

Dr Alessandro Minotto

Junior Assistant Professor (RTDa)

SC 02/B1 – SSD FIS/01 – Experimental physics

University of Milano-Bicocca, Dept. of Materials Science
via R. Cozzi 55, I-20125 Milan

tel: +39 02 6448 5192 (office) // +39 02 6448 5025 (lab)

email: alessandro.minotto@unimib.it

webex: <https://unimib.webex.com/meet/alessandro.minotto>

RESEARCH INTERESTS

Materials science, nanotechnology. Organic semiconductors, organic electronics & optoelectronics. Organic thin films growth, molecular crystals. Spectroscopy. Hybrid organic/inorganic semiconductors, colloidal quantum dots. Device fabrication & physics.

RESEARCH EXPERIENCE

- **RTDa – Junior Assistant Professor** (Dec 2021 – Present)
University of Milano-Bicocca, Dept. of Materials Science – Milan, IT
Research activity:
 - Growth via organic molecular beam epitaxy & characterization of molecular thin films.
 - Development of a method for transfer printing of molecular thin films for integration in devices.
 - Evaluation of the singlet exciton fission and triplet exciton fusion efficiency in molecular thin films.
- **(Non-Academic) Senior Researcher** (Feb 2020 – Sept 2021)
Sharp Laboratories of Europe Ltd – Oxford, UK
R&D of (Colloidal) Quantum Dot LEDs for Display Applications.
 - Developed a high-yield and cost-efficient photolithographic method for the fabrication of QD LEDs.
 - Filed 4 patent applications: 1 patent granted, 2 published under examination, 1 pending publication.
 - Lab manager: staff supervision, new user training, risk-assessments, maintenance.
- **Postdoctoral Researcher** (Oct 2017 – Jan 2020)
University College London (UCL), Dept. of Physics and Astronomy – London, UK
 - Funded by the EPSRC project “Multi-functional Polymer LEDs with Visible Light Communications” (MARVEL, EP/P006280/1). Advisor: Professor F. Cacialli.
 - Materials photo-physical evaluation, OLED fabrication, characterization, and VLC-link prototyping.
 - Demonstrated world record VLC transmission rates using solution processed OLEDs.
 - Lab manager: staff & students lab supervision, new user training, risk-assessments, maintenance.
- **Marie Skłodowska-Curie Trainee** (Oct 2014 – Sept 2017)
London Centre for Nanotechnology (LCN-UCL) – London, UK
 - Early Stage Researcher (ESR) in the Marie Skłodowska-Curie ITN for “Organic Semiconductors for NIR Optoelectronics” (OSNIRO, 607585). Advisor: Professor F. Cacialli.
 - Demonstrated unprecedented efficiencies from NIR OLEDs based on novel fluorescent emitters.
 - Training secondments at
 - o May-Jun 2015: TU/e, Eindhoven, NE - Organic solar cell fabrication/characterization;
 - o Mar 2016: Siemens AG, Erlangen, DE - Organic photodetector fabrication/characterization;
 - o Dec 2016: FAU, Erlangen, DE - Photoinduced absorption spectroscopy.
- **PhD candidate in Materials Science and Engineering** (Jan 2012 – Dec 2014)
Università degli Studi di Padova, Dipartimento di Scienze Chimiche – Padova, IT
 - Supervisors: Professor R. Signorini and Professor R. Bozio.
 - Thesis: “Characterization of CdSe-Cd_xZn_{1-x}S core-shell quantum dots as active materials for compact micro-cavity lasers”.
 - Demonstration that Raman spectroscopy can be used to detect structural defects in colloidal QDs.
 - Development of a new photo-physical kinetic model for the light emission of QDs.

