



Prof. Stefano Falcinelli, PhD

Department of Civil and Environmental Engineering

Via G. Duranti 93 - University of Perugia - 06125 Perugia (ITALY)

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**STEFANO FALCINELLI, Full Prof., Ph.D. – C.V.**

ORCID ID: [orcid.org/0000-0002-5301-6730](https://orcid.org/0000-0002-5301-6730) – Publons/Researcher ID: A-7871-2012 - Scopus Author-ID: 6701373521

Full Professor of:

- CHEMISTRY AND MATERIALS TECHNOLOGY (7 CFU - L081 - Civil and Environmental Engineering);
- ENVIRONMENTAL CHEMISTRY (5 CFU - L081 - Civil and Environmental Engineering);
- MATERIALS FOR DESIGN (5 CFU - L080 - Industrial Design);
- CHEMICAL SUSTAINABLE PROCESSES (6 CFU - LM06 - Engineering of Materials and Sustainable Processes);
- CHEMISTRY AND BUILDING MATERIALS (3 CFU - L083 - Digital Techniques for Sustainable Management of Buildings, the Environment and the Territory) – University of Perugia.

<http://www.unipg.it/personale/stefano.falcinelli>

- 1963, March 13th: He was born in Senigallia (AN), (Italy).
- Foreign languages spoken and written: English and French.
- 1990: "Laurea" in Chemistry (major university degree with honors: 110/110 cum laude), University of Perugia, (Italy).
- 1990: He got his Chemistry Professional Qualification (Inscription Nr. 2641).
- 1990: "visiting scholar" working with Prof. Jacques Baudon of "Laboratoire de Physique de Lasers" – Université Paris Nord XIII – Villetaneuse – FRANCE, working on atom interferometry.
- 1994: Ph.D. degree in Chemistry, University of Perugia, (Italy).
- 1994-1995: Post Doctoral fellow, in the R.N.Zare group at the Chemistry Department of Stanford University, California - U.S.A. He was the Principal Investigator on the production and detection of alkaline earth monohalide dications (these species were predicted to exist because theoretical calculations, performed by Wright and coworkers, and demonstrated that they were thermodynamically stable). Our work allowed to produce and detect them by Mass Spectrometry demonstrating for the first time their existence.  
<http://www.stanford.edu/group/Zarelab/alumni.html>
- 1995: Award of the Italian National Research Council reserved for winners of scholarships for foreign countries (Announcement no. 203.03.25 of 04.05.1993).
- 1997-1998: visiting scientist in the Physics Department of Trento University (Prof. D. Bassi) for the experimental study of molecular dications produced by ion-molecule reactions.
- 2011-present: Elettra partner of Synchrotron Radiation Facility of Basovizza (Trieste - Italy)
- 2013, July-September: visiting professor at the Department of Chemistry – University of Rochester, NY - U.S.A. (J.M. Farrar group) working in the first crossed beam study of reactions of ions with polyatomic free radical reagents, exploiting the VMI method to determine velocity space distributions of reaction products and corresponding kinetic energy and angular distributions. Results for charge transfer and proton transfer between  $H_3^+$  reactants and  $CH_3$  radicals produced in a pyrolysis source were obtained. <http://chem.rochester.edu/~jmfgrp/group.html>
- 2014, February 17<sup>th</sup>: He got the Italian National Qualification as Associate Professor (CHIM/07 FONDAMENTI CHIMICI DELLE TECNOLOGIE Settore concorsuale: 03/B2).
- 2014 June-September: visiting professor at the Department of Chemistry – Stanford University, CA - U.S.A. (R.N. Zare group) working in collaboration with AFRL (Air Force Research Laboratory), Edwards AFB, CA – USA, on Mass Spectrometric studies on ionic liquids fuels impinging on catalytic surfaces for their possible uses as advanced propellants, by using Desorption electrospray ionization (DESI) and plasma ionization. <http://www.stanford.edu/group/Zarelab/alumni.html>
- 2015, January: nominated as a MC Substitute [CM1401 IT] to COST Action CM1401.



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- 2017, March 28<sup>th</sup>: He got the Italian National Qualification as Full Professor of "Chemistry for Engineering" (Settore concorsuale: 03/B2 - FONDAMENTI CHIMICI DELLE TECNOLOGIE - Settore scientifico-disciplinare CHIM/07 - FONDAMENTI CHIMICI DELLE TECNOLOGIE).
- 2017, April 10<sup>th</sup>: He got the Italian National Qualification as Full Professor of "Physical Chemistry" (Settore concorsuale 03/A2 - MODELLI E METODOLOGIE PER LE SCIENZE CHIMICHE - Settore scientifico-disciplinare: CHIM/02 - CHIMICA FISICA).
- 2017, April 12<sup>th</sup>: He got the Italian National Qualification as Full Professor of "General and Inorganic Chemistry" (Settore concorsuale 03/B1 - FONDAMENTI DELLE SCIENZE CHIMICHE E SISTEMI INORGANICI - Settore scientifico-disciplinare: CHIM/03 - CHIMICA GENERALE E INORGANICA).
- 2017, June-July: visiting professor at the "Laboratoire de Physique des Lasers" UMR 7538 – CNRS – Université Paris 13, Institut Galilée – Villetaneuse (France), collaborating with Proff. Olivier Gorceix, Bruno Manil, and Vincent Lorent in the study of damage processes by irradiation of solvated biomolecules containing the amide bond. In this period he also taught at the doctoral school "Ecole doctorale Galilée" - Université Paris 13.
- 2018, June-July: visiting professor at the Chemistry Department of University of Rochester, NY (USA), collaborating with Prof. James M. Farrar in the development of a crossed molecular beams apparatus for the study of ion-radicals reactions with the ion-imaging technique; he worked for his optimization and his transfer from the University of Rochester to the "Laboratory of Chemical Technologies and Molecular Dynamics" of the University of Perugia where he is scientific director.
- 2018-present: He owns the bibliometric indicators, in compliance with the ASN 2018-2020 e ASN 2021-2023 Simulations for the SC-SSD 03/B2-CHIM/07 - Fondamenti Chimici delle Tecnologie, to act as "Commissario". Data from the last ASN 2021-2023 (used data version 2008/2013/2018-2023) Simulation: Nr. of articles in the last 10 years = 66 (threshold value: 41); Nr. of citations in the last 15 years = 1615 (threshold value: 1110); H index in the last 15 years = 25 (threshold value: 20).
- 2023, December 15<sup>th</sup> : He is appointed Full Professor of (CHIM/07 CHEMICAL FUNDAMENTALS OF TECHNOLOGIES SD: 03/B2) with taking up service to the Department of Civil and Environmental Engineering - University of Perugia starting from 15/ 01/2024 (Rectoral Decree no. 3239/2023 del 15/12/2023).

