Federico Bella
Full Professor
Politecnico di Torino
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Date and place of birth	[redacted]
Sex	[redacted]
Nationality	[redacted]
Address (office)	Corso Duca degli Abruzzi 24, 10129 – Turin, Italy
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Career and Education

Mar 2022 –	**Full Professor** @Politecnico di Torino *Chemical Foundations of Technologies [CHIM/07 – 03/B2]* *Topics: Materials science and technology for energy conversion and storage (photovoltaics, batteries, supercapacitors); Photopolymerization and UV-curing; Green, biosourced and waste-derived materials for energy*
Mar 2020 – Feb 2022	**Associate Professor** @Politecnico di Torino
Oct 2016 – Feb 2020	**Fixed-Time Researcher** (RTD/A) @Politecnico di Torino
Aug 2016 – Oct 2019	**Affiliated Researcher** @Italian Institute of Technology
Jan 2015 – Oct 2016	**Post-Doc Researcher** @Politecnico di Torino
Jan 2012 – Dec 2014	**PhD** in Electronic Devices @Italian Institute of Technology *Thesis defended on 02/03/2015 – rank: Excellent*
Dec 2011	**State Examination** as Chemist @Università degli Studi di Torino
Sep 2011 – Dec 2011	**R&D** @Studio Chiono & Ass (Rivarolo Canavese, Italy) *Management of a pilot plant for the production of biogas and biosurfactants*
Oct 2009 – Jul 2011	**MSc** in Industrial Chemistry @Università degli Studi di Torino *Thesis defended on 11/07/2011 – rank: 110/110 magna cum laude*
Oct 2006 – Jul 2009	**BSc** in Industrial Chemistry @Università degli Studi di Torino *Thesis defended on 16/07/2009 – rank: 110/110 cum laude*

Main institutional roles

Jan 2020 – Dec 2022	**Member of the International Relations Commission** of the Italian Chemical Society
Jan 2019 – Dec 2021	**Board Member** of the Industrial Chemistry Division of the Italian Chemical Society
Feb 2016 – Dec 2018	**Coordinator** of the Early-Career Group of the Italian Chemical Society *Also serving as Board Member of the Industrial Chemistry Division*
May 2009 – May 2012	**Student Representative** at Università degli Studi di Torino *Elected in two Boards: Industrial Chemistry BSc/MSc degrees, Faculty of Science*

See the list of other institutional roles of FB

Publications and journals

Score

102 peer-reviewed articles, **98** of which in ISI-indexed journals
- **34** articles (**33%**) as first author
- **60** articles (**59%**) as corresponding author
- **15** articles (**15%**) as senior author
- **1** article as single author

68 articles (**67%**) published in Q1 quartile
76 articles (**75%**) published with IF > 5, **27** articles (**26%**) with IF > 10

h-index: **64**
>7800 citations (Scopus, 30th December 2022)

Editorial roles

- **Chemical Engineering Journal** (ISSN: 1385-8947, IF 16.7, Elsevier)
  Member of the Editorial Board, since August 2017
- **ACS Sustainable Chemistry & Engineering** (ISSN: 2168-0485, IF 9.2, American Chemical Society)
  Member of the Early Career Board, since January 2021
- **ChemSusChem** (ISSN: 1864-564X, IF 9.1, John Wiley & Sons, Inc.)
  Member of the International Advisory Board, since January 2020
- **Electrochimica Acta** (ISSN: 0013-4686, IF 7.3, Elsevier)
  Guest Editor for 2 special issues: "69th Annual Meeting of the International Society of Electrochemistry" (2018), "Giornate dell'Elettrochimica Italiana - GEI 2018" (2018)
- **Polymers** (ISSN: 2073-4360, IF 5.0, MDPI AG)
  Guest Editor for the special issue "Polymer-based Batteries" (2018)
- **Molecules** (ISSN: 1420-3049, IF 4.9, MDPI AG)
  Member of the Editorial Board, since July 2019
  Guest Editor for the special issue "Challenges towards Upscaling and Stabilization of Perovskite Solar Cells" (2020)
- **Frontiers in Energy Research** (ISSN: 2296-598X, IF 3.9, Frontiers Media S.A.)
  Review Editor, since June 2014, and Associate Editor, since April 2022
- **Materials** (ISSN: 1996-1944, IF 3.8, MDPI AG)
  Member of the Editorial Board, since May 2016
  Guest Editor for the special issue "Electrode Materials" (2015)
- **Materials Today Communications** (ISSN: 2352-4928, IF 3.7, Elsevier)
  Member of the Editorial Board, since February 2022
- **Chemistry–Methods** (ISSN: 2367-0932, IF tbd, John Wiley & Sons, Inc.)
  Member of the Editorial Board, since January 2020
- **Heliyon** (ISSN: 2405-8440, IF tbd, Elsevier)
  Member of the Editorial Board, from February 2019 to September 2020
- **Sci** (ISSN: 2413-4155, IF tbd, MDPI AG)

Member of the Advisory Board and of the Editorial Board, since September 2018

- **Challenges** (ISSN: 2078-1547, IF tbd, MDPI AG)
  Member of the Advisory Board, since May 2020
- **Energy Materials** (ISSN: tbd, IF tbd, OAE Publishing Inc.)
  Advisory Editor, since August 2021
- **La Chimica e L'Industria** (ISSN: 2283-544X, AGICOM srl)
  Member of the Editorial Board, from December 2017 to December 2022

Research projects

Feb 2021 – Jan 2026 **SuN_2rise – Solar driven electrochemical nitrogen fixation for ammonia refinery**
H2020 project (ERC-StG, grant agreement n° 948769)
Principal investigator (total grant: 1.498.750 EUR)
Activity: materials and processes for the electrochemical nitrogen reduction powered by photovoltaics

Oct 2020 – Sep 2023 **SYNERGY – Symbiosis for energy harvesting concepts for smart platforms on foils**
H2020 project (WIDESPREAD, grant agreement n° 952169)
Principal investigator of PoliTO unit (total grant: 897.000 EUR)
Activity: energy harvesting and micropower management as a key component towards self-sustainable smart platforms on flexible substrates

