

Prof. GIULIA GRANCINI, PhD



Personal Information: Born in Pavia (Italy) on 5/5/1984 (age 37)
Researcher unique identifiers: ORCID ID: 0000-0001-8704-4222.
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Researcher unique identifiers: ORCID ID: 0000-0001-8704-4222;

Highly-Cited Scientist 2021, 2020 and 2019 Publons (Web of Science Researcher ID AAH-3557-2019).

TRACK RECORD: H index=50 (from Google scholar); total number of citations >20000. **Number of scientific Publications: 130** (one in Nature Materials, one in Science, one in Nature Photonics, one in Nature Reviews Materials), **2 patents, 83 Presentation, 11 keynote lectures, 52 invited talks and**

20 oral presentation to international conferences. Since 2017, as PI I attracted funding from EU, MIUR, SNSF and industrial partners for 4,350,000 €.

Vice-Chair Selection Committee of the Young Academy of Europe (YAE) from 20/05/2019 to 20/10/2021 - USERN Ambassador for Italy from 01/01/2020 – Member of “100 donne nella scienza contro gli stereotipi” Fondazione Bracco from 06/2020 – Member of 1 Million Women In Science campaign (from 05/2020) – Member of WiRE – Women in Renewable Energy (from 10/2020) – Member Gruppo2003. Invited Speaker “6th International Day of Women and Girls in Science”, at ONU (virtual), Royal Academy of Science International Trust (RASIT).

CURRENT POSITION: UNIVERSITY OF PAVIA, PAVIA, ITALY

Associate Professor, from 01/07/2019

Principal Investigator (PI) of the European Project “HYNANO” (ERC H2020 StG 2018), aiming at the development of novel hybrid perovskites materials and innovative functional interfaces for efficient, cheap and stable solar energy. PI of the ERC-PoC “SPIKE” looking for potential commercialization of perovskites.

Director of the PVsquared2 team of 12 people, leading international collaboration and projects with academic (i.e. Go for IT -CRUI PostDoc Fellowship at Dr. Stranks Lab, Physics Dept., Cambridge University) and industrial partner (i.e. PhD Scholarship funded by ENI Spa 2020-2023, PhD Scholarship in collaboration with Saes Gaetters 2022-2025). More at <https://pvsquared2.unipv.it>.

PROFESSIONAL EXPERIENCE:

ÉCOLE POLYTECHNIQUE FEDERALE DE LAUSANNE, SION, SWITZERLAND (Prof. M. Nazeeruddin)

- Team Leader EPFL, PI of the Ambizione Energy Fellowship (740'000 CHF) 01/06/2016-30/06/2019

Mission: Fundamental physical understanding of perovskite solar cells. Team of 2 PhDs and 2Post-Docs.

- EPFL Fellow co-funded by Marie Skłodowska-Curie (68'000 CHF) 01/09/2015-31/05/2016

Mission: responsible for the investigation on photophysics behind the state-of-the-art efficient photovoltaic devices. Manager of the *laser lab facility* and of two PhDs. Co-PI of Synergia Project EPISODE (500K CHF) and of CTI project with Solaronix (760K CHF).

ISTITUTO ITALIANO DI TECNOLOGIA (IIT CNST), MILANO, ITALY (Dr. A. Petrozza)

- Senior Post-Doc Researcher 01/01/2014-31/08/2015

Mission: Research on the fundamental photophysical and structural properties of hybrid perovskites. Management of ultrafast spectroscopy facility and daily-lab activities of a group of four PhD Students and two Master Students.

- Junior Post-Doc Researcher 01/01/2012-31/12/2013

Mission: Understanding the physics of hybrid materials used in optoelectronics with a special attention to hybrid system (TiO₂/polymer); development of time resolved spectroscopic facility for monitoring electron dynamics in nanosecond timescale.

Dept. of PHYSICS, UNIVERSITY OF UTAH, SALT LAKE CITY, UTAH, USA (Prof. V. Vardeny)

- Visiting Researcher 01/02/2013-15/04/2013

Mission: Development of ultrafast transient absorption setup for characterization of conjugated polymers.

Dept. of PHYSICS, OXFORD UNIVERSITY, OXFORD, UK (Dr. H. Snaith)

- PhD Visiting Student 8/2010-04/2011

Mission: fabrication and optoelectronic characterization of dye-sensitized and hybrid solar cells- prototype realization on lab scale.

EDUCATION @ Politecnico di Milano, Physics Department, Milano, Italy

- Ph.D. cum Laude in Physics 21/02/2012 on *Ultrafast Dynamics at Organic Interfaces for Photovoltaics*. Supervisor: Prof. G. Lanzani
- Master Degree in Physical Engineering, Milano, 17/12/2008

AWARDS & PRIZES

1. 2021 Onorificenza del Presidente della Repubblica Italiana for Scientific Merits as "Cavaliere"
2. 2020 Journal of Materials Chemistry Lectureship from Royal Society of Chemistry
3. Highly Cited Researcher for 2021, 2020 and 2019 (ranking in the top 1% by citations for field and year), Web of Science
4. ERC Starting Grant 2018 (1.5 M €) – HY-NANO
5. ERC PoC 2021 (150k €) - SPIKE
6. USERN Laureate in Physical Science 2019, Budapest, 11/2019.
7. Swiss Physical Society Award 2018, 06/2018
8. IUPAP Young Scientist Prize in Optics 2017 by the International Commission of Optics, 10/2017
9. National Award per la Fisica 2015 EDISON, in memoria di Francesco Somaini", Milano, 2015 (10k€)
10. Ambizione Energy Fellowship SNSF PZENP2_173641 (740kCHF), 2017
11. Best Poster Award (3over 100) at International Conference SSSC14, Oxford 2014;
12. Best Oral Presentation (1over 40) at the WNCO 2011, Herrshing 2011;
13. Best Poster Award (1over 500) at ECME 2011 conference, Barcelona, 09/2011;
14. EOSAM 2010 Student Award as Best oral presentation at the EOS 2010 (1over 1000), Paris, 2010;
15. Best Poster Award at National School on molecular materials for photonics and electronics (1over 50).
16. Best Poster Award ACS Energy Letters PSCO2017, Oxford, 2017 (7over 200).