1996-2015: Assistant Professor, University of Perugia, (Italy):

- 2000/01-2004/05: Professor of CHEMISTRY (Civil Engineering).
- 2004/05-2009/10: Professor of CHEMICAL TECHNOLOGIES: combustion chemistry, refinery procedures and maintenance activities, petrochemicals, oil refining and gas treatment - refining, storage and transportation (Environmental Engineering).
- 2005/06-2008/09: Professor of CHEMISTRY (Energetics Engineering).
- 2009/10-2010/11: Professor of ENVIRONMENTAL RADIOCHEMISTRY (Civil Engineering).
- 2008/09-2015/16: Professor of CHEMISTRY (Industrial Engineering – University of Perugia).

2015-July 2023: Associate Professor, University of Perugia, (Italy) of:

- 2015/16-present: Professor of CHEMISTRY AND MATERIALS TECHNOLOGY (L081 Civil Engineering – University of Perugia).
- 2017/18-present: Professor of MATERIALS FOR DESIGN (L-080 Industrial Design – University of Perugia).
- 2020/21-present: Professor of ENVIRONMENTAL CHEMISTRY (L081 Civil and Environment Engineering – University of Perugia).
- 2021/22-present: Professor of CHEMICAL SUSTAINABLE PROCESSES (LM06 - Engineering of Materials and Sustainable Processes – University of Perugia).
- 2022/23-present: Professor of CHEMISTRY AND BUILDING MATERIALS (L083 - Digital Techniques for Sustainable Management of Buildings, the Environment and the Territory – University of Perugia).

2023, December-present: Full Professor (CHIM/07 CHEMICAL FUNDAMENTALS OF TECHNOLOGIES - SC: 03/B2) (Rectoral Decree n. 3239/2023 of 15/12/2023):

- 2023/2024-present: Professor of CHEMISTRY AND MATERIALS TECHNOLOGY (L081 Civil Engineering – University of Perugia).



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- 2023/24-present: Professor of MATERIALS FOR DESIGN (L-080 Industrial Design – University of Perugia).
- 2023/24-present: Professor of ENVIRONMENTAL CHEMISTRY (L081 Civil and Environment Engineering – University of Perugia).
- 2023/24-present: Professor of CHEMICAL SUSTAINABLE PROCESSES (LM06 - Engineering of Materials and Sustainable Processes – University of Perugia).
- 2023/24-present: Professor of CHEMISTRY AND BUILDING MATERIALS (L083 - Digital Techniques for Sustainable Management of Buildings, the Environment and the Territory – University of Perugia).

### **Institutional Responsibilities**

- May 2018-November 2022: Responsible of the Quality for the Degree Course in Design (Classe L4 - Department of Civil and Environmental Engineering) of the University of Perugia.
- January 2020-October 2022: member of the Department Board of Department of Civil and Environmental Engineering - University of Perugia.
- November 2022-present: Didactic Delegate for the Department of Civil and Environmental Engineering of the University of Perugia.

### **Doctoral School of Ph.D. in Chemistry DOT1423350 - University of Perugia:**

- May 2017-2019: member of the PhD School of Chemistry DOT1423350 (XXXIII and XXXIV Cycles) of the University of Perugia.
- May 8-26, 2017: he was teacher of a lecture course for PhD students in Chemistry - a.a. 2016/2017 (XXX, XXXI and XXXII cycle) entitled "Free Electron Laser: a Powerful Synchrotron Light Source for Chemistry of the Future" (3 CFU - 18 hours).

### **"Ecole Doctorale Galilée" - Université Paris 13**

- June-July 2017: as "visiting professor" at the "Laboratoire de Physique des Lasers" UMR 7538 – CNRS – Université Paris 13, Institut Galilée – Villetaneuse (France), he was teacher of a lecture course for PhD students at the "Ecole Doctorale Galilée" entitled "Coulomb explosion dissociation processes of simple organic molecules by ionizing radiations in space".

### **INTERNATIONAL DOCTORAL PROGRAM IN CIVIL AND ENVIRONMENTAL ENGINEERING - DOT1923BXT – Università di Perugia**

- May 2019-present: member of the PhD School INTERNATIONAL DOCTORAL PROGRAM IN CIVIL AND ENVIRONMENTAL ENGINEERING - DOT1923BXT (XXXV, XXXVI and XXXVII cycle) of the University of Perugia.
- June 21 - July 9, 2021: he was teacher of a lecture course for PhD students in International Doctoral Program in Civil and Environmental Engineering Chemistry - a.a. 2020/2021 (XXXVI cycle) entitled "Free Electron Laser: a Powerful Synchrotron Light Source for Chemistry of the Future" (5 CFU - 30 hours). <https://ing1.unipg.it/en/phd/didactic-activities/program-of-educational-didactic-activities-xxxvi-cycle/1349-free-electron-laser-a-powerful-light-source-for-science-and-technology-of-the-future>

### **Supervisor/Tutor of PhD student**

He is supervisor/tutor of Marco Parriani PhD student of INTERNATIONAL DOCTORAL PROGRAM IN CIVIL AND ENVIRONMENTAL ENGINEERING - DOT1923BXT – Università di Perugia – XXXVII Cycle.

### **Member of:**

- American Chemical Society – Divisions of Physical Chemistry (Astrochemical Subdivision), Environmental Chemistry, Agricultural & Food Chemistry;
- Istituto Nazionale per la Fisica della Materia (INFN - CNISM);
- Società Chimica Italiana – Divisioni di Spettrometria di Massa (SCI-DSM) and Chimica Industriale;
- Associazione Italiana degli Igienisti Industriali (AIDII);
- Ordine Interregionale dei Chimici di Lazio, Umbria, Abruzzo e Molise;



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- Scientific Partner di "Elettra Sincrotrone –Trieste (Elettra and FERMI lightsources)";
- AICIng – Associazione Italiana di Chimica per Ingegneria;
- Member of AASRI (American Applied Sciences Research Institute) CONFERENCE SERIES INTERNATIONAL COMMITTEE;
- MC Substitute [CM1401 IT] - COST Action CM1401;
- Academic Member of the "Athens Institute for Education and Research" belonging to the "Chemistry Research Unit" and the "Environment Research Unit". <http://www.atiner.gr/all-members>

#### **Areas of research and scientific interest:**

- Dynamics of the elementary chemical processes (relevant in combustion chemistry and of atmospheric interest) using atomic and molecular crossed beams technique, mass spectrometry and electronic spectroscopy.
- Transformation of waste CO<sub>2</sub> with production of fuels by plasma-assisted hydrogenation reaction in a circular economy regime.
- Production and characterization of molecular dications (characterizing their role in the Chemistry of the upper atmosphere of the Earth and of other planets of the Solar System, and as species able to storage a high energy content at a molecular level that could allow them to be used as alternative propellants) with synchrotron radiation (ELETTRA, Trieste), mass spectrometry and ion-ion, ion-electron and electron-electron coincidence techniques.
- Preparation of TiO<sub>2</sub> powders and evaluation of their photocatalytic efficiency in the degradation of atmospheric pollutants species.
- Environmental radioactivity: ionizing radiations exposure determinations and analysis of the levels of radioactivity on foods, waters and ground.
- Analytical chemistry: analysis on foods, drinks, alimentary preparations and cosmetics; environmental analysis (contamination of ground, water and air).
- HACCP, chemical and physical risks, hygiene foods, additional foods and novel foods regulations.