Sep 2020 – Aug 2023 **BATTERY 2030+ – Large-scale research initiative: at the heart of a connected green society**
H2020 project (LC-BAT, grant agreement n° 957213)
Scientific activity as Professor @PoliTO unit
Activity: development of European curricula in battery technologies

Jan 2019 – Jan 2023 **Si-DRIVE – Silicon alloying anodes for high energy density batteries comprising lithium rich cathodes and safe ionic liquid based electrolytes for enhanced high voltage performance**
H2020 project (LC-NMBP, grant agreement n° 814464)
Scientific activity as Assistant Professor @PoliTO unit
Activity: development of polymer electrolytes based on ionic liquids for lithium ion batteries

Oct – Dec 2018 **2018 Annual Implementation Plan - Project C.5 "Energy storage systems for the electric system"**
MiSE-ENEA Agreement on Electric System Research
Scientific activity as Assistant Professor @PoliTO unit
Activity: improvement of interface and cycling at room temperature for sodium batteries

Jan – Dec 2018 **PEPETOC – Perovskite photovoltaics: experimental efforts towards commercialization**
Research networking project funded by Massachusetts Institute of Technology (MITOR by MISTI call)
Principal investigator of PoliTO unit (total grant: 20.000 USD)
Activity: scale-up of fabrication processes of perovskite solar cells

Jan 2018 – Dec 2021 **EnABLES – European infrastructure powering the internet of things**

H2020 project (INFRAIA, grant agreement n° 730957)
Scientific activity as Assistant Professor @PoliTO unit
Activity: development of polymer electrolytes and lab-scale devices in the lithium-ion battery framework

Oct 2017 – Sep 2018 **2017 Annual Implementation Plan - Project C.5 "Energy storage systems for the electric system"**
MiSE-ENEA Agreement on Electric System Research
Scientific activity as Assistant Professor @PoliTO unit
Activity: optimization of titanium dioxide nanotube electrode materials and optimization of safe and highly conductive polymeric electrolytes for sodium ion batteries

Sep 2017 – Sep 2019 **PEPPY – Perovskite photovoltaic by polymers**
Research project funded by PoliTO / Compagnia di S. Paolo
Principal investigator (150.000 EUR)
Activity: development of polymeric materials for perovskite solar cells

Aug 2017 – Jul 2021 **RECODE – Recycling carbon dioxide in the cement industry to produce added-value additives: a step towards a CO_2 circular economy**
H2020 project (RIA, grant agreement n° 768583)
Scientific activity as Assistant Professor @PoliTO unit
Activity: development of CO_2-derived cyclic carbonates and polycarbonates for Li-ion batteries electrolytes

May 2017 – May 2018 **Industrial contract with Solvay SA**
Scientific activity as Assistant Professor
Activity: feasibility study of using PFPE in solid polymer electrolyte composites for lithium batteries

Oct 2016 – Sep 2017 **2016 Annual Implementation Plan - Project C.5 "Energy storage systems for the electric system"**
MiSE-ENEA Agreement on Electric System Research
Scientific activity as Assistant Professor @PoliTO unit
Activity: study of electrode materials based on titanium dioxide nanotubes and electrolytes for sodium ion batteries

Jan – Oct 2016 **NANOMAX**
Ministerial Project ("Progetto Bandiera")
Scientific activity as Post-Doc researcher
Activity: development of materials for biological sensors

Jul – Oct 2015 **CARVOUR**
Regional project (Det. n. 55 del 11/02/2013)
Scientific activity as Post-Doc researcher
Activity: development of active materials containing lithium compounds as a main element of a system for energy storage in vehicles

Jan – Jun 2015 **IDEA**
Regional project (Det. n. 55 del 11/02/2013)
Scientific activity as Post-Doc researcher
Activity: electrochemical characterization of commercial Li-ion cells for hybrid diesel engines

Sep 2012 – May 2014 **Smash gaming**
Regional project (POR. Piemonte 2007-2013)
Scientific activity as PhD student

Activity: development of a miniaturized sensor for the analysis and sensing of H_2S and other toxic gases by means of nanostructures integration

Feb – Aug 2012 **VERDE-PIEZO**
Regional project (POR. Piemonte 2007-2013)
Scientific activity as PhD student
Activity: development of a lead-free piezoelectric material optimized for energy harvesting applications

Awards and medals

Sep 2022 **Junior Prize for Scientific Research in "Organic chemistry for environment, energy and nanoscience"**
Awarded by the Organic Chemistry Division of Società Chimica Italiana

Dec 2021 **"Italia Giovane" Prize**
Special mention to the personal and professional experience as a positive example of prestige to the country and a strong stimulus for the new generations

Nov 2021 **USERN Prize**
Awarded by the Universal Scientific Education and Research Network (5000 USD) for contributions in the field of biological sciences (mimicking nitrogenases); 10000 eligible candidates were nominated for this award and the jury also included previous Nobel awardees

Ott 2021 **"Giorgio Squinzi" Medal**
Award assigned by Società Chimica Italiana to an under-45 researcher, author of contributions of particular scientific, innovative or applicative importance, in the field of industrial chemistry

Jul 2021 **ISE Prize for Electrochemical Materials Science**
Awarded by the International Society of Electrochemistry (1000 EUR) for contributions in the field of electrochemical material science, including corrosion, electrodeposition and surface treatment

May 2021 **"2022 Emerging Investigators" Award**
Awarded by the Royal Society of Chemistry for the activity in the field of nanoscience and nanotechnology, with a mention included in the "Nanoscale"

Apr 2021 **Environment, Sustainability & Energy Division Horizon Prize**
Awarded by the Royal Society of Chemistry to recognise significant recent novel discoveries or advances made in the area of environment, sustainability and energy

Feb 2021 **"2020 Outstanding Reviewer" Award**
Awarded by the Royal Society of Chemistry for the outstanding contribution is reviewing manuscripts for "RSC Advances"

Jan 2021 **"Coatings" Travel Award**
Awarded by MDPI (800 CHF) for the activity carried out in the field of polymeric coatings for applications in the energy field

