. Capitani, **M. Spano**, A. P. Sobolev, F. Marini. *Extra-virgin olive oils from nine Italian regions: an <sup>1</sup>H NMR-chemometric characterization*. *Metabolites*, (2019), 9 (4) DOI: 10.3390/metabo9040065.
- 2 C. Ingallina, A. P. Sobolev, S. Circi, **M. Spano**, A. M. Giusti, L. Mannina. *New Hybrid Tomato Cultivars: An NMR-Based Chemical Characterization*. *Applied sciences*, (2020), 10 (5) 1887 pp. DOI: <https://doi.org/10.3390/app10051887>.
- 3 C. Ingallina, A. P. Sobolev, S. Circi, **M. Spano**, C. Frascchetti, A. Filippi, A. Di Sotto, S. Di Giacomo, G. Mazzocanti, F. Gasparri, D. Quaglio, E. Campiglia, S. Carradori, M. Locatelli, G. Vinci, M. Rapa, S. Ciano, A. M. Giusti, B. Botta, F. Ghirga, D. Capitani, L. Mannina. *Cannabis sativa L. inflorescences from monoecious cultivars grown in Central Italy: an untargeted chemical characterization over the season*. *Molecules*, (2020), 25 (8) DOI: <https://doi.org/10.3390/molecules25081908>.
- 4 Veschi, S.; Carradori, S.; De Lellis, L.; Florio, R.; Brocco, D.; Secci, D.; Guglielmi, P.; **Spano, M.**; Sobolev, A.P.; Cama, A. *Synthesis and evaluation of a large library of nitroxoline derivatives as pancreatic cancer antiproliferative agents*. *J. Enzyme Inhib. Med. Chem.* (2020), 35 (1) DOI: <https://doi.org/10.1080/14756366.2020.1780228>.
- 5 Di Matteo, G.; **Spano, M.**; Grosso, M.; Salvo, A.; Ingallina, C.; Russo, M.; Ritieni, A.; Mannina, L. *Food and COVID-19: Preventive/Co-therapeutic Strategies Explored by Current Clinical Trials and in Silico Studies*. *Foods* (2020), 9 (8) DOI: <https://doi.org/10.3390/foods9081036>.
- 6 Ingallina, C.; **Spano, M.**; Sobolev, A.P.; Esposito, C.; Santarcangelo, C.; Baldi, A.; Daglia, M.; Mannina, L. *Characterization of Local Products for Their Industrial Use: The Case of Italian Potato Cultivars Analyzed by Untargeted and Targeted Methodologies*. *Foods* (2020), 9 (9) DOI: <https://doi.org/10.3390/foods9091216>.
- 7 **Spano, M.**; Di Matteo, G.; Rapa, M.; Ciano, S.; Ingallina, C.; Cesa, S.; Menghini, L.; Carradori, S.; Giusti, A.M.; Di Sotto, A.; Di Giacomo, S.; Sobolev, A.P.; Vinci, G.; Mannina, L. *Commercial Hemp Seed Oils: A Multimethodological Characterization*. *Appl. Sci.* (2020), 10 (19) DOI: <https://doi.org/10.3390/app10196933>.
- 8 Ingallina, C.; Maccelli, A.; **Spano, M.**; Di Matteo, G.; Di Sotto, A.; Giusti, A.M.; Vinci, G.; Di Giacomo, S.; Rapa, M.; Ciano, S.; Frascchetti, C.; Filippi, A.; Simonetti, G.; Cordeiro, C.; Silva, M.S.; Crestoni, M.E.; Sobolev, A.P.; Fornarini, S.; Mannina, L. *Chemico-Biological Characterization of Torpedino Di Fondi<sup>®</sup> Tomato Fruits: A Comparison with San Marzano Cultivar at Two Ripeness Stages*. *Antioxidants* (2020), 9 (10) DOI: <https://doi.org/10.3390/antiox9101027>.
- 9 Sisto, F.; Carradori, S.; Guglielmi, P.; Traversi, C.B.; **Spano, M.**; Sobolev, A.P.; Secci, D.; Di Marcantonio, M.C.; Haloci, E.; Grande, R.; Mincione, G. *Synthesis and Biological Evaluation of Carvacrol-Based Derivatives as Dual Inhibitors of H. pylori Strains and AGS Cell Proliferation*. *Pharmaceuticals* (2020), 13 (11) DOI: <https://doi.org/10.3390/ph13110405>.
- 10 Di Matteo, G.; **Spano, M.**; Esposito, C.; Santarcangelo, C.; Baldi, A.; Daglia, M.; Mannina, L.; Ingallina, C.; Sobolev, A.P. *NMR Characterization of Ten Apple Cultivars from the Piedmont Region*. *Foods* (2021), 10 (2) DOI: <https://doi.org/10.3390/foods10020289>.
- 11 Sisto, F.; Carradori, S.; Guglielmi, P.; **Spano, M.**; Secci, D.; Granese, A.; Sobolev, A.P.; Grande, R.; Campestre, C.; Di Marcantonio, M.C.; Mincione, G. *Synthesis and Evaluation of Thymol-Based Synthetic Derivatives as Dual-Action Inhibitors against Different Strains of H. pylori and AGS Cell Line*. *Molecules* (2021), 26 (7) DOI: <https://doi.org/10.3390/molecules26071829>.
- 12 **Spano, M.**; Di Matteo, G.; Ingallina, C.; Botta, B.; Quaglio, D.; Ghirga, F.; Balducci, S.; Cammarone, S.; Campiglia, E.; Giusti, A.M.; Vinci, G.; Rapa, M.; Ciano, S.; Mannina, L.; Sobolev, A.P. *A Multimethodological Characterization of Cannabis sativa L. Inflorescences from Seven Dioecious Cultivars Grown in Italy: The Effect of Different Harvesting Stages*. *Molecules* (2021), 26 (10) DOI: <https://doi.org/10.3390/molecules26102912>
- 13 Rotondo, A.; La Torre, G.L.; Gervasi, T.; Di Matteo, G.; **Spano, M.**; Ingallina, C.; Salvo, A. *A Fast and Efficient Ultrasound-Assisted Extraction of Tocopherols in Cow Milk Followed by HPLC Determination*. *Molecules* (2021), 26 (15) DOI: <https://doi.org/10.3390/molecules26154645>
- 14 **Spano, M.**; Maccelli, A.; Di Matteo, G.; Ingallina, C.; Biava, M.; Crestoni, M.E.; Bardaud, J.-X.; Giusti, A.M.; Mariano, A.; D'Abusco, A.S.; Sobolev, A.P.; Lasalvia, A.; Fornarini, S.; Mannina, L. *Metabolomic Profiling of Fresh Goji (Lycium barbarum L.) Berries from Two Cultivars Grown in Central Italy: A Multi-Methodological Approach*. *Molecules* (2021), 26 (17) DOI: <https://doi.org/10.3390/molecules26175412>