#### **International scientific collaborations:**

- A. Aguilar Navarro, M. Alberti, and J. De Andres – Departamento de Quimica Fisica, Universitat de Barcelona - E
- J. Baudon, and V. Lorent – Laboratoire de Physique des Lasers – Université Paris Nord XIII – F
- M. Ben Arfa, B. Lescop, and M. Cherid – Laboratoire de Physique des Collisions Electronique et Atomique – Université de Brest - F
- M. Chergui, and A. Sassara – Institut de Physique de la Matière Condensée – Université de Lausanne - CH
- J.M. Dyke – Chemistry Department, Southampton University – GB
- J.M. Farrar – Chemistry Department, Rochester University – NY, USA
- R. Feifel and V. Zhaunerchyk - Department of Physics, University of Gothenburg, Gothenburg, 412 96, Sweden
- K. Kalogerakis – SRI International - Menlo Park, CA 94025-3493, USA
- T. Kasai, and H. Ohoyama – Chemistry Department – Osaka University – J
- A. Osterwalder - Institute for Chemical Sciences and Engineering – Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, CH
- R.N. Zare – Chemistry Department, Stanford University – CA 94305, USA

#### **He is scientific leader and PI of the following "scientific approved proposals" at the "GasPhase" e "CiPo" beamlines at the "ELETTRA Synchrotron Trieste (Elettra and FERMI lightsources)" of Basovizza (Trieste - Italy):**

- September 2012: "Dynamics of the double photoionization of acetylene molecules" (proposal Nr. 20120052);
- January 2013: "Dynamics of the double photoionization of acetylene molecules" (proposal Nr. 20125172);
- September-October 2014: "Dynamics of the double photoionization of molecules of astrochemical interest" (proposal Nr. 20140208);
- September 2015: "Double photoionization of chiral molecules" (proposal Nr. 20155174);



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- March 2016: "Nuclear dissociation dynamics of the peptide bond by double photoionization of N-methylformamide and N-methylacetamide molecules" (proposal Nr. 20160278);
- March 2019: "The double photoionization of nitrosyl chloride (ClNO): energetics and decay dynamics of ClNO<sup>2+</sup> molecular dication" (proposal Nr. 20185210).
- September 2022: "The double photoionization of cyanoacetylene and allene molecules" (proposal Nr. 20220058).

### Scientific Congresses:

From 1992, he presented his scientific work at 190 Scientific Congresses, where he was selected for:

#### Invited speaker and papers (N.16)

- "The XVIII International Conference on the Physics of Electronic and Atomic Collisions" (AIP Conference Proceedings), Aarhus, Denmark, 21–27 July, 1993.
- "XVIII Congresso del Settore di Fisica Atomica e Molecolare GNSM", Firenze (Italy), October 26-28, 1994.
- "XXII Conference on Phenomena in Ionized Gases" (AIP Conference Proceedings), Hoboken (New Jersey, USA), July 31 – August 4, 1995.
- "ISPC 12 - 12th International Symposium on Plasma Chemistry" (ISPC 12 Proceedings Vol.1), Minneapolis (Minnesota, USA), August 21-25, 1995.
- "NAUN – DEEE' 14 - 5th International Conference on DEVELOPMENT, ENERGY, ENVIRONMENT, ECONOMICS", Florence, Italy November 22-24, 2014.
- 24<sup>th</sup> International Symposium on Ion Atom Collisions - ISIAAC 2015, Barcelona, Col·legi Major Sant Jordi, Spain, July 19-21, 2015.
- The 1<sup>th</sup> International Electronic Conference on Atmospheric Sciences - ECAS 2016, Organized by *Atmosphere* Journal, July 16-31, 2016.
- "Storage Energie Rinnovabili", Aula Magna Polo di Ingegneria – Università di Perugia, Perugia, 11 Novembre 2016.
- The 2<sup>th</sup> International Electronic Conference on Atmospheric Sciences - ECAS 2017, Organized by *Atmosphere* Journal, July 16-31, 2017.
- "A Retirement Celebration Symposium Honoring Prof. James M. Farrar", University of Rochester – Chemistry Department – Rochester, NY (USA), June 15<sup>th</sup>, 2018.
- ACC 2019 - "International Conference on Applied Catalysis and Chemical Engineering", Dubai (UAE), April 08-10, 2019.
- MOST@Elettra 2.0 - "Molecular Science & Technology Workshop", ELETTRA Synchrotron Facility of Basovizza, Trieste (Italy), January 20-21, 2020.
- "WEBINARDICA-AMBIENTE: L'Ingegnere Civile ed Ambientale per Ripartire", Convegno di Presentazione del nuovo Corso di Laurea Triennale in Ingegneria Civile ed Ambientale del Dipartimento di Ingegneria Civile ed Ambientale – Università degli Studi di Perugia, Polo di Ingegneria, Perugia, 8-9 Luglio 2020.
- Sixth International Conference on Catalysis and Chemical Engineering (CCE-2022), San Francisco, CA (USA), February 22-24, 2022. <https://catalysis.unitedscientificgroup.org/conference-info>
- "Cinetica Chimica alle micro, meso, bioscale. Chemical kinetics at micro-, meso-, bio-scales dedicated to Giangualeberto Volpi (1928-2017, Linceo dal 1994)", Accademia Nazionale dei Lincei, Roma (Italy), 27-28 Marzo, 2023. <https://www.lincci.it/it/vidoteca/28032023-cinetica-chimica-alle-micro-meso-bioscale-sessione-3>
- CMD30 - FisMat 2023, Joint Conference of the Condensed Matter Division of the European Physical Society (CMD30) and of the Italian Community of Condensed Matter Physics, Optics, Liquids and Soft Matter (FisMat 2023), Politecnico di Milano and Università degli Studi di Milano Italy, 4-8 September 2023. <https://eventi.cnism.it/cmd30-fismat/submission/calendar>