Dec 2020 **"2021 Emerging Investigators" Award**
Awarded by the Royal Society of Chemistry for the activity in the field of materials chemistry for energy and sustainability, with a mention included in the "Journal of Materials Chemistry A"

Oct 2020 **One of the 100,000 most cited scientists across all scientific disciplines**

Accordingly to the "Updated science-wide author databases of standardized citation indicators" published by PLoS Biol 18 (2020) art. no. e3000918

Oct 2020 **"Ivano Bertini" Medal**
Award assigned by Società Chimica Italiana to an under-40 researcher, author of particularly significant and innovative contributions in the Chemical Sciences field

Apr 2020 **"2019 Outstanding Reviewer" Award**
Awarded by the Royal Society of Chemistry for the outstanding contribution is reviewing manuscripts for "Photochemical & Photobiological Sciences"

Oct 2019 **"Coatings" Young Investigator Award**
Awarded by MDPI (2000 CHF) for the significant contribution to the advancement of an important area in the field of coatings

Jun 2019 **International award "Roberto Piontelli"**
Prize awarded by Accademia Nazionale dei Lincei (5000 EUR) for the scientific contribution in the field of electrochemistry for energy. The President of the Italian Republic presides over the award ceremony

Apr 2019 **Environment, Sustainability & Energy Division Early Career Award**
Awarded by the Royal Society of Chemistry for the inventive development of photoinduced polymerization strategies for solar cells and batteries (2000 GBP)

Mar 2019 **Special contribution Award**
Awarded by the European Young Chemists' Network (youth division of the European Chemical Society) for the personal involvement in organizing activities for young chemists

Nov 2018 **"2018 Outstanding Reviewer" Award**
Awarded by Elsevier for the outstanding contribution is reviewing manuscripts for these journals: "Chemical Engineering Journal", "European Polymer Journal", "Heliyon", "Journal of Alloys and Compounds", "Journal of Industrial and Engineering Chemistry", "Journal of Photochemistry & Photobiology, A Chemistry", "Journal of Physics and Chemistry of Solids", "Journal of Power Sources", "Materials Chemistry and Physics", "Materials Letters", "Nano Energy"

Nov 2018 **"2018 Outstanding Reviewer" Award**
Awarded by Springer Nature for the outstanding contribution is reviewing manuscripts for "Energy, Ecology & Environment"

Nov 2017 **"2017 Outstanding Reviewer" Award**
Awarded by Elsevier for the outstanding contribution is reviewing manuscripts for these journals: "Electrochemistry Communications", "Electrochimica Acta", "Industrial Crops & Products", "International Journal of Hydrogen Energy", "Materials Science & Engineering B", "Materials Science in Semiconductor Processing", "Microporous and Mesoporous Materials", "Organic Electronics", "Physica B: Physics of Condensed Matter", "Solar Energy"

Jun 2017 **ISE-Elsevier Prize for Applied Electrochemistry**
Awarded by the International Society of Electrochemistry (2000 EUR) in recognition of the outstanding achievements in the field of solar cells and batteries

May 2017 **Ranked 1st in the "Top Young Scientists" chart by VIA-Academy**
First classified among young people of all nationalities who have started working in the research world in Italy, Germany and United Kingdom over the last five years

Apr 2017	**Electrochimica Acta Travel Award for Young Electrochemists** *1st classified over 40 candidates, awarded (1000 EUR) by the International Society of Electrochemistry for the research quality in the field of Electrochemistry*
Jan 2017	**Innovazione Leonardo Award** *1st classified over 700 candidates, awarded (3000 EUR) for the valorization of talent and ideas in view of the contact with the business world. The Minister of Education, University and Research presides over the award ceremony*
Oct 2016	**"2016 Outstanding Reviewer" Award** *Awarded by Elsevier for the outstanding contribution is reviewing manuscripts for these journals: "Applied Surface Science", "Arabian Journal of Chemistry", "Chemical Engineering Journal", "Journal of Alloys and Compounds", "Journal of Power Sources", "Materials Chemistry and Physics"*
Oct 2016	**Electron Devices PhD Program: Prize for the Best 2015 Thesis** *Awarded by Politecnico di Torino (2500 EUR)*
Sep 2016	**"Royal Society of Chemistry – Materials Horizons" Award** *For the best oral presentation in the field of Materials Science during the 6th EuCheMS Chemistry Congress, Seville (Spain)*
Sep 2016	**Special Mention at "European Young Chemist Award 2016"** *Prize awarded by the Asociaciòn Nacional de Quimicos de España (500 EUR) to the talk given in the final of the European Young Chemist Award 2016*
Jun 2016	**ENI Award – Debut in Research** *Prize awarded by ENI company (25000 EUR) to the best PhD Thesis in the field of Renewable Energy. The President of the Italian Republic presides over the award ceremony*
Jun 2016	**"2015 Outstanding Reviewer" Award** *Awarded by the international scientific journal "Solar Energy Materials and Solar Cells" (edited by Elsevier) as the best referee among 2000 others*
May 2016	**Silver medal at "GiovedìScienza Prize" (5th Edition)** *Ranked 2nd among the Top-10 under-35 researchers of Piedmont, Lombardy and Liguria regions*
May 2016	**"MiPiace (*I like it!*) Award" @ "GiovedìScienza Prize" (5th Edition)** *For the best scientific communication, awarded by the popular jury during the final among the 10 best under-35 researchers of Piedmont, Lombardy and Liguria regions*
Mar 2016	**Sapio Junior Prize for Research and Innovation** *Prize awarded by Sapio company (15000 EUR) to the best under-30 Italian researcher who stands out for his scientific studies and research. The award ceremony took place in the Parliament of the Italian Republic*
Dec 2015	**Junior Researcher "ENERCHEM-1 2016" Prize** *Best Italian under-35 researcher for contributions of particular interest in the field of Chemistry of Renewable Energies*
May 2015	**Best Italian PhD Thesis in Electrochemistry** *Awarded by Italian Chemical Society (1000 EUR)*
Apr 2015	**Finalist of the "GiovedìScienza Prize" (4th Edition)** *Ranked in the Top-10 chart of under-35 researchers of Piedmont (Italy)*