FUNDED PROJECTS

- 8 Projects as "Principal Investigator (PI)" >4.3M€ from 2015 to now
- Director of 2 Projects financed by Industries (ENI e EDISON) for a total of 230.000 €
- Co-PI for a total >2M€
- Total >6.2 M€ from 2015 to now

	Role	Title	Funding	Amount
02/2022 -	PI	SPIKE	ERC PoC 2021	150.000 €
09/2021 -	PI	SCALE	EDISON Spa	80.000 €
03/2021-	PI	Highlight	Progetto Infrastrutturale	1.012.000€

			Regione Lombardia – Università di Pavia 2021” DGR 4473/2021	
01/2021 -	PI	Green flexible hybrid perovskite solar module for the market: from smart lead manipulation to recycling: FLHYPER	Fondazione Cariplo Economia Circolare 2021	300.000 €
01/2021 -	PI	Smart Material Engineering for Hybrid Perovskite Stabilization: from the active layer to advanced coatings	EDISON Spa	70.000 €
01/2021 -12/2021	PI	“Breaking the Efficiency Limit of Halide Perovskites Solar Cells by Imaging the Nanoscale Trap Density in Real Time”	Go for IT – CRUI, Borsa per un Post Doc in Collaborazione con Cambridge University	30.000 €
10/2020 – 10/2023	PI	Celle solari 2D e 3D a base di perovskite	ENI Spa, Borsa PhD	90.000 €
06/2020 - oggi	PI	EXploring Photoferroelectricity in halide peRovskiteS for optoelectronicS: EXPRESS	FARE- MIUR, ITALY	299.816 €
07/2019 - oggi	PI	HYbrid NANOstructured multi-functional interfaces for stable, efficient and eco-friendly photovoltaic devices: HY-NANO	H2020 ERCEA ERC Starting Grant 2018 (802862)	1.500.000€
TOTAL @ Università di Pavia				3.530.000€
05/2017 – 06/2019	PI	Engineering HYbrid multidimensional interfaces for high efficient and stable PERovskite solar cells: HYPER	Ambizione Energy Grant, SNSF (PZENP2_173641)	780.000 CHF
02/2016 – 05/2017	PI	Fundamental Physics behind high-efficient hybrid perovskite solar cells	H2020 EPFL Marie Skłodowska-Curie Fellowship, H2020 (665667)	68.000 CHF
12/2015-12/2017	PI	Structural and Photophysical Diversity across sub-micrometer scale govern the performances of high efficient hybrid perovskite solar cells	EU Laser Lab CUSBO002194	10.000 €
01/10/2015-01/10/2016	PI	BORSA DI STUDIO PER LA FISICA 2015 Edison e fondazione Volta	National Fellowship per la Fisica 2015, EDISON S.P.A.	10.000 €
TOTAL as PI				4.398.000€*
06/2018 – 06/2019	Co-PI	Engineering of advanced hybrid Perovskite for Integration with Silicon photovoltaic Optoelectronic DEvices: EPISODE	Sinergia, SNSF	974.064 CHF
10/2016 – 06/2019	Co-PI	CTI: Stable Perovskite Solar Cells: A new Paradigm in Renewable Energy CTI 25590.1	Commission for Technology and Innovation (CTI), Swiss Federation	738.000 CHF
12-2016	Co-PI	EPFL Internal Equipment Funding	EPFL Internal Equipment Funding	335.000 CHF
TOTAL as Co-PI				2.047.000 CHF

* 1CHF=1 Euro

MEMBERSHIP

- 05/2020 – oggi **Advisory Board Progetto FET Open** su invito di Prof. E. Llado, Amolf Centre, Olanda
- 03/2021 – oggi **International Evaluation Committe of KAUST** invited by Prof. Donal Bradley Arabia
- 05/2019 – oggi **Board of Young Academy of Europe (YAE)**
<http://yacadeuro.org/all-members/>

- 01/2021 – oggi Vice-Chair Selection Committee PE - Young Academy of Europe (YAE) <http://yacadeuro.org/all-members/>

EDITORIAL BOARD

- 2021 – Associate Editor Materials Today Energy ELSEVIER (IF: 5.6, ISSN: 2468-6069).
- 2020 – Editor in Chief International Journal of Photoenergy Hindawi (IF:1.88, ISSN: 1687-529X).
- 2020 – Advisory Board Editor Chem Cell Press (IF:19.7, ISSN: 2451-9294).
- 2020 – Advisory Board Editor JACS Au American Chemical Society (ISSN: 2691-3704).
- 2020 – Guest Editor J. Phys. Mater. (ISSN: 2515-7639) IOP Special Issue: "Focus on Grand Challenges in Halide Perovskites: Low Dimensional Perovskites - structure, physical properties, stability and device applications".
- 2020 – Guest Editor Energies MDPI (IF: 2.702, ISSN 1996-1073) Special Issue: "Perovskite Nanomaterials for Energy-Related Applications".
- 2020 – Guest Editor J. Phys. Mater. (IF: ISSN: 2515-7639) IOP Special Issue: "Women's Perspectives in Energy Materials" focus collection.
- 2020 – Editorial Board Member J. Phys. Mater. IOP (ISSN: 2515-7639).
- 2020 – Editorial Board Member Energies MDPI (IF: 2.702, ISSN 1996-1073).
- 2019 – Guest Editor ChemPlusChem Wiley- VCH (IF:3.4 ISSN:2192-6506) [Special Issue](#) "Perovskite Materials and Devices".
- 2019 – International Advisory Board di Energy Technology Wiley-VCH (IF:3.4 ISSN: 2194-4296).
- 2018 – Editorial Board SN Applied Sciences Journal Springer Nature (ISSN: 2523-3971).
- 2018 – 2020 Associate Editor International Journal of Photoenergy Hindawi (IF:1.88, ISSN: 1687-529X).