#### Oral presentations (N.41):

- "Orientation and Polarization Effects in Chemical Reaction Dynamics - a NATO Advanced Research Workshop", Assisi (Perugia, Italy), 20-25 November 1992 (**Best oral presentation award**).
- "TUMA 95 - XIV Convegno Interregionale SCI", Terni, 11-12 Maggio 1995.
- "TUMA 98 - XV Convegno Interregionale SCI", Numana (AN), 8-10 Giugno 1998.
- "TUMA 99 – XVIII Convegno Interregionale SCI", Perugia, 3-5 Giugno 1999.
- "TUMA 2001 – XX Convegno Interregionale SCI", Pisa, 24-25 Maggio 2001.
- "TUMA 2002 – XXI Convegno Interregionale SCI", Urbino, 15-17 Luglio 2002.
- "MASSA 2002 - An International Symposium on Mass Spectrometry", Cetraro (CS – Italy), 27 June-1 July 2002.
- "MASSA 2005 - An International Symposium on Mass Spectrometry", Roma (Italy), 28 giugno - 1 luglio 2005.
- "TUMA 2005", Firenze, 30 settembre - 1 ottobre 2005.
- AICIng 2006 - V Convegno Nazionale Associazione Italiana di Chimica per l'Ingegneria", Politecnico di Torino, Torino, 3-5 Settembre 2006.
- "Stereodynamics 2006", Arcachon (France), November 10th-14th (2006).
- "SCI 2006 - XXII Congresso Nazionale della Società Chimica Italiana", Firenze, 10-15 Settembre 2006.
- "MASSA 2007 - An International Symposium on Mass Spectrometry", Lucca (Italy), September 2-5, 2007.
- "MOLECULAR AND NANODYNAMICS: FROM ATOMS TO BIOMOLECULES", University of Rome (Rome, Italy), 12-13 October 2007.
- "AICIng 2012 – VIII Convegno Nazionale Associazione Italiana di Chimica per l'Ingegneria", Aci Castello – Catania, 16-19 Settembre 2012.





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- “FROM ATROPHYSICS TO ASTROCHEMISTRY TOWARDS ASTROBIOLOGY – IV Workshop della Società Italiana di Astrobiologia”, Dipartimento di Chimica – Università degli Studi di Perugia (Perugia, Italy) September 19-21 2012.
- “Computational Science and Its Applications - ICCSA 2013 - Lecture Notes in Computer Science” – 13<sup>th</sup> International Conference, Ho Chi Minh City (Vietnam), June 24-27, 2013 (oral presentation of nr.2 contributions).
- “246<sup>th</sup> American Chemical Society National Meeting & Exposition - CHEMISTRY IN MOTION”, Indianapolis, IN (USA), September 8-12, 2013.
- “2014 AASRI – International Conference on Applied Engineering Sciences (ICAES 2014)”, Los Angeles, CA (USA), August 23-24, 2014.
- “Computational Science and Its Applications - ICCSA 2015 - Lecture Notes in Computer Science” – 15<sup>th</sup> International Conference, Banff, Alberta (Canada), June 22-25, 2015 (oral presentation of nr.2 contributions).
- “LIFE IN A COSMIC CONTEXT – 5<sup>th</sup> Workshop of the Italian Astrobiology Society”, SISSA (Italy) September 15-17 2015.
- “Astronomical Complex Organic Molecules in different environments” – 1<sup>st</sup> Italian Workshop on Astrochemistry, Palazzo Strozzi, Florence (ITALY), March 10-11, 2016.
- 6<sup>th</sup> APMAS “International Advances in Applied Physics and Materials Science Congress & Exhibition” – American Institute of Physics (AIP) Conference Proceedings –, Steigenberger Hotel Maslak, Istanbul (TURKEY), June 1-3, 2016.
- “Computational Science and Its Applications - ICCSA 2016 - Lecture Notes in Computer Science” – 16<sup>th</sup> International Conference, Beijing, (China), July 4-7, 2016 (**Best paper award**).
- “AICIng 2016 – X Convegno Nazionale dell’Associazione Italiana di Chimica per l’Ingegneria”, Udine, 11-14 Settembre 2016.
- “Computational Science and Its Applications - ICCSA 2017 - Lecture Notes in Computer Science” – 17<sup>th</sup> International Conference, University of Trieste, Trieste, (Italy), July 3-6, 2017.
- Symposium – “The astrochemical observatory: focus on chiral molecules – L’osservatorio astrochimico: obiettivo sulle molecole chirali”, Biblioteca dell’Accademia Nazionale delle Scienze detta dei XL – Scuderie Vecchie di Villa Torlonia – Via L. Spallanzani, 1/A – ROME (Italy), March 22-23, 2018.
- “31<sup>st</sup> International Symposium on Rarefied Gas Dynamics (RGD31)”, University of Strathclyde, Glasgow, Scotland (UK), July 23-27, 2018.
- “10 BPU – 10<sup>th</sup> Jubilee International Conference of the Balkan Physical Union”, Inter Expo Center Sofia (Bulgaria), August 26-30, 2018.
- “Computational Science and Its Applications - ICCSA 2019 - Lecture Notes in Computer Science” – 19<sup>th</sup> International Conference, Saint. Petersburg (Russia), July 1-4, 2019.
- “EMCEI 2019 – 2<sup>nd</sup> Euro-Mediterranean Conference for Environmental Integration”, Sousse (Tunisia), October 10-13, 2019 (**Best paper award**).
- “Computational Science and Its Applications - ICCSA 2020 - Lecture Notes in Computer Science” – 20<sup>th</sup> International Conference, Cagliari (Italy), July 1-4, 2020 (oral presentation of nr.2 contributions).
- “AICIng 2021 – XII Convegno Nazionale Associazione Italiana di Chimica per l’Ingegneria”, Reggio Calabria, 5-8 Settembre 2021.
- Computational Astrochemistry (CompAstro) Workshop of the 21<sup>th</sup> International Conference on Computational Science and its Applications (ICCSA 2021), September 13-16, 2021 in Cagliari (Italy) (oral presentation of nr.2 contributions).
- XV<sup>th</sup> International Symposium on Environment, Catalysis and Process Engineering (ECGP 2021), 23 - 25 November 2021, Marrakech, Morocco. [ecgpmorocco.com/speakers](http://ecgpmorocco.com/speakers)
- Computational Astrochemistry (CompAstro) Workshop of the 22<sup>th</sup> International Conference on Computational Science and its Applications (ICCSA 2022), July 4-7, 2022 in Malaga (Spain).
- “AICIng 2023 – XIII Congresso Nazionale dell’Associazione Italiana di Chimica per l’Ingegneria AICIng – II Congresso Nazionale della Divisione di Chimica per le Tecnologie - SCP”, Politecnico di Milano, 25-28 June 2023.