Sep 2014	**Best talk** *Macrogiovani @ XXI Congress of the Italian Association of Science and Technology of Macromolecules, Turin (Italy)*
Oct 2013	**Best talk** *13° Sigma Aldrich Young Chemists Symposium (SAYCS), Riccione (Italy)*
Jun 2013	**Best 2011 MSc Thesis in Industrial Chemistry** *Awarded by Università degli Studi di Torino*
Sep 2012	**Premio Optime** *Best MSc graduated in Industrial Chemistry @ Università degli Studi di Torino*
Sep 2010	**Menzione Optime** *Best BSc graduated in Industrial Chemistry @ Università degli Studi di Torino*
Dec 2009	**"Botta&Risposta" Award (Università degli Studi di Torino)** *2000 EUR for the development of an academic social network*

Publications-related awards

- **"ChemSusChem" Top Cited Article 2020-2021** (2022)
  Publication awarded: ChemSusChem 13 (2020) 6562-6573
- **"Nanomaterials" Highly Cited Paper** (2022)
  Publication awarded: Nanomaterials 10 (2020) art. no. 1585
- **Top 1% across Royal Society of Chemistry journals in terms of citations in 2020** (2021)
  Publication awarded: Energy Environ. Sci. 12 (2019) 3437-3472
- **"Green Chemistry" Hot Articles** (2020)
  Publication awarded: Green Chem. 22 (2020) 7168-7218, as decided by the editor
- **"Top downloaded article" in "Chemistry – A European Journal"** (2020)
  Publication awarded: Chem. Eur. J. 24 (2018) 12183-12205, among the top 10% most downloaded papers
- **2016 Energies Best Paper Award** (2019)
  Publication awarded: Energies 9 (2016) art. no. 384
- **Best of "Energy Technology" 2017** (2018)
  Publication awarded: Energy Technol. 5 (2017) 300-311
- **One of the most relevant articles listed by "Energies" as "Editor's Choice Articles"** (2018)
  Publication awarded: Energies 9 (2016) art. no. 384
- **One of the most cited 2016 articles published by "ACS Energy Letters"** (2018)
  Publication awarded: ACS Energy Lett. 1 (2016) 678-682
- **One of the most relevant articles listed by "Progress in Photovoltaics"** (2017)
  The publication Science 354 (2016) 203-206 has been listed as one of the most relevant articles by this leading journal in the solar cells field (10.1002/pip.2862)
- **Mentioned by "Nature" for having proposed one of the "Five**

Priorities" in the field of perovskite photovoltaics (2017)
Publication mentioned: Science 354 (2016) 203-206; source: 10.1038/544155a

- **Best paper award 2015-2016 in "Energy Storage Materials"** (2017)
  Publication awarded: Energy Storage Materials 3 (2016) 69-76
- **One of the most relevant articles listed by "Progress in Photovoltaics"** (2016)
  The publication Chem. Commum. 51 (2015) 16308-16311 has been listed as one of the most relevant articles by this leading journal in the solar cells field (10.1002/pip.2737)
- **Article classified among the 2015 "Highlights" by Wiley** (2015)
  Publication awarded: ChemSusChem 8 (2015) 3668-3676, mentioned by Chem. Eng. Technol. 38 (2015) 2112-2113 as the first photopolymerized electrolyte for sodium-ion batteries
- **"Top open access article" Award by Royal Society of Chemistry** (2015)
  Publication awarded: Chem. Soc. Rev. 44 (2015) 3431-3473

Roles in commissions of trust

For the European Commission

- **European Commission's Health and Digital Executive Agency** (2022)
  Expert for the HORIZON-CL4-2022-RESILIENCE-01 call
- **Marie Skłodowska-Curie Individual Fellowships** (2020, 2021)
  Evaluator
- **ERC Consolidator Grant** (2018)
  Remote referee in PE5 panel (Synthetic Chemistry and Materials)

For Universities

- **National Science Center Poland** (2022)
  External referee for the OPUS-22 funding scheme
- **Ministero dell'Università e della Ricerca** (2021)
  External referee for the Early Career Researcher "Rita Levi Montalcini" program
  External referee for the evaluation of VQR 2015-19 research products
- **Università Italo Francese** (2021)
  External referee for the calls entitled "Bando Galileo 2022" e "Bando Vinci 2021"
- **Universiti Kebangsaan Malaysia** (2021)
  External panelist of the Battery Technology Research Center (UKMBatt)
- **King Abdullah University of Science and Technology** (2020)
  External referee for the "Competitive Research Grants (CRG) program"
- **Università degli Studi di Firenze** (2019)
  External referee for the "University call for funding competitive projects for fixed-term researchers"
- **Università degli Studi dell'Insubria** (2019)
  External referee for the "Allocation of University funds for the activation of

post-doc research grants"

- **Chilean National Commission for Scientific and Technological Research** (2016)
  External referee for the "2017 FONDECYT Regular Competition"

For scientific societies and academies

- **USERN Prize in Chemical Sciences** (2020, 2022)
  Member of the Advisory Board, prize granted by the Universal Scientific Education and Research Network to a under-40 scientist authors of a relevant achievement in the chemical sciences field

- **"Best MSc Thesis in Industrial Chemistry" Award (Ed. 2018, 2019, 2020, 2022)** (2018-2020, 2022)
  Member of the Evaluation Committee, prize granted by the Italian Chemical Society

- **"Primo Levi" 2018 Award** (2019)
  Member of the Evaluation Committee, prize granted by the Italian Chemical Society to the best publication of the year by a young chemist

- **"ChiMiCapisce" Award (Ed. 2018, 2019)** (2018-2019)
  Chair of the Jury, prize granted by the Italian Chemical Society for merits in the field of the dissemination of chemical sciences

- "**Materials"-MDPI Young Investigator Award 2019** (2018)
  Member of the Commission designed to assign this international prize

- **Member of the "Premio Sapio" Academy** (since 2017)
  Member of the Commission designed to assign "Premio Sapio" award (15000 EUR) for innovation and technology

- **"GiovedìScienza Award" (6th Edition)** (2017)
  Member of the Technical Jury at the final stage of the competition