GRANTS & PROJECT ACTIVITY

- Grant awarded @ UNIMIB: P.I. of the project “*Singlet exCItOn fission in crysTalline moLecuLAr thin films for enhanced silicon photovoltaics*” (SCINTILLA, project 2022SCWMT2) – PRIN 2022, funded by the Italian Ministry of University and Research. **Expected kick-off in Jan 2024.**
- 2017-2020, @ UCL: Research associate in the UK EPSRC project “*Multi-functional Polymer LEDs with Visible Light Communications*” (MARVEL, project EP/P006280/1). Unit leader: Prof. F. Cacialli.
- 2015-2017, @ UCL: Early stage researcher (ESR) in the Marie Skłodowska-Curie ITN “*Organic Semiconductors for NIR Optoelectronics*” (OSNIRO, 607585). Unit leader: Prof. F. Cacialli.
- 2014, @ UNIPD: Participant (PhD student) in the PRIN 2012 *Nuovi aspetti del trasferimento di energia risonante in mezzi organizzati: effetti dinamici e controllo ottico* (project 2012T9XHH7). P.I.: Prof. R. Bozio.

ACADEMIC TRACK RECORD

- In January 2022, he obtained the “**Abilitazione Scientifica**” for the position of **Associate Professor in the disciplinary field 02/B1 - Experimental physics of matter.**
- Publications and metrics (*full list attached below*):
 - Google Scholar: <https://scholar.google.com/citations?user=W0zdA58AAAAJ&hl=en&oi=ao>
 - ORCID: <https://orcid.org/0000-0002-6731-3162>
 - Scopus: <https://www.scopus.com/authid/detail.uri?authorId=55840747800>
 - **Top journals (IF > 15): Advanced Materials, Advanced Functional Materials, Light:Science & Applications (x2), ACS Nano, Angewandte Chemie.**
- **Invited editorial in Nature Photonics (2022 IF = 35):** “News & Views”, Nat. Photon. 16, 812 (2022).
- Reviewer for: Nature Photonics (Springer Nature); Light: Science & Applications (Springer Nature); Journal of Materials Chemistry C (RSC), Journal of Luminescence (Elsevier).
- Presenter at international conferences/schools (9 orals + 8 posters, 1 invited, *full list attached below*).

TEACHING EXPERIENCE

- **Teacher – Materials Science and Nanotechnology MSc** (starting in Sep 2023)
University of Milano-Bicocca, Dept. of Materials Science – Milan, IT
Will teach a 40 hours/year module of the “Physics of Soft Matter Nanostructures” course (40 hours/year).
- **Laboratory teacher – Materials Science BSc** (Sep 2022 – Present)
University of Milano-Bicocca, Dept. of Materials Science – Milan, IT
Teaching the “Laboratory of Physics I” course (40 hours/year).
- **Laboratory teacher – Optics and Optometry BSc** (Nov 2021 – Present)
University of Milano-Bicocca, Dept. of Materials Science – Milan, IT
Teaching the laboratory module of “Geometric and Ophthalmic Optics and Laboratory” (24 hours/year).
- **Thesis supervisor** (Dec 2021 – Present)
University of Milano-Bicocca, Dept. of Materials Science – Milan, IT
Supervision of 3 students during their thesis project.
 - Riccardo Ribolzi (Materials Science BSc – co-supervisor): “Crescita e proprietà ottiche di film sottili di un benzotriazololo sostituito”, 2021-2022.
 - Matteo Paoluzzi (Materials Science BSc – co-supervisor): “Crescita e proprietà ottiche di film sottili di materiali molecolari organici”, 2022-2023 (ongoing).
 - Ilaria Lameri (Physics MSc – co-supervisor): “Crescita e studio della fotofisica di film sottili molecolari organici per “singlet fission”, 2023-2024 (starting in July 2023).
- **Marker and thesis supervisor** (Oct 2015 – Sep 2019)
University College London (UCL), Dept. of Physics and Astronomy – London, UK
Supervision of 6 students during their thesis project. For UCL students, supervision included also marking of progress reports, research essays, thesis, and final oral presentations.
 - Luis Aurnhammer (Physics MSc – co-supervisor): “Photophysical Properties of Near-infrared Porphyrin Oligomers”, 2015-2017 (part-time student).