### He was member of the organizing/scientific committee of the following Scientific Congresses:

- Orientation and Polarization Effects in Chemical Reaction Dynamics - a NATO Advanced Research Workshop, Assisi (Perugia, Italy), 20-25 November 1992.
- 7<sup>th</sup> European Workshop on Molecular Spectroscopy and Photon-Induced Dynamics, Maratea (Potenza, Italy), November 25-30, 1993.
- International Symposium on Elementary Chemical Processes, Perugia (Italy), 10-13 July, 1998.
- COMET XVI, XVI International Conference on Molecular Energy Transfer, Assisi (Perugia, Italy), June 20-25, 1999.
- “26<sup>th</sup> International Symposium on Free Radicals”, Assisi (PG - Italy), 2-7 September 2001.
- TUMA 2003 – XXII Convegno Interregionale Sezioni Toscana Umbria Marche Abruzzo – Società Chimica Italiana, Terni (Italy), 10-12 Settembre 2003.
- SASP 2004 – 14<sup>th</sup> Symposium on Atomic, Cluster and Surface Physics, La Thuile (Aosta – Italy), 1-6 February 2004.
- AICING 04 – I<sup>o</sup> Congresso dell’Associazione Nazionale di Chimica per l’Ingegneria, Perugia (Italy), 12-14 Settembre 2004.
- “From Astrophysics to Astrochemistry towards Astrobiology” – IV Workshop della Società Italiana di Astrobiologia, Perugia (Italy), September 19-21, 2012.
- “COST (European Cooperation in Science and Technology) - CM0901 Detailed Chemical Models for Cleaner Combustion - IV Annual Meeting”, Perugia (Italy), September 16-18, 2013.
- From August 2014 – today: He is member of the Scientific Committee of AASRI (American Applied Sciences Research Institute) CONFERENCE SERIES INTERNATIONAL COMMITTEE.
- “Storage Energie Rinnovabili”, Aula Magna Polo di Ingegneria – Università di Perugia, Perugia, 11 Novembre 2016 (Chair of the Scientific and Organizing Committee).
- Computational Astrochemistry (CompAstro) Workshop of the 20<sup>th</sup> International Conference on Computational Science and its Applications (ICCSA 2020), July 1 - 4, 2020 in Cagliari (Italy).
- Computational Astrochemistry (CompAstro) Workshop of the 21<sup>th</sup> International Conference on Computational Science and its Applications (ICCSA 2021), September 13-16, 2021 in Cagliari (Italy).



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- “EMCEI 2021 – 3<sup>rd</sup> Euro-Mediterranean Conference for Environmental Integration”, Sousse (Tunisia), June 10-13, 2021.
- Computational Astrochemistry (CompAstro) Workshop of the 22th International Conference on Computational Science and its Applications (ICCSA 2022), July 4-7, 2022 in Malaga (Spain).
- XVIII Congresso Nazionale Di Scienze Planetarie, 6-10 February 2023, Sala dei Notari, Perugia (Italy).
- Computational Astrochemistry (CompAstro) Workshop of the 23th International Conference on Computational Science and its Applications (ICCSA 2023), July 3-6, 2023 in Athens (Greece).
- Workshop Nazionale AICIng 2024 - "Materiali e processi sostenibili nell'ambito di un'economia circolare e di una migliore qualità della vita", Sala dei Bronzi del Museo Archeologico Nazionale dell'Umbria (MANU), 13-14 Giugno 2024, Perugia (Italy).
- Computational Astrochemistry (CompAstro) Workshop of the 24th International Conference on Computational Science and its Applications (ICCSA 2024), July 1-4, 2024 in Thuyloi University, Hanoi (Vietnam).

### He was Chairman at the following recent Scientific International Congresses:

- ACC 2019 - “International Conference on Applied Catalysis and Chemical Engineering”, Dubai (UAE), April 08-10, 2019.
- “Computational Science and Its Applications - ICCSA 2019 - Lecture Notes in Computer Science” – 19<sup>th</sup> International Conference, Saint. Petersburg (Russia), July 1-4, 2019.
- “EMCEI 2019 – 2<sup>nd</sup> Euro-Mediterranean Conference for Environmental Integration”, Sousse (Tunisia), October 10-13, 2019.
- Computational Astrochemistry (CompAstro) Workshop of the 20th International Conference on Computational Science and its Applications (ICCSA 2020), July 1 - 4, 2020 in Cagliari (Italy).
- Computational Astrochemistry (CompAstro) Workshop of the 21th International Conference on Computational Science and its Applications (ICCSA 2021), September 13-16, 2021 in Cagliari (Italy).
- 6th International Conference on Catalysis and Chemical Engineering – CCE 2022, 22-26 February 2022, San Francisco, CA (USA) – Session I – Energy Catalysis-Oil&Gas-Renewable Sources. <https://catalysis.unitedscientificgroup.org/>
- Computational Astrochemistry (CompAstro) Workshop of the 23th International Conference on Computational Science and its Applications (ICCSA 2023), July 3-6, 2023 in Athens (Greece).
- Computational Astrochemistry (CompAstro) Workshop of the 24th International Conference on Computational Science and its Applications (ICCSA 2024), July 1-4, 2024 in Thuyloi University, Hanoi (Vietnam).

### Peer Reviewer:

- He is Peer Reviewer of international scientific journals as: “Chemical Society Reviews”, “The Journal of Physical Chemistry Letters”, “Physical Chemistry Chemical Physics”, “The Journal of Physical Chemistry”, “Chemical Engineering Journal”, “Chemical Physics Letters”, “Molecular Physics”, “International Journal of Quantum Chemistry”, “Applied Physics A”, “Journal of Computational Chemistry”, “Aloy Journal of Soft Computing and Applications (AJSCA)”, “Lecture Notes in Computer Science”, “Food Research International”, “Chemistry and Biodiversity”, “ChemistrySelect”, “Life”, “Applied Sciences”, “Energy Technology”, “Journal of Physics B: Atomic, Molecular and Optical Physics”, “International Journal of Hydrogen Energy”, “Catalysis Today”, “Diamond & Related Materials”.

- Reviewer for products evaluation of VQR 2011-2014 (MIUR-Cineca).

- Reviewer for the technical and economic evaluation of n. 10 projects related the Call for Proposals “INNONETWORK - Aid to support R & D activities” (as selected by the “Regione Puglia”, from the MIUR Expert Register of Expert Peer Reviewers for Italian Scientific Evaluation): activity carried out on behalf of INNOVAPUGLIA SPA - Company subjected to the management and control of the “Regione Puglia”.

- Reviewer for products evaluation of VQR 2015-2019 (MIUR-Cineca).

- Reviewer for Scientific Cooperation Projects between France and Chile, ECOS-ANID 2022 Program of the National Agency for Research and Development (ANID – Chile).

- Reviewer for submitted grant application to “Swiss National Science Foundation” – SNSF CH (07/12/2023 – 04/01/2024).