- **Member of the Scientific Commission of the Italian Chemical Society** (2017-2019)
  Member of the Commission in charge of assigning Prizes and Medals of SCI

- **Board Member of CEUR Fundation** (since 2017)
  European Center for University and Research, member of the professors board devoted to education and culture to offer young students the best conditions for building their future

- **"Primo Levi" Award (Ed. 2014, 2015, 2016, 2017)** (2015-2018)
  Chair of the Evaluation Committee, prize granted by the Italian Chemical Society to the best publication of the year by a young chemist

- **Reaxys SCI Young Researcher Award (Ed. 2015, 2016, 2017, 2018)** (2015-2018)
  Chair of the Evaluation Committee, prize granted by the Italian Chemical Society and Elsevier

- **Reaxys SCI Young Researcher 2015 Award (Ed. 2016, 2017, 2018)** (2016-2018)
  Member of the Evaluation Committee, prize granted by the Italian Chemical Society and Elsevier

- **"Primo Levi" 2014 Award** (2015)

Member of the Evaluation Committee, prize granted by the Italian Chemical Society to the best publication of the year by a young chemist

For other institutions

- **Provincia autonoma di Trento** (2021)
  External referee supporting the Committee for Research and Innovation

Conferences, workshops and seminars

Invited contributions

8 Talks in conferences/workshops
2 Lectio magistralis
1 Plenary lectures
5 Keynote lectures
3 Awardee lectures
12 Seminars
10 Lectures in PhD schools or advanced training courses

Contributions

271 contributions (**207** in international events)
52 talks

Organized events

25 events as member of the Organizing/Scientific committee
7 events as a Chair or co-Chair
(see list)

Teaching activity

- **Photo-Electro-Catalytic Technologies for a Sustainable Chemical Industry: Fundamentals and Applications**
  Assistant teacher; PhD in Chemical Engineering (Politecnico di Torino)
  Academic year: 2021/2022; Average enrolment: 15 students

- **Chemistry**
  Titular teacher; BSc courses in Engineering (Politecnico di Torino)
  Academic years: 2019/2020, 2020/2021, 2021/2022; Average enrolment: 250 students

- **Chemistry**
  Assistant teacher; BSc courses in Engineering (Politecnico di Torino)
  Academic years: 2013/2014, 2014/2015, 2015/2016, 2016/2017, 2017/2018, 2018/2019; Average enrolment: 250 students

- **Photochemistry-related materials for the present and future energy scenario**
  Cycle of lessons ERASMUS+ professor; BSc in Chemical Engineering (Universitat Politècnica de València)
  Academic years: 2016/2017; Average enrolment: 20 students

- **General Chemistry**
  Assistant teacher; BSc in Agricultural Science and Technology & Forest and Environmental Sciences (Università degli Studi di Torino)
  Academic years: 2015/2016; Average enrolment: 500 students

- **Propaedeutic Course to General Chemistry**
  Titular teacher; BSc in Biological Sciences (Università degli Studi di Torino)
  Academic years: 2011/2012, 2013/2014, 2014/2015, 2015/2016; Average enrolment: 180 students

- **Chemical Kinetics**
  Cycle of lessons; BSc in Forensic Chemistry (National University of Malaysia)
  Academic years: 2012/2013; Average enrolment: 100 students

- **General and Inorganic Chemistry**
  Assistant teacher; BSc in Biological Sciences (Università degli Studi di Torino)
  Academic years: 2009/2010, 2010/2011; Average enrolment: 180 students

- **General Chemistry**
  Assistant teacher; BSc in Biological Sciences (Università degli Studi di Torino)
  Academic years: 2008/2009; Average enrolment: 180 students

Mentoring roles FB has supervised **74** Thesis at BSc [**54**] and MSc [**20**] levels (see list).

Visiting periods

Jun – Jul 2021	Visiting Professor @**Universitat Politècnica de València** *As P.I. of the ERASMUS+ project – Staff Mobility for Teaching*
Oct – Nov 2018	Visiting Professor @**Massachusetts Institute of Technology** *As P.I. of MITOR project*
Apr 2017	Visiting Professor @**Universitat Politècnica de València** *As P.I. of the ERASMUS+ project – Staff Mobility for Teaching*
Feb 2013 – May 2013	Visiting PhD Student @**National University of Malaysia** *Polymer Research Center – Faculty of Science and Technology*
May – Jun 2011	Visiting MSc Student @**Universitat Politècnica de València** *Group for Advanced Oxidation Processes*

Advanced schools

- **Learning and Teaching in the Higher Education**
  Organized by Politecnico di Torino
  Turin (Italy), 20/02-20/06/2017

- **Characterization of polymeric materials: techniques for polymers in solution**
  Organized by Italian Association for Science and Technology of Macromolecules
  Gargnano (Italy), 19-23/05/2014

- **Synthesis of polymeric materials**
  Organized by Italian Association for Science and Technology of Macromolecules
  Gargnano (Italy), 21-25/05/2012

Other institutional roles

Sep 2022 – Sep 2023	**Reference Professor** for the BSc degree in Computer Engineering at Politecnico di Torino
Sep 2020 – Sep 2021	**Reference Professor** for the BSc degree in Automotive Engineering at Politecnico di Torino
Sep 2019 – Sep 2020	**Reference Professor** for the BSc degree in Biomedical Engineering at Politecnico di Torino
Jan 2019 – Dec 2019	**Past-Coordinator** of the Early-Career Group of the Italian Chemical Society
May 2018	**Italian Delegate** at the 13th Delegates Assembly of the European Young Chemists' Network (EYCN-EuCheMS), Turin (Italy)
Jan 2018 – Dec 2020	**Board Member** of the Safety in Chemical Environment Interdivisional

	Group of the Italian Chemical Society
May 2017	**Italian Delegate** at the 12th Delegates Assembly of the European Young Chemists' Network (EYCN-EuCheMS), Heraklion (Greece)
Apr 2016	**Italian Delegate** at the 11th Delegates Assembly of the European Young Chemists' Network (EYCN-EuCheMS), Guimarães (Portugal)
Apr 2015	**Italian Delegate** at the 10th Delegates Assembly of the European Young Chemists' Network (EYCN-EuCheMS), Berlin (Germany)
Jun 2013 – Dec 2015	**Board Member** of the Early-Career Group of the Italian Chemical Society *Also serving as Board Member of the Industrial Chemistry Division*