- Simone Poddi (guest student from Politecnico di Torino, Electrical Engineering MSc – UCL advisor and laboratory supervisor): “Fabrication and characterization of organic light-emitting diodes based on aggregation-induced emission fluorophores”, 2016-2017;
 - o 1 paper from this thesis: Baysec, Poddi, Minotto et al. *Science China Chemistry* 61, 932–939 (2018).
- Peter Aruffo (Physics MSci – co-supervisor): “Flexible all-polymer microcavities”, 2017-2018.
- Adil Patel (Physics MSc – co-supervisor): “Time-correlated single photon counting of radiative decay of organic semiconductors and other related nanostructures”, 2018-2019;
 - o 1 paper from this thesis: Royakkers, Patel, Minotto et al. *J. Org. Chem.* 85, 207–214 (2020).
- Ali Khaled Saad Zaghoulou Hassan (Physics MSc – co-supervisor): “Optoelectronic characterization of novel encapsulated conjugated polymers”, 2018-2019;
 - o 1 paper from this thesis: Royakkers, Hassan, Minotto et al. *Chem. Mater.* 32, 10140–10145 (2020).
- Isaac Squires (Physics MSc – co-supervisor): “Excitonic solar cells and photovoltaic processes in organic semiconductors”, 2018-2019.

- **Laboratory assistant – Laurea magistrale in Scienze dei Materiali (Oct 2012 – Jun 2014)**
Università degli Studi di Padova, Dipartimento di Scienze Chimiche – Padova, IT

Training and assistance of Materials Science master students during the “Materials preparation and characterization” teaching lab course (25 hours/year).

- **Tutor – Lauree Triennali in Scienza dei Materiali e Chimica (Oct 2012 – Jun 2014)**
Università degli Studi di Padova, Dipartimento di Scienze Chimiche – Padova, IT

Support to students attending the “Mathematics I” (Mathematical analysis) and “Physics I” (Classical mechanics) courses by organising group sessions of problem-solving tutorials (25 hours/year).

OTHER ACADEMIC ROLES

- May 2023 – present: Member of the panel for the selection procedures for curricular teaching & tutoring activities at the Department of Materials Science for the academic year 2023/2024.
- Sep 2022 – present: member of the committee for prospective Material Science and Nanotechnology student orientation activities (including presentations and demonstrations at university/faculty open days, high schools).
- Mar 2022: PhD external examiner:
 - PhD Candidate: Liliana Moscardi. Degree of Doctor of Philosophy in Physics. Politecnico di Milano.
Thesis Title: “Metal oxide nanoparticles based distributed Bragg reflectors for electro and bacterial-chromism”.

EDUCATION

- **Dottorato di Ricerca in Scienza ed Ingegneria dei Materiali (2012 – 2014)**
Università degli Studi di Padova, Dipartimento di Scienze Chimiche – Padova, IT

- **Laurea Magistrale in Scienza dei Materiali (2009 – 2011)**
Università degli Studi di Padova / 6-month Erasmus at Aarhus University (Denmark)
Grade: 110/110 cum laude

- **Laurea Triennale in Scienza dei Materiali (2005 – 2009)**
Università degli Studi di Padova

- **Additional advanced courses & workshops**

As ESR (organised and/or funded the OSNIRO network):

- 25-26 Sep 2014: Chalmers Uni, Gothenburg, SE - Synthesis & Characterization of Conjugated Materials for NIR Applications;
- 24-26 Feb 2015: Berlin, DE - 7th European Short Course on Time-resolved Microscopy and Correlation Spectroscopy;
- 24 Apr 2015: Siemens AG, Erlangen, DE - Academia meets Industry: Similarities & Differences;
- 1 Mar 2016: UCL, London, UK - From Intellectual Property Protection to Technology Transfer with the Aid of Venture Capital;
- 13-15 Mar 2017: Wuppertal, DE - Conference Presentation: Communicating with Confidence & Accuracy // Academic Writing.

As RTDa:

- 21-22 Jun 2022: UNIMIB, Milan, IT - “Didattica per la grande aula” course, organised by the University of Milano-Bicocca.