Reviewer for:

- 2012 – Nature (2019), Nature Energy (2018), Nature Materials (2019), Nature Communication (2018), CommsMat (2021), Chem (2019), Science Advance (2019), Advanced Materials (2017), Advanced Energy Materials (2019), Journal of the American Chemical Society (2018), Nanoletters (2016), Chemistry of Materials (2017); App. Phys. Lett. (2014), Energy & Environmental Science (2018), Applied Materials and Interfaces (2018), Frontiers in Chemistry (2019), Ecomat (2019), Nanoscale (2019), Sustainable energy and Fuels (2019), Organic Electronics (2019), ACS Energy Letters (2017), Scientific Reports (2018), Journal of Materials Chemistry C (2018), Journal of Materials Chemistry C (2018) Journal of Materials Chemistry A (2017), Solar RRL (2017), Physical Chemistry Chemical Physics (2015), The Journal of Physical Chemistry Letter (2014), Thin Solid Films (2012), Physica status solidi (a) (2012)

COMMISSION OF TRUST

- 2021 Selected as a member of the project evaluation commission for the institutional initiative Strengthening and attractiveness of the research system: INROAd + initiative of the University of Pavia.
- 2021 Selected as international expert for the evaluation of projects for the Competitive Research Funding Schemes for the Local Self-financing Degree Sector under Research Grants Council (UGC / FDS24 / P01 / 21) of Hong Kong.
- 2021 Selected as an international expert in the chemical-physical area for the review of Projects that finance Collaborations between Technische Universität München and other entities, invited by A. Kohout for TUM Institute for Advanced Study
- 2020 Selected as an international expert for evaluating projects funded by the Competitive Research Grants (CRG), funding program of the King Abdullah University of Science and Technology (KAUST), Saudi Arabia
- 2020 Selected as an international expert for the evaluation of research projects in Chemistry for the Natural Sciences and Engineering Research Council, Canada
- 2019, 2020 Selected as an international expert for the review of research projects for the Research Project funded by the Research Foundation Flanders (FWO), which aims at the advancement of basic research, Belgium
- 2020 Selected as an international expert for the review of research projects for collaboration between India and Israel by the Minister of Science Israel

2019 Selected as an international expert for the review of research projects for the French National Research Agency (ANR), France

2019, 2020 Selected as an international expert for the review of research projects for the review of research projects of the PE5 panel "Synthetic Chemistry and Material" for the ERC Starting Grants program, promoted by the European Research Council to allow outstanding young leaders of the world of research, to carry out high-risk and impact projects that can open up new important research directions.

2019, 2020 Selected as "Expert" member of the Evaluation Panel for European Commission Research Executive Agency for the call Research and Innovation Action, European funding program H2020, call BUILDING A LOW-CARBON, CLIMATE RESILIENT FUTURE: SECURE, CLEAN AND EFFICIENT ENERGY (H2020-LC-SC3-2018-2019-2020), evaluation of 5 projects with 2-step evaluation and panel discussion meetings with the other reviewers.

2017 - Selected as an international material science expert for Office of Basic Energy Sciences US Department of Energy Office of Science, USA

ACTIVE MEMBERSHIP

- **2021** Tesoriera del Gruppo2003
- **2020** Vice-Chair della Selection Committee della Young Academy of Europe
- **2020** Italian Ambassador USERN Universal Scientific Education and Research Network.
- **2020** Member of "100 donne nella scienza contro gli stereotipi" Fondazione Bracco, Milano.
- **2020** Member of 1 Million Women In Science campaign, USA.
- **2020** Member of [gruppo 2003 per la ricerca scientifica](#)
- **2019** Member of Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali (INSTM)
- **2019** Member of Consorzio Europeo ([EPKI](#)) European consortium of research institutes working on perovskites
- **2018-2019** Member of the Società Italiana di Fisica.
- **2019** Member of "Top Italian Scientists" – mostly cited in the world
- **2019** Member of Board della Young Academy of Europe (YAE)
- **2017- 2018** Mentor in the Fix the Leaky Pipeline Program for female PhDs and postdocs in the ETH Domain, Switzerland.
- **2010-2012, 2015, 2017-2021** Member Material Research Society (MRS).