Patents list

3. E. Molena, C. Hamon, S. R. Petricci, G. Piana, **F. Bella**, C. Gerbaldi
   Solid electrolyte composition
   International publication number: WO2020099261A1

2. L. Castro, F. Barde, J. R. Nair, M. Falco, **F. Bella**, C. Gerbaldi
   Composite polymer electrolyte (CPE) membranes for secondary solid state Li-metal cells and process for the production thereof
   International publication number: WO2019052648A1 (21/03/2019)

1. J. R. Nair, C. Gerbaldi, L. Porcarelli, **F. Bella**, I. Doberdò, S. Bodoardo, N. Penazzi, C. Capiglia
   Polymer electrolyte membranes and process for the production thereof
   International publication number: WO2015104727A1 (16/07/2015)

Organized conferences, workshops and scientific events list

- **Giornate Italiane di Fotochimica del Gruppo Italiano di Fotochimica (GIF^2)**
  National conference (90 participants)
  Member of the Organizing committee
  Virtual meeting, 23-24/09/2021

- **Chemistry Conference for Young Scientists (CHEMCYS 2020)**
  International conference (350 participants)
  Member of the Scientific committee
  Blankenberge (Belgium), 19-21/02/2020

- **Avogadro Colloquia 2019 - Elements of the Periodic Table for Energy**
  International conference (100 participants)
  Member of the Scientific and Organizing committee
  Rome (Italy), 17-18/12/2019

- **Merck Young Chemists Symposium 2019 (MYCS 2019)**
  International conference (240 participants)
  Member of the Scientific and Organizing committee
  Rimini (Italy), 25-27/11/2019

- **XXI Congresso Nazionale della Divisione di Chimica Industriale della Società Chimica Italiana**
  National conference (90 participants)
  Member of the Scientific committee
  Salerno (Italy), 27/08/2019

- **ChiMiCapisce 2019**
  Event on the dissemination of chemical sciences (80 participants)
  Member of the Scientific and Promoting committee
  Rome (Italy), 28/05/2019

- **Y-RICh 2019 – Young Research Ideas in Chemistry**
  National workshop (80 participants)
  Member of the Scientific and Promoting committee
  Rome (Italy), 27/05/2019

- **Merck & Elsevier Young Chemists Symposium 2018 (MEYCS 2018)**
  International conference (210 participants)
  Chair of the Scientific and Organizing committee
  Rimini (Italy), 19-21/11/2018

- **69th Annual Meeting of the International Society of Electrochemistry**
  International conference (2200 participants)
  Symposium organizer
  Bologna (Italy), 02-07/09/2018

- **XX Congresso Nazionale di Catalisi – XX Congresso Nazionale della Divisione di Chimica Industriale (GIC-DiChIn2018)**
  National conference (150 participants)
  Member of the Scientific committee
  Milan (Italy), 02-05/09/2018

- **Design your Future**
  National workshop (80 participants)
  Member of the Scientific and Promoting committee
  Bari (Italy), 20/08/2018

- **ChiMiCapisce 2018**
  Kick-off workshop of the Interdivisional Group for the Diffusion of Chemical Sciences of the Italian Chemical Society (85 participants)
  Member of the Scientific and Promoting committee
  Rome (Italy), 08/06/2018

- **Y-RICh 2018 – Young Research Ideas in Chemistry**
  National workshop (80 participants)
  Member of the Scientific and Promoting committee
  Rome (Italy), 07/06/2018

- **EYCN Symposium** and **XIII EYCN Delegate Assembly**
  International conference and diplomatic event (50 participants)
  Chair of the Scientific and Organizing committee
  Turin (Italy), 05-09/05/2018

- **Giornate dell'Elettrochimica Italiana (GEI 2018)**
  International conference (100 participants)
  co-Chair and member of the Organizing committee
  Sestriere (Italy), 21-25/01/2018

- **Merck Young Chemists Symposium 2017 (MYCS 2017)**
  International conference (180 participants)
  Chair of the Scientific and Organizing committee
  Milano Marittima (Italy), 13-15/11/2017

- **Y-RICh 2017 – Young Research Ideas in Chemistry**
  National workshop (80 participants)
  Member of the Scientific and Promoting committee
  Rome (Italy), 23/06/2017

- **Merck Young Chemists Symposium 2016 (MYCS 2016)**
  International conference (170 participants)
  Chair of the Scientific and Organizing committee
  Rimini (Italy), 25-27/10/2016

- **Design your Future**
  National workshop (70 participants)
  Member of the Scientific and Organizing committee
  Fisciano (Italy), 13/10/2016

- **Y-RICh 2016 – Young Research Ideas in Chemistry**
  National workshop (100 participants)
  Member of the Scientific and Promoting committee
  Rome (Italy), 10/06/2016

- **XV Sigma-Aldrich Young Chemists Symposium (SAYCS 2015)**
  International conference (175 participants)
  Chair of the Scientific and Organizing committee
  Rimini (Italy), 27-29/10/2015

- **Y-RICh 2014 – Young Research Ideas in Chemistry**
  National workshop (70 participants)
  Member of the Scientific and Organizing committee
  Rome (Italy), 15/12/2014

- **XIV Società Chimica Italiana & Sigma-Aldrich Young Chemists Symposium (SCI&SAYCS 2014)**
  International conference (170 participants)
  Chair of the Scientific and Organizing committee
  Riccione (Italy), 27-29/10/2014

- **65th Annual Meeting of the International Society of Electrochemistry**
  International conference (1800 participants)
  Student helper
  Lausanne (Switzerland), 31/08-05/09/2014

- **Y-RICh 2013 – Young Research Ideas in Chemistry**
  National workshop (40 participants)
  Member of the Scientific and Organizing committee
  Rome (Italy), 16/12/2013

