

Antonio Di Stefano

Full Professor of Pharmaceutical Technology and Regulatory Affairs
Department of Pharmacy – “G. d’Annunzio” University of Chieti–Pescara

Institutional profile
<https://www.unich.it/ugov/person/962>

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Scientific and professional profile

Full Professor in Pharmaceutical Technology and Regulatory Affairs (CHEM-08/A, formerly CHIM/09). His research focuses on advanced drug delivery systems, pharmaceutical nanotechnology, biomaterials, bioactive natural products, and the valorisation of agro-industrial by-products. His activities include translational research, formulation development, technology transfer, and collaboration with pharmaceutical and nutraceutical companies.

Education and academic career

1994	PhD in Medicinal Chemistry, consortium programme involving the Universities of Pisa, Camerino, Florence, and Perugia (6th cycle). In the same year, CNR research fellowship within the targeted project “Fine Chemistry II”.
1995–1996	Postdoctoral Fellowship in Pharmaceutical Chemistry.
1996	University Researcher in Pharmaceutical Technology at the Faculty of Pharmacy, “G. d’Annunzio” University of Chieti–Pescara.
2003	Associate Professor in CHIM/09 – Pharmaceutical Technology and Regulatory Affairs.
2011–present	Full Professor at the Department of Pharmacy, “G. d’Annunzio” University of Chieti–Pescara; confirmed in the role in 2014.

Teaching and advanced education

- Pharmaceutical Technology and Legislation,
- Pharmaceutical Legislation,
- Pharmacy Management

within the degree programmes in Pharmacy and Pharmaceutical Chemistry and Technology.

- Scientific Director of the second-level University Master’s Programme in “Pharmaceutical Technology Transfer”.
- Scientific Director of the second-level University Master’s Programme in “Pharmaceutical Compounding for Human and Veterinary Healthcare Professionals” (2024–2025).
- Coordinator of the PhD Programme in Pharmaceutical Sciences (2014–2016) and the PhD Programme in Biomolecular and Pharmaceutical Sciences (2013–2018).
- Supervisor of 25 PhD theses since 2015; currently supervising 9 PhD candidates.

- Since 2026, representative of the Advisory Board and Coordinator of the curriculum “Technological Innovation in Cardiovascular and Pharmacological Sciences” within the PhD Programme in Medical Biotechnology.

Institutional appointments and academic responsibilities

- Since 2016: Head of the organisation and management of practical training activities in pharmaceutical legislation and professional pharmacy practice at the Department of Pharmacy.
- 2013–2023: Chair of the Curricular Internship Committee for the Degree Programme in Pharmacy.
- 2013–2018: Director of the preparatory course for the State Examination qualifying graduates for professional practice as pharmacists.
- Since 2016: Director of the second-level University Master’s Programme in Pharmaceutical Technology Transfer.
- 2018–2020: Director of the second-level University Master’s Programme in Community Pharmacy Management.
- 2020: Coordinator responsible for establishing the L-29 Bachelor’s Degree Programme in “Eco-Sustainable Technologies and Environmental Toxicology (T.E.S.T.A.)”.
- Since 2019: Departmental Delegate for Third Mission activities.
- Since 2023: Rector’s Delegate for Postgraduate Education within the framework of Third Mission activities.

Scientific coordination and professional activities

- Since 2013: Chair of the Scientific Committee for the evaluation of Continuing Medical Education (CME/ECM) activities at the Order of Pharmacists of the Province of Ascoli Piceno.
- Since 2019: Member of the Technical-Scientific Committee of the Italian Union of Compounding Pharmacists and Vice-Chair of the Regional Drug Commission of the Abruzzo Region.
- Since 2024: Member of the National Board of UTIFAR and Coordinator of Continuing Medical Education programmes.
- Chair of the Organising Committee of the Controlled Release Society Italy Chapter Workshop 2026.
- Founder and Legal Representative of AlgoBiotechnologies Srl, an innovative start-up active in nutraceuticals, natural bioactive compounds, and advanced health products (since 2020).