CONGRESS ORGANIZATION

- **2022**
 - Chair di Nanoge NIPHO2022, Symposium Organizer: PEREMER21, 10-12 March 2021, online.
- **2021**
 - Chair di Nanoge Spring Meeting, Symposium Organizer: PEREMER21, 10-12 March 2021, online.
 - Symposium Organizer Material Research Society MRS Fall Meeting 2021, Hybrid, Boston 28/11 - 03/12/2021, [Symposium EN08-Low-Dimensional Halide Perovskites—From Fundamentals to Applications](#)
 - Organizing committee for the SPIE Conference on Organic, Hybrid, and Perovskite Photovoltaics ([OHPV-XXII](#)), 1-5 August, San Diego (USA)
 - Scientific Director NanoValBruna [NV2021](#), ValBruna, 19-24 July 2021
 - Chair 48th IEEE PHOTOVOLTAIC SPECIALIST Area 6.7 "Characterization Methods for the 47th IEEE PVSC conference", online, 20-25 June 2021
- **2020**
 - Chair di "Innovative Materials for Energy" ([IME](#)) 2020, International, Online Meeting (150 participants), 2/12/2020
 - Chair 47th IEEE PHOTOVOLTAIC SPECIALIST Area 5.5. [sub-area 5.5: Advanced characterization of photovoltaic devices](#) online, 14-19/06/ 2020
 - Direttore Scientifico NanoValBruna NV2020, ValBruna, 3/07/2021
- **2019**

- **Symposium Organizer XXVIII INTERNATIONAL MATERIALS RESEARCH CONGRESS (IMRS)**, Symposium D1: STRUCTURE-PROPERTY RELATIONSHIPS IN ORGANIC, HYBRID AND PEROVSKITE SOLAR CELL MATERIALS 19-20/08/2019, Cancun, Mexico
 - **Chair di "Innovative Materials for Energy (IME)" 2019, Messina, 11/ 2019**
 - **Chair 46th IEEE PHOTOVOLTAIC SPECIALIST** Session chair Area 5 characterization, 16-21/06/2019, Chicago
 - **Symposium Organizer Material Research Society MRS Fall Meeting 2020, EN12:** Structure–Function Relationships and Interfacial Processes in Organic Semiconductors for Optoelectronics, 1-6/12/2019, Boston (USA)
 - **Local Assistant Organizer 5th International Conference on Perovskite Solar Cells and Optoelectronics (PSCO19)** 30 /09– 2/10/2018, Lausanne, Switzerland
- **2018**
 - **Organizer Technical Program Committee International Renewable and Sustainable Energy Conference (IRSEC'18)** 5-8/12/2018 Rabat, Marocco
 - **Local Assistant Organizer 4th International Conference on Perovskite Solar Cells and Optoelectronics (PSCO18)** 30/09 – 2/10 2018, Lausanne, Switzerland

MAIN RESEARCH INTEREST AND ACHIEVEMENTS

- a. Realization of the world's first ultrafast (femtosecond) microscopy system for imaging dynamic processes in nanostructured semiconductors
- b. Pioneering contributions in the real-time analysis of the dynamic chemical-physical processes of charge generation in advanced organic materials through the development of transient absorption optical spectroscopy systems with resolution up to sub-10 fs.
- c. Invention and implementation of photovoltaic devices based on titanium oxide, quantum dots, organic dyes and conjugated polymers for the generation of new generation solar energy
- d. Fundamental investigations of the chemical-physical processes that govern interfaces in thin films and advanced devices based on conjugated polymers and organic materials used for devices for the generation and storage of energy.
- e. Pioneering study and development of advanced materials based on hybrid halide perovskites for innovative photovoltaics following their development from their first use (PhD - Università di Oxford, 2010). Materials used for photovoltaics since 2010 and recognized among the Top Ten Technologies by the World Economic Forum in 2016.
 - Fundamental contributions (since 2010) with the first studies in the world on the chemical-physical and optical properties of these materials
 - Realization of high efficiency solar cells, showing world record stability and, recently, efficiency for pin device configuration.
 - Synthesis of new hybrid perovskites and Demonstration of chemical, optical and electronic properties and investigation of dynamic processes of thin films and perovskite crystals
 - Synthesis and realization of the first example of low-dimensional hybrid perovskite for stable photovoltaic devices
 - Synthesis and development of new interfaces based on hybrid perovskite and other materials (organic, graphene) for energy generation and storage devices
 - Synthesis and development of new green hybrid perovskites - without toxic components for new generation solar cells
 - Design, manufacture and development of thermal stress systems and protocols for solar cell aging.

LIST OF PUBLICATIONS

- **130 Publications: 104** Scientific Publications (52 in the last 5 years), **1** Book Chapter e **25** Conference Proceedings.

- **Citations 20480** (Google Scholar)
- **Five most cited:**
 - *Science* 342 (6156) 341, 2013 n. cit. **7257** (Scholar)
 - *Nature Communications* 5, 3586, 2014 n. cit. **1352** (Scholar)
 - *Nature Communications* 8, 15684, 2017 n. cit. **1050** (Scholar)
 - *Nature Materials* 12(1), 29, 2013 n. cit. **602** (Scholar)
 - *Nano Letters* 14(6), 3247, 2014 n. cit. **501** (Scholar)
- **16 Highly Cited Paper** (Web of Science)
- **1 Hot Paper** (Web of Science)
- **H-index 50** (Google Scholar)
- Main author in **62** paper (First author in **18**, Corresponding author in **30**, Last author in **14**)

A complete List of Publication is available at: https://scholar.google.com/citations?user=R1_uLQsAAAAJ&hl=en

PATENTS

1. **G. Grancini**, H. Snaith, Patent 8132 Dehns 11.95.109612 "Polymer/sensitizer solar cells", Isis Innovation Limited, Oxford University (2013). <http://patentscope.wipo.int/search/en/WO2013030553> (2013).
2. **G. Grancini**, H. Snaith, Patent 8099 Dehns 11.95.109162 "Optoelectronic Device", Isis Innovation Limited, Oxford University (2012). <http://patentscope.wipo.int/search/en/WO2012156723> (2012)