Supervised students list

- Giovanni Marco Carrabba (MSc in Materials Engineering @PoliTO, 2022): *Dye solar cells with copper-based polymer electrolytes.*
- Giorgia Morone (MSc in Chemical and Sustainable Processes Engineering @PoliTO, 2022): *Lignin-based composite polymer electrolytes for potassium batteries*.
- Daniela Landi (BSc in Chemical and Food Engineering @PoliTO, 2021): *Microplastics: a new challenge for environmental protection.*
- Mattia Prandi (BSc in Materials Engineering @PoliTO, 2021): *Microplastics: a new challenge for environmental protection.*

- Daniele Congiu (BSc in Materials Engineering @PoliTO, 2021): *Polymer electrolytes for rechargeable aluminum batteries.*
- Alessio Jacopo Rizzo (BSc in Energetic Engineering @PoliTO, 2021): *Photovoltaic technologies in airport environments.*
- Elisabetta Giove (MSc in Energetic and Nuclear Engineering @PoliTO, 2021): *Sustainable polymer electrolytes for potassium ion batteries.*
- Gabriele Maffeis (BSc in Materials Engineering @PoliTO, 2021): *Innovative floating photovoltaic solutions suitable for salt dynamic environments.*
- Federico Giraldo (MSc in Energetic and Nuclear Engineering @PoliTO, 2021): *Unveiling cathodic and anodic materials for potassium-based batteries.*
- Matteo Gandolfo (MSc in Materials Engineering @PoliTO, 2021): *Gel polymer electrolytes for potassium batteries: development and characterization.*
- Stefano Fuda (MSc in Energetic and Nuclear Engineering @PoliTO, 2021): *Deep eutectic solvents for rechargeable batteries.*
- Noemi Pirrone (MSc in Chemical and Sustainable Processes Engineering @PoliTO, 2021): *Photoelectrochemical systems at the state-of-the-art for the sustainable H_2 and syngas production: literature review and proof-of-concept*.
- Federica Di Berardino (MSc in Materials Engineering @PoliTO, 2021): *Preliminary investigation on anodes for potassium batteries.*
- Elena Basciu (BSc in Chemical and Food Engineering @PoliTO, 2021): *Microplastics: a new challenge for environmental protection.*
- Matteo Sampo' (MSc in Energetic and Nuclear Engineering @PoliTO, 2021): *Processes for the integration of supercapacitors and solar cells.*
- Jessica Pizzo (BSc in Chemical and Food Engineering @PoliTO, 2020): *Lignin as a material platform in the field of photovoltaic cells.*
- Virginia Di Giovanni (BSc in Chemical and Food Engineering @PoliTO, 2020): *3D printing for battery manufacturing.*
- Alessio Bellio (BSc in Energetic Engineering @PoliTO, 2020): *The transition from laboratory to industrial production of perovskite solar cells.*
- Vincenzo Marino (BSc in Chemical and Food Engineering @PoliTO, 2020): *Magnesium batteries: advances and perspectives of a new technology.*
- Gretta Marija Nikkare (BSc in Energetic Engineering @PoliTO, 2020): *Characterization of dye-sensitized solar cells (DSSC) and their future applications.*
- Sebastiano Frandino (BSc in Chemical and Food Engineering @PoliTO, 2020): *Lignin as a material platform in the field of batteries.*
- Erica Varaia (MSc in Chemical and Sustainable Processes Engineering @PoliTO, 2020): *PEDOT in dye-sensitized solar cells: an electrode and a hole-transporting material.*
- Stefano Primo (MSc in Materials Engineering @PoliTO, 2020): *Preliminary investigation of compact TiO_2 layers as blocking layer in aqueous solar cells.*
- Luca Barotto (BSc in Energetic Engineering @PoliTO, 2020): *Lignin in the photovoltaic field.*
- Giacomo Isolano (MSc in Chemical and Sustainable Processes Engineering @PoliTO, 2019): *Biomass-derived carbon-based cathodes for aqueous photovoltaic cells.*
- Luca Carallo (BSc in Energetic Engineering @PoliTO, 2019): *Organic solar cells on paper substrates.*
- Laura Bonsignorio (BSc in Energetic Engineering @PoliTO, 2019): *Dye-sensitized solar cells: integration in smart windows.*
- Ahmed Hashish (BSc in Energetic Engineering @PoliTO, 2019): *Third generation solar cells: from laboratory to industrial production.*