### Editorial Board:

He is Guest Associate Editor of the “Molecules” Journal (IF: 4.927 – ISSN: 1420-3049 published by MDPI and indexed by Scopus and WOS) for the Special Issue “Molecular Reactivity: Theoretical Study and Interpretation of Experimental Results”

[https://www.mdpi.com/journal/molecules/special\\_issues/Theoretical\\_Reactivity](https://www.mdpi.com/journal/molecules/special_issues/Theoretical_Reactivity)

He is Guest Associate Editor, Physical Chemistry and Chemical Physics of the “Frontiers in Chemistry” Journal (IF: 5.221 – indexed by Scopus and WOS) for the Research Topic: “Reaction Dynamics involving ions, radicals, neutral and excited species”

<https://www.frontiersin.org/research-topics/8515/reaction-dynamics-involving-ions-radicals-neutral-and-excited-species>



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He is Guest Associate Editor of the "Chemical Physics Letters" Journal (IF: 2.33 – indexed by Scopus and WOS) for the Special Issue: "Long-range Intermolecular Interactions in Chemistry and Physics";

He is Associate Editor of the "Euro-Mediterranean Journal for Environmental Integration" (ISSN: 2365-6433, e-ISSN: 2365-7448; Springer Nature – indexed by Scopus and WOS) for the "Topic 7: Smart technologies for environmentally friendly energy production";  
<https://www.springer.com/earth+sciences+and+geography/engineering+geology/journal/41207?detailsPage=editorialBoard>

He is member of the Advisory Board of the "Scholarly Community Encyclopedia" edited by MDPI; He is member of the Editorial Board of the following international peer-reviewed Journals:

- "Molecules" (ISSN: 1420-3049) (Section "Physical Chemistry") – published by MDPI and indexed by ESCI; Scopus e Web of Science (IF=4.927);

[https://www.mdpi.com/journal/molecules/sectioneditors/Phys\\_Chem](https://www.mdpi.com/journal/molecules/sectioneditors/Phys_Chem)

- "Environments" (ISSN: 2076-3298) – published by MDPI and indexed by ESCI, Scopus and Web of Science; <http://www.mdpi.com/journal/environments/editors>

- "Compounds" (EISSN: 2673-6918) – edita da MDPI;

<https://www.mdpi.com/journal/compounds/editors>

- "Current World Environment" (ISSN: 0973-4929, Online ISSN: 2320-8031) indexed by Web of Science; <http://cwejournal.org/editorial-board/>

- "Universal Journal of Physics and Application" (ISSN: 2331-6543) – Horizon Research Publishing Corporation, USA [http://www.hrpub.org/journals/jour\\_editorialboard.php?id=84](http://www.hrpub.org/journals/jour_editorialboard.php?id=84)

He is director of the editorial series "CARBO" (Area 03 – Chemical sciences, SSD CHIM/07 and CHIM/12) by Aracne Int.le S.r.l. Publisher (Roma)

<http://www.aracneeditrice.it/aracneweb/index.php/collana.html?col=RBO>

### Member of the examination committee

- He was member, appointed by the Ministry of Defense (Directorate General for Military Personnel: Executive Decree n. M\_D GMIL REG2017 0052441 of 24/01/2017), of the Examination Committee for the selection of ten Lieutenants in permanent service as Engineers in the Italian Army (Publ. In G.U.R.I. 4<sup>a</sup> s.s. n. 8 of 31.1.2017). Activities took place from 16/03/2017 to 30/06/2017 at the "Selection Center and the National Army Recruiting", Viale Mezzetti, 2 - 06034 FOLIGNO (PG).
- On February 10<sup>th</sup> 2020, he was member, appointed by the Rector of the University of Roma Tre (Italy) of the final exam committee of the Doctoral School of Ph.D. in "Matter Sciences, Nanotechnologies and Complex Systems of the Department of Science (XXXII Cycle) of the University of Roma Tre (Decreto Rettorale Rep. Nr. 103, Prot. Nr. 2889 of January 22<sup>th</sup>, 2020).
- On January 23<sup>th</sup> 2023, he was member, appointed by the Dean of the Department of Chemistry, Biology and Biotechnologies of the University of Perugia (Italy) of the final exam committee of the Doctoral School of Ph.D. in "Chemical Sciences" (XXXV Cycle) of the University of Perugia (Decreto D.D. N. 218/2022 of December 13<sup>th</sup>, 2022).
- On August 31<sup>th</sup>-October 12<sup>th</sup> 2023, he was member, appointed by the Rector of the University of Bergamo (Italy) of the Examination Committee for the selection of a RTDA researcher - SC 03/B2 – Fondamenti chimici delle tecnologie SSD CHIM/07 – at the "Dipartimento di Ingegneria e Scienze Applicate" – University of Bergamo (Italy) – Code of selection n. 6 – Cod. PICA 23RTDA004 (Decreto Rettorale Prot. Nr. 0154610 [UOR: SI000104 - Classif. VII/1] 559/2023, of July 7<sup>th</sup>, 2023).
- On September 8<sup>th</sup>-October 17<sup>th</sup> 2023, he was dean, appointed by the Director of the CNR Institute of Structure of Matter of Montelibretti - Roma (Italy) of the Examination Committee for the selection of a III level researcher, at the Institute of Structure of Matter - Montelibretti branch (CUP I93C21000160006) NOTICE N. 400.6 ISM PNRR (Provision of the Director of the Institute of Structure of Matter CNR prot. 262680 of 08/09/2023).

### Recent research project participation:





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- 2019-2023 – European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie: **Astro Chemical Origins ACO** (grant agreement No. 811312);
- 2018-2022 - "Life in Space" Program funded by the Italian Space Agency (ASI, DC-VUM-2017-034, Grant n°2019-3 U.O Life in Space);
- 2017-2020 – Research Project PRIN 2015 titled: **STARS in the CAOS (Simulation Tools for Astrochemical Reactivity and Spectroscopy in the Cyberinfrastructure for Astrochemical Organic Species)** (Project code: 2015F59J3R\_002);
- 2015-2018 – Research Project SIR 2014 titled: **ORCHID is an integrated search of stereodynamical mechanisms on the ORigin of CHiral Discrimination by oriented molecular beams, synchrotron radiation, molecular dynamics and computational modeling** (Project code: RBSI14U3VF);
- 2014-2016 – Project (Code Nr. 2014.0255.021 Ricerca Scientifica e Tecnologica) titled: **Studio sperimentale e teorico del ruolo delle specie ioniche nell'atmosfera terrestre e di altri pianeti del Sistema Solare**. Supported by: Fondazione Cassa Risparmio Perugia
- 2015-present: **Scientific Responsible** (together with Prof. A. Laganà) of the Project "ProGeo 20kW - Process for the utilization of renewable energy sources by conversion of Carbon Dioxide in Methane" – Patent Nr. 0001379185 - 2007 (European Ph.D. program ITN-EJD-642294. TCCM - *Theoretical Chemistry and Computational Modelling*)
- 2013-2014: **Responsible and Scientific Tutor** of the Project involving Dr. Marta Suriani – Public Announcement: "W.E.L.L. – Work Experience Laureate e Laureati - Codice Bando nr. 1796824738 - Codice UM: 13022F002 – Codice ID: 509", financed by "Regione Umbria", Italy – POR UMBRIA FSE 2007-2013 Asse II "Occupabilità".
- 2011-2012: **Responsible and Scientific Tutor** of the Project involving Dr. Pietro Candori – Public Announcement: "Research grant aimed at strengthening the research and technology transfer in enterprises, universities, in public and private research agency", financed by "Regione Umbria", Italy - POR UMBRIA FSE 2007-2013 Asse II "Occupabilità", Obiettivo specifico "e" – Asse IV "Capitale Umano", Obiettivo specifico "I" – Regione dell'Umbria, Office of Active Labour Policies - Section for the Policies of Research.
- Study of the dynamics of photochemical processes in gas phase: systems of environmental and biological interest (PRIN 2009);
- Synthesis of asymmetrical molecules and experimental study of their ionization dynamics in gaseous phase (PRIN 2006);
- Experiments with molecular beams for the characterization of the intermolecular potential energy surfaces involved in the aggregation processes (PRIN 2004);
- Microscopic dynamics of the chemical reactivity (FIRB 2001).