CONFERENCE PARTECIPATION

83 Presentation, 12 keynote lectures, 52 invited talks and 23 oral presentation.

Keynote Talks:

- I-week, 19 January 2022
- TEDEX Pavia, 13 May 2021
- Plenary Talk RSC Desktop Seminar Lectureship Series with Journal of Materials Chemistry A, B & C "Engineering Low-Dimensional Perovskite Interfaces for State of the art Perovskite Solar Cells: interface structure and processes therein", 25-03-2021, online.
- Plenary Talk "Advanced in Nano materials for sustainable energy" NV2020, ValBruna, 22-07-2021.
- Plenary Talk 2nd Moscow Autumn Perovskite Photovoltaic International Conference ([MAPPIC-2020](#)), "Dynamical 2D/3D Interfaces a boost to Perovskite Solar Cell Stability: what's behind?" 26-28/10/2020, online, Moscow (Russia).
- Plenary Talk NanoValBruna "Challenges in New Generation Photovoltaics" NV2020, ValBruna, 3/07/2021, online.
- Keynote Lecture: "Dynamical 2D/3D Interface: a boost to Perovskite Solar Cell Stability" [CINE](#), Center for Innovation on New Energies, 16/07/2020, online, Campinas, (Brasile).
- Plenary Lecture: USERN Congress and USERN Prize Awarding Festival ([USERN 2020](#)). "Hybrid Perovskite Solar Cells: a game changer for Near Future Photovoltaics" Organized by Universal Scientific Education and Research Network (USERN), 7-10/11/2020. Tehran (Iran).
- Keynote Lecture "Efficient and Stable Perovskite Solar Cells: The Future Solar Technology?", Dr. Jean Rousset, Institut Photovoltaïque d'Ile-de-France (IPVF) – Palaiseau, Ile de France, Parigi (Francia), 3/10/2018.
- Keynote Lecture per il premio Swiss Physical Society "Photophysics of Low Dimensional Perovskites Solar Cells", Lausanne, 31/08/2018.

- Keynote Lecture "Ultrafast spectroscopy: a powerful tool to shed light on the photophysics of hybrid organic/inorganic semiconductors", Freiburg, 13/12/2017.
- Plenary talk International Conference Solution Processed Semiconductor Solar Cells ([SPSC14](#)), Oxford (UK), 10-12/09/2014.

Invited Talks:

▪ 2021

- 2nd International Conference on Light and Light-based Technologies (2nd ICLLT-2021), (http://icllt-2.gazi.edu.tr/?language=en_US) Gazi University, Ankara (Turkey), 26-28/05/2021.
- Panelist of 6th International Day of Women & Girls in Science Assembly, organized by the Royal Academy of Science International Trust (RASIT), and ONU Permanent Missions, United Nations Headquarters, [New York. Virtual](#): UN Web TV Cloud. "Beyond the Borders: Equality in Science for Society" for the people & the planet. Panelist: Leading Courageously in Response to COVID-19 Pandemic, 11/02/2021.
- Panelist di nanoge "PhD Mentoring", Simposio: PEREMER21, 10-12/03/2021, online.
- Material Research Society MRS Spring Meeting 2021, [Symposium EN06](#): Frontier Energy Sciences in Halide Perovskites 17- 23/04/2021, online.
- Gordon Research Conference 2022 "[Unconventional Semiconductors and Their Applications](#)", 12-17/06/2022, Ventura, California (USA)
- International Symposium on Flexible Organic Electronics ([ISFOE2021](#)) 5-8 – 07 - 2021 Thessaloniki
- Global Summit and Expo on Materials Science and Nanoscience ([GSEMSN-2021](#)), 06-08 – 09 - 2021, Lisbon (Portugal).
- XIX Brazil MRS, Symposium C - [Energy Harvesting II: Organic, Perovskite and Hybrid Solar Cells and Materials](#). Online, 30/08 – 3/09 2021
- Seminar "Design of Functional Low dimensional Hybrid Perovskite to boost Perovskite Solar Cell Stability", 28 -01- 2021, online, Università del Salento.

▪ 2020

- Chemistry and courses. [Chemistry seminar code: CH607-001](#) "Hybrid Perovskite Solar Cells: a Game Changer for Near Future Photovoltaics", Department of Chemistry, College of Science, Oregon State University, USA, online, 15 -10- 2020.
- NanoGe Fall Meeting 2020, Symposium: Perovskite I: Solar Cells and Related Optoelectronics. ([PerFun20](#)) "2D/3D Hybrid Perovskite Dynamical Interfaces for Stable and Efficient Solar Cell." online conference, 20 - 10- 2020.
- Contemporary Stability Challenges in hybrid Perovskite Solar Cells ([SHPSC](#)), [nanoGe](#) "Dynamical 2D/3D Interface: a boost to Perovskite Solar Cell Stability", Online Meetup Conferences 16 -04-2020,
- Women in Renewable Energy ([WiRE](#)) conference. Second Severo Ochoa workshops on Energy Storage and Harvesting, organized by ICN2 "Dynamical 2D/3D Interfaces a boost to Perovskite Solar Cell Stability: what's behind?" 16 -10- 2020, Barcelona, Spain (online).
- Women in Renewable Energy ([WiRE](#)) conference. Second Severo Ochoa workshops on Energy Storage and Harvesting, organized by ICN2 "Challenges for Women in Science" 16 -10- 2020, Barcelona (Spain), online.
- "2D/3D Hybrid Perovskite Interfaces and Physics therein for Stable and Efficient Solar Cells", Prof. Yana Vaynzof Meeting, Dresden University, Online 6 -04- 2020
- Virtual Perovskite conference VIPERCON "Dynamical Mutation of 2D/3D Hybrid Perovskite Interfaces for Stable and Efficient Solar Cells" 14 -04- 2020, online.
- "Design of Funcional Low Dimensional Hybrid Perovskites to Boost Perovskite Solar Cell Stability", Prof. Simone Meloni, Università degli Studi di Ferrara 16 -11-2020, online.
- International Conference on Perovskite Thin Film Photovoltaics and Perovskite Photonics and Optoelectronics ([NIPHO20](#)), nanoGe Perovskite Conferences. "2D/3D Hybrid Perovskite Interfaces and Physics therein for Stable and Efficient Solar Cells" 23-25 -02- 2020, Sevilla (Spain).