- Virginia Alberti (MSc in Chemical and Sustainable Processes Engineering @PoliTO, 2019): *UV-curing of aqueous polymer electrolytes for dye-sensitized solar cells.*
- Alice Benedetto Mas (BSc in Chemical and Food Engineering @PoliTO, 2019): *Implantable energy devices in the medical field: materials and technology.*
- Florence Merlo (BSc in Chemical and Food Engineering @PoliTO, 2019): *Lignin as a platform of materials in the field of batteries.*
- Marco Dibenedetto (BSc in Materials Engineering @PoliTO, 2019): *Hydrolysis phenomena in perovskite solar cells: mechanisms and solutions for the future.*
- Alessia Arcieri (BSc in Chemical and Food Engineering @PoliTO, 2019): *Galvanic treatments of silvering of cages for aerospace applications.*
- Ottavio Montauti (BSc in Materials Engineering @PoliTO, 2019): *Perovskite solar cells: from materials to industrial scale-up.*
- Francesca Panaccione (BSc in Energetic Engineering @PoliTO, 2019): *Analysis of perovskite-based third-generation solar cells development.*
- Alisia Chiadò Rana (BSc in Chemical and Food Engineering @PoliTO, 2019): *Implantable medical devices in the medical field: materials and technology.*
- Silvia Pensa (BSc in Chemical and Food Engineering @PoliTO, 2019): *Electrodes for lithium microbatteries.*
- Stefano Saroglia (BSc in Materials Engineering @PoliTO, 2019): *Dye-sensitized solar cells: analysis of active cell materials and investigation of novel cathodes.*
- Ludovica Salerno (BSc in Chemical and Food Engineering @PoliTO, 2019): *Electrodes for lithium microbatteries.*
- Stefano De Luca (BSc in Energetic Engineering @PoliTO, 2019): *Anodic electrodes for rechargeable magnesium batteries.*
- Enrico Colore (BSc in Energetic Engineering @PoliTO, 2019): *Unconventional applications of dye-sensitized solar cells-based photovoltaics.*
- Emilio Pulli (BSc in Energetic Engineering @PoliTO, 2019): *Transparent photovoltaic technologies: current trends towards upscaling.*
- Chiara Sorrentini (BSc in Chemical and Food Engineering @PoliTO, 2019): *Implantable medical devices in the medical field: materials and technology.*
- Alessio Cognetti (MSc in Chemical and Sustainable Processes Engineering @PoliTO, 2019): *Formulation of titanium dioxide pastes for aqueous solar cells.*
- Elena Rozzi (MSc in Energetic and Nuclear Engineering @PoliTO, 2018): *Aqueous solar cells: development of platinum-free counter electrodes and feasibility study for the application of this technology.*
- Ana Petica (MSc in Chemical and Sustainable Processes Engineering @PoliTO, 2018): *Benzimidazole additives for aqueous electrolytes in dye-sensitized solar cells.*
- Enrico Emanuelli (BSc in Energetic Engineering @PoliTO, 2018): *Progress and challenges of thin-film kesterite solar cells.*
- Cristina Lombardo (BSc in Chemical and Food Engineering @PoliTO, 2018): *Electrolytes for safer lithium batteries.*
- Alberto Bario (BSc in Chemical and Food Engineering @PoliTO, 2018): *Photopolymerization and 3D printing: materials development using unconventional techniques.*
- Chiara Adda (BSc in Chemical and Food Engineering @PoliTO, 2018): *Development of materials to increase the stability of perovskite solar cells.*
- Cesare Miola (BSc in Chemical and Food Engineering @PoliTO, 2018): *Electrode materials for lithium microbatteries.*
- Eugenia Ferrero (BSc in Energetic Engineering @PoliTO, 2018): *Experimental strategies for*

the reduction of production costs of aqueous solar cells.

- Diego Orifici (BSc in Construction Engineering @PoliTO, 2018): *Recent developments in glazing for energy production: from photovoltaic glasses to luminescent solar concentrators.*
- Stefano Favero Costa (BSc in Materials Engineering @PoliTO, 2018): *Titanium dioxide nanotubes as sodium battery electrodes.*
- Gabriele Nicoletti (BSc in Energetic Engineering @PoliTO, 2018): *Dye-sensitized solar cells: from laboratory to industrial production.*
- Francesco Pasino (BSc in Energetic Engineering @PoliTO, 2018): *Dye-sensitized solar cells: fabrication and patterning.*
- Mattia Miglietta (BSc in Energetic Engineering @PoliTO, 2018): *Sustainable materials for new generation solar cells.*
- Deborah Marzo (BSc in Chemical and Food Engineering @PoliTO, 2017): *Sustainable materials for new generation solar cells.*
- Nunzia Lauriello (BSc in Chemical and Food Engineering @PoliTO, 2017): *New materials for perovskite solar cells.*
- Anna Gonella (BSc in Materials Engineering @PoliTO, 2017): *Photopolymerization and 3D printing: materials development using unconventional techniques.*
- Paolo Rondine (BSc in Energetic Engineering @PoliTO, 2017): *Sustainable materials for new generation solar cells.*
- Arianna Guglielminotti (BSc in Energetic Engineering @PoliTO, 2017): *New materials for perovskite solar cells.*
- Elisa Maruccia (MSc in Materials Engineering @PoliTO, 2017): *Preparation and characterization of zinc oxide photoelectrodes for aqueous Grätzel solar cells.*
- Diego Longo (BSc in Chemical and Food Engineering @PoliTO, 2017): *Perovskite solar cells: the role of the active material.*
- Marco Gaggiano (BSc in Chemical and Food Engineering @PoliTO, 2017): *Aqueous DSSC: ecosustainable artificial photosynthesis.*
- Samuel Matrella (BSc in Energetic Engineering @PoliTO, 2017): *Sustainable and low-cost technologies for solar cells.*
- Tamara Sergi (BSc in Chemical and Food Engineering @PoliTO, 2016): *Integrated devices for energy conversion and storage.*
- Ana Petica (BSc in Chemical and Food Engineering @PoliTO, 2016): *Polymer electrolytes for new generation batteries.*
- Chiara La Spina (MSc in Energetic and Nuclear Engineering @PoliTO, 2016): *Evaluation of the economic feasibility and environmental sustainability of water-based photoelectrochemical windows.*
- Andrea Tartaglino (BSc in Energetic Engineering @PoliTO, 2015): *Aqueous matrix electrolytes for advanced photovoltaic devices.*
- Stefano De la Pierre des Ambrois (MSc in Materials Engineering @PoliTO, 2014): *Effect of a photopolymerized electrolyte with gradient composition on the interfaces of a DSSC.*
- Arianna Favre (BSc in Materials Engineering @PoliTO, 2013): *Flexible polymeric matrices-based electrodes for photovoltaic devices: flexible photoanodes for DSSC.*
- Renato Pero (BSc in Materials Engineering @PoliTO, 2013): *Fluorinated polymers for dye-sensitized solar cells.*
- Elena Daniela Ozzello (MSc in Materials Engineering @PoliTO, 2012): *Photocured polymer electrolytes for dye-sensitized solar cells.*

Other information

Languages

- English: excellent understanding, speaking and writing ability.
  P.E.T. certificate (level B1), obtained *with Merit* (2005)
- Spanish: good understanding and speaking ability

Membership

- Società Chimica Italiana
- European Chemical Society
- Royal Society of Chemistry
- International Society of Electrochemistry
- Electrochemical Society
- Associazione Italiana Chimica per Ingegneria
- Gruppo Italiano di Fotochimica
- Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali

Informatics

- Certificate: E.C.D.L. licence, *full level* (2005)
- Software: Aspen Plus (modeling of chemical processes), Modde (experimental design), Gaussian (theoretical chemistry), Origin (data processing)
- Programming: HTML language

Driving licence B type, own car

Sports Tennis, Ski, Futsal, Volley

I authorize the use of my personal data according to Legislative Decree n° 196/03