### Third Mission activities and projects:

- 2012-2016: Research, Consultancy and Loan Agreement-Contract between the University of Perugia (Department of Civil and Environmental Engineering - DICA) and the "VIS MEDICATRIX NATURAE s.r.l." Marradi (FI) with the following purpose: *Ricerca, sviluppo, esecuzione di metodi analitici e di controllo nella produzione di preparati a base di piante officinali e di miscele di vitamine, sali minerali, amminoacidi, etc. (integratori alimentari) e di prodotti cosmetici: attuazione operativa dell'attività analitica di tipo chimico-fisico del laboratorio di Autocontrollo Interno delle Ditte "VIS MEDICATRIX NATURAE s.r.l." e "SER-VIS s.r.l." di Marradi (FI), in ottemperanza al D.L. 26/5/97 n.155 (attuazione delle direttive CEE 93/43 e 93/3/CE) e ai Decreti 23/02/2006 e 28/02/2006 del Ministero della Salute, concernenti l'igiene dei prodotti alimentari e degli integratori alimentari.* – Total amount in favor of the University of Perugia: 54 kEuro with the installation and use on free loan of 10 analytical instruments at the "Chemical Technology Laboratory" of the DICA (University of Perugia) for a total value of approximately 350 kEuro.



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- 2012-2016: In the context of "know-how" and technology transfer projects for the creation of new businesses, and within the research agreements between the University of Perugia (DICA) and the companies "Vis Medicatrix Naturae" and "Ser-Vis" Srl, of which he was Scientific Responsible, he obtained the hiring, with a fixed-term contract from 02/05/2012 to 02/05/2015, for 2 collaborators, Dr. Pietro Candori and Dr. Marta Bettoni, who worked on the aforementioned project under his supervision at the Chemical Technology Lab of the DICA (University of Perugia). In addition, still within the same project, he designed and built the chemical-physical-microbiological self-control laboratories of the aforementioned companies of which he is currently the manager, supervising the activity of the analyst staff operating there.
- 2015-today: **Scientific Responsible of the Research Project "ProGeo 20kW - Use of renewable energy sources by converting carbon dioxide to methane in a circular economy scheme"** – National Patent PROMETEO Nr. 0001379185 del 2007 and "European Ph.D. program ITN-EJD-642294. TCCM - *Theoretical Chemistry and Computational Modelling*". This project involves the scientific collaboration between the DICA and DCBB of the Perugia University, ENEA – Frascati, "PLC System S.r.l." (Acerra, Italy), FASAR Elettronica (Senigallia, Italy).
- 2018-2021: Research, Consultancy and Loan Agreement-Contract between the University of Perugia (Department of Civil and Environmental Engineering - DICA) and the "VIS MEDICATRIX NATURAE s.r.l." Marradi (FI) with the following purpose: *Esecuzione di analisi di controllo sulle materie prime alimentari delle Ditte "VIS MEDICATRIX NATURAE s.r.l." e "SER-VIS s.r.l." di Marradi (FI)* – Total amount in favor of the University of Perugia: 22 kEuro with the installation and use on free loan of 10 analytical instruments at the "Chemical Technology Laboratory" of the DICA (University of Perugia) for a total value of approximately 350 kEuro.
- 2020: Research and Consultancy Agreement between the University of Perugia (Department of Civil and Environmental Engineering - DICA) and the "I NUOVI MILLE s.r.l." Ragusa (Italy) with the following purpose: *Esecuzione di prove di conversione del biossido di carbonio proveniente da biogas prodotto per fermentazione di materiale vegetale esausto (vinacce) a metano, tramite il prototipo ProGeo 20 kW operante presso i laboratori di Tecnologie Chimiche del DICA* – Total amount in favor of the University of Perugia: 1.8 kEuro.
- 2021: Research and Consultancy Agreement between the University of Perugia (Department of Civil and Environmental Engineering - DICA) and the Comune di Assisi (PG, Italy) with the following purpose: *Esecuzione di prove analitiche per la determinazione su Nr. 12 campioni di api dei seguenti analiti: IPA (idrocarburi policiclici aromatici) + composti BTEX (benzene, toluene, etilbenzene e xilene), alcuni eterociclici di particolare interesse tossicologico e metalli pesanti (Cd, Pb, Cr, Cu, Zn, Sb, Ni)* – Total amount in favor of the University of Perugia: 3.8 kEuro.
- 2019-today: In collaboration with the Chemistry Department of the University of Rochester, NY - USA (Prof. James M. Farrar), he carried out the transfer and installation of a prototype crossed molecular beams apparatus for the study of ion-radical reactions, using the ion-imaging technique, from the University of Rochester into the "Laboratory of Chemical Technologies and Molecular Dynamics" of the DICA - University of Perugia of which he is the scientific director. This instrumentation, unique in the world and worth about 800 kEuros, was donated by the University of Rochester (USA) to that of Perugia so that the research group headed by Prof. S. Falcinelli can carry on the scientific activity produced by strong collaboration between the two universities during the last decade.
- 2023-2025: Research, Consultancy and Loan Agreement-Contract between the University of Perugia (Department of Civil and Environmental Engineering - DICA) and the "VIS MEDICATRIX NATURAE s.r.l." Marradi (FI) with the following purpose: *Sviluppo e Ottimizzazione di Metodi Analitici per l'Esecuzione di analisi di controllo sulle materie prime alimentari delle Ditte "VIS MEDICATRIX NATURAE s.r.l." e "SER-VIS s.r.l." di Marradi (FI)* – Total amount in favor of the University of Perugia: 24,4 kEuro with the use on free loan of 10 analytical instruments at the "Chemical Technology Laboratory" of the DICA (University of Perugia) for a total value of approximately 350 kEuro.

#### TV REPORTS/INTERVIEWS

1. [TV RAI Interview ProGeo apparatus 20kW – February 1th 2017: Polo Ingegneria - Perugia](#)

**RAI TGR Report "Buongiorno Regione Umbria" – campagna TGR per l'ambiente, broadcasted on February 1th 2017 edition 7:25 a.m.**



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<http://www.rainews.it/dl/rainews/TGR/multimedia/ContentItem-a00e7c63-bbf4-418c-bc5f-b00186f1dab0.html>

2. Interview ProGeo apparatus 20kW – March 13th 2018: EGI Foundation Science Park Amsterdam (The Netherlands) - Advanced Computing for Research  
<https://www.egi.eu/use-cases/research-stories/green-methane/>
3. Interview ProGeo apparatus 20kW – April 18th 2018: Science Node  
<https://sciencenode.org/feature/green-methane.php>

### Peer-reviewed publications:

Stefano Falcinelli is author of 2 books, co-editor of 2 books and co-author of 193 scientific publications (138 full papers, 4 review articles, 21 short/abstract papers and 30 chapters of books-proceedings) - H index=36; citations = 2538 (by ISI Web of Knowledge and SCOPUS); corresponding author on 71 papers.