▪ 2019

- [Frontier Research](#): Creating Pathways To Sustainability Affordable and clean energy. "Hybrid Perovskite semiconductors: a Game Changer in New Generation Photovoltaics." Organizer: European Research

Council Executive Agency (ERCEA). ERC Executive Agency 2-3 -12- 2019, Brussels

- [KAUST Research Conference: Emerging Concepts in Solar Energy Conversion - From Computation to Implementation](#). "Engineering 2D/3D Hybrid Perovskite Interfaces for Stable and Efficient Solar Cells". 10-12 -02 2019, Arabia Saudita.
- [Asia-Pacific International Conference on Perovskite, Organic Photovoltaics and Optoelectronics \(IPEROP19\)](#). "Engineering 2D/3D Hybrid Perovskites for Stable and Efficient Solar Cells." 27-29 -01- 2019, Kyoto (Japan).
- [4th Annual USERN Congress and Prize Festival](#) come USERN Physical Sciences Laureate "Multi-Dimensional Ferroelectric Hybrid Perovskites for Advanced Optoelectronics", 8 -11- 2019, Budapest (Ungheria).
- [International Graphene Innovation Conference \(GRAPHCHINA 2019\)](#). Symposium Energy. "Engineering Hybrid Perovskite Interfaces for Stable and Efficient Solar Cells". 19-21 -10- 2019, Xi'an (China).
- ["2D/3D Hybrid Perovskite Interfaces and Physics therein for Stable and Efficient Solar Cells"](#) dal Prof. Chan-Qi Ma, Suzhou Institute of Nano-Tech and Nano-Bionics, 17-19 -10- 2019, Suzhou (China).
- [13 International School on Hybrid and Organic Photovoltaics \(ISOPHOS®\)](#). "Recent advances in science and technology of organic and hybrid photovoltaic devices, including perovskites and other 2D materials for energy applications". 09- 2019, Castiglione della Pescaia (Italia).
- [International Conference on Advances in Organic and Hybrid Electronic Materials \(AOHM19\)](#). "2D/3D Hybrid Perovskite Interfaces and Physics therein for Stable and Efficient Solar Cells", 17-20 -03- 2019, Dubrovnik (Croatia).
- ["Engineering 2D/3D Hybrid Perovskite Interfaces for Stable and Efficient Solar Cells"](#) Prof. Yana Vaynzof, Heidelberg University, 10 -12- 2019, Heidelberg
- ["2D/3D Hybrid Perovskite Interfaces and Physics therein for Stable and Efficient Solar Cells"](#) Prof. Dieter Neher, Università di Potsdam, 16-17 -09- 2019, Potsdam
- **2018**
 - [International PhD Summer School "Flexible Electronics - Visions and Future Perspectives"](#) EC-funded Innovative Training Network (ITN) INFORM, INFORM [consortium](#), 5-8 11- 2018, Cyprus.
 - [Vrei University "2D/3D Hybrid Perovskite Interfaces and Physics therein for Stable and Efficient Solar Cells"](#), Prof. Elizabeth von Hauff, 22 - 2018, Amsterdam (Olanda).
 - [Stability of Emerging Photovoltaics \(SEPTV18\): from Fundamental to Applications](#). 20-23 -02- 2018, Barcelona
 - [ICN2](#), "New Hybrid Nanostructured Interfaces for Smart and Efficient Devices and New Fundamental Physics", 16 -10- 2018, Barcelona
 - [14th International Conference on Beam Injection Assessment of Microstructures in Semiconductors \(BIAMS 2018\)](#). 18-21 -06- 2018, Seoul (Korea).
 - [Gordon Research Conference on Hybrid Electronic and Photonic Materials and Phenomena "2D/3D Hybrid Perovskites for Stable and Efficient Solar Cells"](#) 10-15 -06- 2018, Hong Kong (China).
 - [8th edition of Graphene Conference](#). "2D/3D Hybrid Perovskites for Stable and Efficient Solar Cells." 26-29 -06- 2018, Dresden
 - [Graphene Lab@IIT](#). "2D/3D Hybrid Perovskites for Stable and Efficient Solar Cells." 2 -02- 2018, Istituto Italiano di Tecnologia, Genova.
- **2017**
 - [Material Research Society MRS Fall Meeting & Exhibit "Self- Assembled Gradient of 3D/2D Hybrid Perovskite to Boost Efficiency and Durability of solar Cells"](#), Symposium ES01: Perovskite Materials and Devices-Progress and Challenges. 27 -11 – 1 -12- 2017, Boston (USA).
 - ["Interface engineering and optimization of the dynamical processes in high efficient and stable perovskite solar cells"](#) Prof. Dieter Neher, Potsdam, 22 -04- 2017, Potsdam (Germania).
 - [Deutsche Physikalische Gesellschaft \(DPG\) Frühjahrstagung \(Spring Meeting\)](#). 19-24 -03 2017. Dresden.
 - ["Fundamental Photophysical processes behind high efficient solar cells" @ QEERI \(Qatar Energy Foundation\)](#). Project Meeting. 13 -02- 2017, Doha (Qatar).
 - ["Interface Engineering for high efficient and stable perovskite solar cells"](#) 17 -02- 2017, Giessen University
- **2016**
 - [META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics](#). Non-linear and ultra-fast spectroscopy of nano- and meta-materials. "Spatial Dependence of the Electron-hole correlation in Hybrid Perovskite Crystals". Convention & Exhibition Centre, 25-28 -07- 2016, Torremolinos.
 - [EDISON SPA](#). 06- 2016, Sede Edison, Milano
 - [Premio Europeo per la Fisica EPS-EDISON VOLTA](#) o, 8 -10- 2016, Como.