National and international collaborations

He has developed a network of collaborations in pharmaceutical technology, natural products, nanotechnology, biomaterials, and drug delivery with institutions including Utrecht University, UCL School of Pharmacy, Erzurum Technical University, Atatürk University, the University of Granada, Kiel University, Rīga Stradiņš University, and Aldent University. These collaborations encompass formulation development, characterisation of materials and delivery systems, biological studies, and the pharmaceutical valorisation of agro-industrial by-products.

Visiting appointments and international activities

- 2014: Visiting Professor at Erzurum Technical University (Turkey), delivering seminars on drug delivery systems and pharmaceutical technologies.
- 2015: Member of the Examination Committee for the Degree Programme in Biomolecular Sciences at Erzurum Technical University.
- 2024: Visiting Professor at the Department of Molecular Biology and Genetics, Faculty of Science, Atatürk University, Erzurum.

Research projects and industrial collaborations

Selected competitive projects

- 2025 – MASE project on innovative clathrate- and graphene-based materials for hydrogen storage: research unit member.
- 2025 – POR-FESR project “Rapidly biodegradable functionalised polymer films for hygiene, healthcare and medical applications”: research unit member.
- 2022 – PRIN project “Identification of new terpenoids and development of novel hyaluronic acid–monoterpenoid conjugates for skin infections caused by antibiotic-resistant bacteria”: research unit member.
- 2015 – Abruzzo ERDF project on anti-TROP2 liposomal conjugates loaded with anticancer agents: Scientific Coordinator.
- 2015 – Abruzzo ERDF “Sunscreen Project”: Principal Investigator.
- 2014 – Fondazione Carichieti project on new drug delivery strategies for Alzheimer’s disease: Principal Investigator.

Contract research

He has coordinated or contributed to research contracts with Fater S.p.A. (2019) and Dompé S.p.A. (2021-2026) concerning polymeric materials and the development of oral, dermatological, peptide-based, sustainable, and ophthalmic formulations, including lipophilic ointments and oil-based eye drops

Awards and honours

- 2025 – AFI Scientific Excellence 64 award for the study “EVs from B7-H3 CAR-T Cells as a Potential Therapy for Pancreatic Cancer”.
- 2021 – Winner of StartCup Abruzzo, Innovalley Award, with AlgoBiotechnologies – MD Algo Bioplastic.
- 2020 – Winner of StartCup Abruzzo with the AlgoBiotechnologies project “Next-generation therapies based on oral stem cell secretome”, IZS Abruzzo-Molise Award.
- 2017 – Best Poster, International PSE Symposium “New & Old Phytochemicals”.
- 2016 – Hot Paper, Chemistry – A European Journal; Best Poster, Pharmaceutical Industry Summit, Vienna.
- 2015 – IJMS Best Paper Award for a study on PLGA nanoparticles and microbial biofilms.

Editorial activities

- Associate Editor of Letters in Drug Design & Discovery (since 2021).
- Editorial Board Member of Biomolecules (since 2019) and the International Journal of Molecular Sciences (since 2021).
- Guest Editor of special issues on neurodegenerative diseases, drug delivery, and nanotechnology for the International Journal of Molecular Sciences, Pharmaceutics, Biomolecules, and Central Nervous System Agents in Medicinal Chemistry.
- Since 2026: Guest Editor of the Special Issue “Food-Derived Bioactive Compounds: From Foodomics to Therapeutic Applications” for Exploration of Foods and Foodomics.

Scientific societies

Member of SITELF – Italian Society of Pharmaceutical Technology and Legislation; Italian Chemical Society, Division of Pharmaceutical Technology; UTIFAR; Italian Association of Pharmaceutical Industry Professionals (AFI); and the Controlled Release Society – Italy Chapter.