### BOOKS (Nr. 4)

1. **Stefano Falcinelli, Franco Vecchiocattivi**  
Radiochimica ambientale: una guida pratica per capire che cos'è e come si misura  
Copyright © MMXVI Aracne editrice int.le S.r.l., Ariccia - ROMA (I<sup>a</sup> edizione: giugno 2016), Collana CARBO, Vol. 1, pagg. 1-196 (2016). ISBN 978-88-548-9458-7  
<http://www.aracneeditrice.it/aracneweb/index.php/publicazione.html?item=9788854894587>
2. **Stefano Falcinelli, Antonio Aguilar, Paolo Tosi, Marzio Rosi**, eds. (2020)  
Reaction Dynamics Involving Ions, Radicals, Neutral and Excited Species.  
Published in "Frontiers in Chemistry", pagg. 1-345 (2020).  
Lausanne: Frontiers Media SA. ISSN 1664-8714; ISBN 978-2-88963-430-9; DOI 10.3389/978-2-88963-430-9  
<https://www.frontiersin.org/research-topics/8515/reaction-dynamics-involving-ions-radicals-neutral-and-excited-species>
3. **Stefano Falcinelli**  
La Libertà Fondamenti Organici  
Copyright © Aracne editrice, ROMA (I<sup>a</sup> edizione: 17 febbraio 2023), Collana CARBO, Vol. 5, pagg. 1-80 (2023). ISBN 979-12-218-0512-3  
<https://www.aracneeditrice.eu/it/publicazioni/la-liberta-stefano-falcinelli-9791221805123.html>
4. He is co-editor of the 3<sup>th</sup> Springer EMCEI (Euro-Mediterranean Conference for Environmental Integration) 2022 Conference Proceedings Book, 10-13 June 2021, Sousse, Tunisia. <https://www.emcei.net/index.php?p=past-event>

He collaborated to the Italian edition (EdiSES s.r.l. – Napoli, 2018 – ISBN: 978-88-7959-970-2) of the book: "PRINCIPLES OF MODERN CHEMISTRY", D.W. Oxtoby, H.P. Gillis, L.J. Butler - VIII Ed. – Cengage Learning, UK 2016. ISBN-13: 978-1305079113 ISBN-10: 1305079116

### SCIENTIFIC PUBLICATIONS (ARTICLES and REVIEW PAPERS)

1. **A. Aguilar Navarro, B. Brunetti, S. Falcinelli, M. Gonzalez, and F. Vecchiocattivi**  
Collision Energy Dependence of Product Branching in the Ionization of HCl Molecules by Collision with Metastable Neon Atoms  
*Journal of Chemical Physics*, **96(1)** (1992), 433-439.  
ISSN: 0021-9606; doi: 10.1063/1.462478; Cod. ISI=WOS:A1992GY24900045; Cod. Scopus= 2-s2.0-0040502376
2. **B. Brunetti, R. Cambi, S. Falcinelli, J.M. Farrar, and F. Vecchiocattivi**  
The Dynamics of NeH<sup>+</sup> Production in the Ne<sup>\*</sup>(<sup>3</sup>P<sub>2,0</sub>)-HCl Collisional Autoionization  
*The Journal of Physical Chemistry*, **97(46)** (1993), 11877-11882.  
ISSN: 0022-3654; doi: 10.1021/j100148a007; Cod. ISI=WOS:A1993MH56300007; Cod. Scopus=2-s2.0-0000431599
3. **B. Brunetti, S. Falcinelli, and F. Vecchiocattivi**  
Low-Energy Collisional Autoionization Processes  
In "The Physics of Electronic and Atomic Collisions", American Institute of Physics Conference Proceedings,



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**Volume 295** (1993), Ed. by T.Andersen, B.Fastrup, F.Folkmann, H.Knudsen, and N.Andersen (New York), pagg. 623-634.

ISBN: 1-56396-290-X; ISSN: 0094-243X; doi: 10.1063/1.45287; Cod. ISI=WOS:A1993BA16S00050

4. **Brunetto Brunetti, Stefano Falcinelli, Stefan Paul, Franco Vecchiocattivi, and Gian Gualberto Volpi**  
Collisional Autoionization Dynamics of  $\text{Ne}^+\text{-Cl}_2$   
*Journal of Chemical Society Faraday Transactions*, **89(10)** (1993), 1505-1509.  
ISSN: 0956-5000; doi: 10.1039/FT9938901505; Cod. ISI=WOS:A1993LD67800015; Cod. Scopus=2-s2.0-0040332945
5. **B.G. Brunetti, S. Falcinelli, E. Giaquinto, A. Sassari, M. Prieto-Manzanares and F. Vecchiocattivi**  
Metastable-Hydrogen-Atom Scattering by Crossed Beams: Total Cross Sections for  $\text{H}^*(2s)\text{-Ar}$ , Xe, and  $\text{CCl}_4$  at Thermal Energies  
*Physical Review A*, **52(1)** (1995), 855-858.  
ISSN: 1050-2947; doi: 10.1103/PhysRevA.52.855; Cod. ISI=WOS:A1995RH93200103; Cod. Scopus=2-s2.0-0010194037
6. **Brunetto Brunetti, Stefano Falcinelli, and Franco Vecchiocattivi**  
Molecular Beam Studies of Collisional Autoionization Processes  
In “*Phenomena in Ionized Gases*”, *American Institute of Physics Conference Proceedings*, **Volume 363** (1996), Ed. by K.H.Becker, W.E.Carr, and E.E.Kunardt (New York), pagg. 234-246.  
ISBN 978-1-56396-550-0; ISSN: 0094-243X; doi: 10.1063/1.50116; Cod ISI=WOS:A1996BF24W00018
7. **S. Falcinelli, F. Fernandez-Alonso, K. Kalogerakis and R.N. Zare**  
Mass Spectrometric Detection of Alkaline Earth Monohalide Dications  
*Molecular Physics*, **88(3)** (1996), 663-672.  
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93. **Stefano Falcinelli**



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Theoretical study of formation routes and dimerization of methanimine and implications for the aerosols formation in the upper atmosphere of Titan  
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A theoretical study of formation routes and dimerization of methanimine and implications for the aerosols presence in the upper atmosphere of Titan

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24. **Stefano Falcinelli, Marzio Rosi, Pietro Candori, Franco Vecchiocattivi, James M. Farrar, Fernando Pirani, Nadia**



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Coulomb explosion of molecular dications and escape of fragment ions from planetary atmospheres  
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