- **Eni SPA**. Centro Ricerche per le Energie Rinnovabili e l'Ambiente di Novara, 06- 2016, Novara.
- **"Laser Workshops" "Ultrafast Dynamics in Hybrid Perovskite Materials and Devices"** by Prof. H. Schwoerer, 11-2016, Stellenbosch University, South Africa.
- **2015:**
 - EPFL Prof. M. Nazeeruddin e Prof. M. Graetzel, 04- 2015, Lausanne
- **2014**
 - **European schools (Marie Curie ITN DESTINY)**, 09- 2014, Oxford (UK).
- **2013**
 - **5th Workshop on Nanotube Optics and Nanospectroscopy (WONTON 2013)**. Sunday, 16 – 20 June 2013. Santa Fe, New Mexico (USA)
 - **SPIE Optics + Photonics 2013 "Ultrafast hot exciton dissociation at organic interfaces"**, 25-29 August 2013, San Diego Convention Center, San Diego, California (USA).
 - **International Workshop on Nanocarbon Optics 2013**, Herrshing by Prof. T. Hertel, 11/2013;
 - **Physical Chemistry Colloquium at LMU** by Prof. A.Hartschuh, May 2013.

Oral Contributions:

- **2019:**
 - **5th International Conference on Perovskite Solar Cells and Optoelectronics (PSCO-2019) "2D/3D Hybrid Perovskite Interfaces and Physics therein for stable and efficient solar cells"** 30/09– 2/10 2019, Lausanne
 - **Functional p-i-n Electron System (Fpi) "2D/3D Hybrid Perovskite Interfaces and Physics therein for Stable and Efficient solar Cells"**, 2-6 -06- 2019, Berlino (Germania)
 - **Material Research Society Fall Meeting MRS 2019 "Stable and Efficient Perovskite Solar Cells by Thiophene-based 2D Perovskite Functionalization"** 1-6 -12-2019, Boston (USA)
- **2017**
 - **3rd International Conference on Perovskite Solar Cells and Optoelectronics (PSCO-2017)**, "Interface Engineering for High Efficient, One-Year stable Perovskite Solar cells", 18-20 -09- 2017 Oxford (UK), *Poster Prize*
- **2016**
 - **2nd International Conference on Perovskite Solar Cells and Optoelectronics PSCO 2016 "Interface Engineering for high efficient perovskite solar cell"**, 26- 28 – 09- 2016, Genova (Italia)
- **2015:**
 - **Material Research Society Spring Meeting MRS 2015**, 6-10 -04- 2015 San Francisco (USA).
 - **1st International Conference on Perovskite Solar Cells and Optoelectronics (PSCO15)** 27-29 -09- 2015. Lausanne (Svizzera).
 - **European project workshop (MESO -FP7-NMP-2013-SMALL-7-)** 02/2015, Villars sur Ollon (Svizzera).
- **2014:**
 - **Material Research Society Fall Meeting MRS 2014** 30/11– 5/12 Boston (USA).
 - **Winter workshop** Istituto Italiano di Tecnologia, 12/ 2014, Bormio (Italia).
- **2013:**
 - **Material Research Society Spring Meeting MRS 2013**, Ultrafast Hot Dissociation at Organic Interfaces, 04 2013, San Francisco (USA).
 - **European Material Research Society Spring Meeting E-MRS 2013 "Opto-electronic Properties of New Hybrid Perovskite for Highly Efficient Meso-structured Solar Cells"**, 28-30 – 05 - 2013, Strasbourg (Francia).
- **2012:**
 - **HOPV 2012 "Ultrafast Hot Charge Transfer in Low Band-Gap Polymer Blend for Photovoltaics"**, 6- 9 – 05- 2012, Uppsala (Sweden).
 - **ICSM 2012 International Conference on science and technology synthetic metals "Ultrafast Hot Charge Transfer in Low Band-Gap Polymer Blend for Photovoltaics"**, 8-13 – 07 -2012 Atlanta (USA).
 - **WNCO 2012 "Ultrafast Hot Dissociation at Organic Interfaces"**, 26 -09- 2012, Niederstetten (Germania).

- **2011:**
 - **Photovoltaics**, Università di Oxford, Oxford (UK);
 - **HOPV 2011**, The 3rd international conference on Hybrid and Organic Photovoltaics 15- 18 -05 2011, Valencia (Spagna).
 - **LHP 2011**, Light-Harvesting Processes LHP2011" 10-14 -04-2011, Banz (Germania).
- **2010:**
 - **European Optical Society Meeting EOSAM 2010**, 102010, Paris (Francia) *Best Oral Presentation*;
 - **Ultrafast Phenomena UP 2010**, 18–23/07/ 2010, Snowmass, Colorado, (USA).
 - **Internazionale Material Research Society Spring Meeting MRS** 5-9 04-2010, San Francisco (USA)

SUPERVISION AND MENTORING

Supervisor (*) / Co-supervisor of numerous doctoral and graduate / master theses carried out at the University of Pavia, the Ecole Polytechnique Fédérale de Lausanne and the Milan Polytechnic.