Selected publications and intellectual property

1. Dimmito M.P., Puca V., Di Stefano A., Toto E.C., Corfiati G., Appignani M., Grande R., Marinacci B., Gallorini M., Francati S., Robuffo I., Cacciatore I., Marinelli L. Propolis-loaded solid lipid nanoparticles targeting *H. pylori* associated with gastro-intestinal diseases (2026) *Journal of Functional Foods*, 143, art. no. 107372 DOI: 10.1016/j.jff.2026.107372
 2. Dimmito M.P., Marinelli L., Toto E.C., Di Biase G., Cacciatore I., Toto P., Ciulla M., Monti B., Santoleri F., Costantini A., Di Stefano A. A Methodological Proposal for Health Technology Assessments: A Case Study on Biosimilar Drugs (2025) *Journal of Market Access and Health Policy*, 13 (2), art. no. 12 DOI: 10.3390/jmahp13020012
 3. Marinelli L., Dimmito M.P., Cacciatore I., et al., Di Stefano A. (2024). Solid lipid nanoparticles for efficient delivery of capsaicin-rich extract: potential neuroprotective effects in Parkinson’s disease. *Journal of Drug Delivery Science and Technology*, 91, 105097. DOI: 10.1016/j.jddst.2023.105097.
 4. Marinelli L., Ciulla M., Ritsema J.A.S., et al., Di Stefano A. (2022). Preparation, characterization, and biological evaluation of a hydrophilic peptide loaded on PEG–PLGA nanoparticles. *Pharmaceutics*, 14, 1821. DOI: 10.3390/pharmaceutics14091821.
 5. Cacciatore I., Türkez H., Di Rienzo A., Ciulla M., Mardinoglu A., Di Stefano A. (2021). Boron-based hybrids as novel scaffolds for drugs with neuroprotective properties. *RSC Medicinal Chemistry*, 12, 1944–1949. DOI: 10.1039/D1MD00177A.
 6. Marinelli L., Cacciatore I., Eusepi P., et al., Di Stefano A. (2021). In vitro wound-healing properties of water-soluble terpenoids loaded on halloysite clay. *Pharmaceutics*, 13, 1117. DOI: 10.3390/pharmaceutics13081117.
 7. Eusepi P., Marinelli L., Borrego-Sánchez A., et al., Di Stefano A. (2020). Nano-delivery systems based on carvacrol prodrugs and fibrous clays. *Journal of Drug Delivery Science and Technology*, 58, 101815. DOI: 10.1016/j.jddst.2020.101815.
 8. Küçükdoğan R., Türkez H., Arslan M.E., et al., Di Stefano A. (2020). Neuroprotective effects of boron nitride nanoparticles in an experimental Parkinson’s disease model. *Metabolic Brain Disease*, 35, 947–957. DOI: 10.1007/s11011-020-00559-6.
 9. Marinelli L., Cacciatore I., Eusepi P., et al., Di Stefano A. (2020). Viscoelastic behaviour of hyaluronic acid formulations containing carvacrol prodrugs with antibacterial properties. *International Journal of Pharmaceutics*, 582, 119306. DOI: 10.1016/j.ijpharm.2020.119306.
 10. Ciulla M., Marinelli L., Cacciatore I., Di Stefano A. (2019). Role of dietary supplements in the management of Parkinson’s disease. *Biomolecules*, 9, 271. DOI: 10.3390/biom9070271.
- a) Di Stefano, A.; Cacciatore, I.; Turkez, H. *Boronated derivatives for the treatment of diseases and conditions associated with oxidative stress*. European Patent Application EP 3 495 372 A1, application no. EP18207733.9, filed 22 November 2018, published 12 June 2019, European Patent Bulletin 2019/24.
 - b) Di Stefano, A.; Cacciatore, I.; Marinelli, L.; Dimmito, M. P.; Di Rienzo, A.; Toto, E. C. *Piattaforma per la veicolazione di sostanze biologicamente attive*. Italian Patent Application, reference no. RBI18225-IT, filed 20 April 2023.
 - c) Di Stefano, A.; Cacciatore, I. *Preparation of boronate derivatives for the treatment of diseases and conditions associated with oxidative stress*. European Patent Application EP 3 495 372 A1, application no. EP18207733.9, filed 22 November 2018, published 12 June 2019, European Patent Bulletin 2019/24.