Supervisor of Post-Doc Researchers (8), PhD Students (23), a Specialized Technician, Research Fellows (2) and Master's Degree Students (13) at the University of Pavia, Ecole Polytechnique Fédérale de Lausanne and the Politecnico of Milan.

Post Doc:

- 2020 –2021 Kevin Dedecker * (Perovskite/MOF), ERC HY-NANO, Università di Pavia
- 2019 – 2021 Laxman Gouda * (Electrochemistry), ERC HY-NANO, Università di Pavia
- 2020 – 2021 Zahra Andaji-Garmaroudi * (LED perovskites), project GoforIT, Università di Pavia e Cambridge University (UK).
- 2019 – 2020 Alexander Davis Jodlowski * (carbon/perovskites solar cells), ERC HY-NANO, Università di Pavia
- 2017 – 2019 Ines Garcia-Benito * (fluorous perovskites), Ambizione Energy, EPFL
- 2018 Yonghui Lee* (oxides interfaces for solar cells), Ambizione Energy, EPFL
- 2016 – 2018 Iwan Zimmermann (carbon perovskite modules), CTI, EPFL

Technician:

- 2019 – 2020 Dr. Giorgio Schileo * (lab management, perovskite solar cells), ERC HY-NANO
- 2021- now Dr. Silvia Cavalli * (lab management, perovskite solar cells), ERC HY-NANO

PhD Students:

- 2021- Valentina Larini* Project Cariplo Economia Circolare, Università di Pavia
- 2021 – Fabiola Faini*, PhD Green PNRR MUR, Università di Pavia
- 2021 – Lorenzo Pancini*, PhD Green PNRR MUR, Università di Pavia
- 2021- Giovanni Pica* Project FARE, Università di Pavia
- 2019 – Matteo Degani * (2D/3D perovskite solar cells), ERC HY-NANO, Università di Pavia
- 2020 – Riccardo Montecucco * (large area solar cells), borsa ENI, Università di Pavia
- 2020 – Andrea Zanetta * (tunable 2D perovskites), ERC HY-NANO, Università di Pavia
- 2020 – Ariana Garcia * (perovskite device encapsulation), EDISON, Università di Pavia
- 2017 – 2019 Valentino Romano* (2D interfaces engineering), Visiting Student EPFL, Università di Messina
- 2018 – 2019 Martina Pantaler* (perovskiti Lead Free), Essen University, Visiting PhD a EPFL
- 2017 – 2020 Valentin Queloz* (Photochemical Processes of perovskite Interfaces), Ambizione Energy, EPFL
- 2017 – 2020 Albertus Sutanto* (2D/3D perovskite photovoltaics), EPISODE, EPFL
- 2017 – 2018 Paul Gratia * (Perovskite interfaces), EPISODE, EPFL
- 2017 – 2018 Alexander Fedorovskiy * (ferroelectric perovskites), EPISODE, EPFL
- 2017 – 2018 Mousa Abuhelaiqa (printing processes engineering), EPISODE, EPFL
- 2017 – 2018 Kasparas Rakstys (synthesis of organic cation), EPISODE, EPFL
- 2017 – 2018 Cansu Igci (synthesis of HTM), EPISODE, EPFL

- 2015 – 2017 Kyungtaek Cho (sviluppo celle a perovskite), EPISODE, EPFL
- 2015 – 2016 Yi Zhang (compositional engineering perovskite), CSC, China
- 2015 – 2016 Mohammad I. Hossain (emission properties of perovskites), QEERI, Qatar
- 2013 – 2016 Valerio D’Innocenzo (optical properties perovskites), IIT, Milano
- 2013 – 2016 Michele De Bastiani (perovskite interfaces), IIT, Milano
- 2014 – 2015 Marina Gandini (perovskite optimization), IIT, Milano

Fellowship:

- 2019 – Giovanni Pica * Project FARE, Università di Pavia
- 2020 – Roy Rajarshj * Project ERC HY-NANO, Università di Pavia

Master Students:

- 2021 – Valentina Larini *, LM Chimica, Università di Pavia
- 2021 – Davide Nodari *, LM Chimica, Università di Pavia
- 2021 – Diego Mirani *, LM Chimica, Università di Pavia
- 2021 – Guido Cozzolino, LM Chimica, Università di Pavia
- 2021 – Fabiola Faini *, LM Fisica, Università di Pavia
- 2020 – Giovanni Pica *, LM Fisica “Studio di stabilità di celle solari a perovskite ibrida mediante test di invecchiamento accelerato”, Università di Pavia
- 2017 – Valentin Queloz, LM Chimica “Dynamic of photocarrier in lead halide perovskite”, EPFL
- 2014 – Giulio Mazzotta, LM Ingegneria Fisica, Politecnico di Milano
- 2013 - Francesca Bottacchi, LM Ingegneria Fisica, Politecnico di Milano
- 2012 – Daniele Viola, LM Ingegneria Fisica, Politecnico di Milano
- 2010 – Simone Guarnera, LM Ingegneria Fisica, Politecnico di Milano
- 2010 – Margherita Maiuri, LM Ingegneria Fisica, Politecnico di Milano
- 2010 – Nicola Martino, LM Ingegneria Fisica, Politecnico di Milano