SKILLS & LANGUAGES

- **Crystalline thin film growth & treatment:** Organic Molecular Beam Epitaxy, substrate transfer.
- **Spectroscopy:** Uv-Vis-NIR (transmission/reflectance), polarization spectroscopy, diffuse transmission and reflectance, FTIR, Raman, SERS, steady-state and transient absorption/photoluminescence.
- **Microscopy:** AFM, optical microscopes (fluorescence confocal mode, optical profilometry), SEM.
- **Device fabrication:** Thin film deposition via solution processing (spin, blade, spray coating) and vacuum processing (thermal evaporation of molecular and metallic thin films), cleanroom-based fabrication tools and techniques (substrate treatments, photolithography).

- **Device characterization:** OLED and QD-LED (steady-state and transient electroluminescence, IV, efficiency, stability), solar cells (IV, efficiency).
- **IT:** macOS, Windows, Linux, MATLAB, Origin, LabVIEW, Office, image processing packages (including Adobe, Inkscape, Gwyddion).
- **Languages:** Italian (native), English (fluent, written and spoken).

PUBLICATIONS

(H-INDEX = 15, CITATIONS = 1130 / 927 (Google Scholar / Scopus, as of 24/07/2023))

1. F. Todescato, **A. Minotto**, R. Signorini, J.J. Jasieniak, R. Bozio
"Investigation into the Heterostructure Interface of CdSe-Based Core-Shell Quantum Dots Using Surface-Enhanced Raman Spectroscopy"
ACS Nano 7, 6649–6657 (2013) – <https://doi.org/10.1021/nn402022z> - IF = 17.1 (2022)
2. **A. Minotto**, F. Todescato, I. Fortunati, R. Signorini, J.J. Jasieniak, R. Bozio
"Role of Core-Shell Interfaces on Exciton Recombination in CdSe-CdxZn1-x S Quantum Dots"
Journal of Physical Chemistry C 118, 24117–24126 (2014) – <https://doi.org/10.1021/jp506778n> - IF = 3.7 (2022)
3. **A. Minotto**, F. Todescato, R. Signorini, J.J. Jasieniak, R. Bozio
"Influence of core-shell interfaces on exciton and multi-exciton dynamics of CdSe-CdxZn1-xS quantum dots"
Proc. SPIE 9161, Nanophotonic Materials XI, 916103 (2014) – [Proceeding](#)
4. A. Zampetti, **A. Minotto**, F. Cacialli, A.G. Rodríguez, S. Allard, U. Scherf
"Low-gap polymers incorporating a dicarboxylic imide moiety for near-infrared polymer light-emitting diodes"
IEEE International Conference on Environment and Electrical Engineering (2015) – [Proceeding](#)
5. M. Righetto, **A. Minotto**, R. Bozio
"Exciton and multi-exciton dynamics in CdSe/Cd1-xZnxS quantum dots"
Proc. SPIE 9884, Nanophotonics VI, 988421 (2016) – [Proceeding](#)
6. **REVIEW** - F. Todescato, I. Fortunati, **A. Minotto**, R. Signorini, J.J. Jasieniak, R. Bozio
"Engineering of Semiconductor Nanocrystals for Light Emitting Applications"
Materials 9, 672 (2016) – <https://doi.org/10.3390/ma9080672> - IF = 3.4 (2022)
7. D.M.E. Freeman, **A. Minotto**, W. Duffy, K.J. Fallon, I. McCulloch, F. Cacialli, H. Bronstein
"Highly red-shifted NIR emission from a novel anthracene conjugated polymer backbone containing Pt (II) porphyrins"
Polymer Chemistry 7, 722-730 (2016) – <https://doi.org/10.1039/C5PY01473E> - IF = 4.6 (2022)
8. (P. Murto, **A. Minotto**)*, A. Zampetti, X. Xu, M.R. Andersson, F. Cacialli, E. Wang
"Triazolobenzothiadiazole-based Copolymers for Polymer Light-Emitting Diodes: Pure Near-Infrared Emission via Optimized Energy and Charge Transfer"
Advanced Optical Materials 4, 2068 (2016) – <https://doi.org/10.1002/adom.201600483> - IF = 9.0 (2022)
9. M. Righetto, **A. Minotto**, R. Bozio
"Bridging Energetics and Dynamics of Exciton Trapping in Core-Shell Quantum Dots"
Journal of Physical Chemistry C 121, 896 (2017) – <https://doi.org/10.1021/acs.jpcc.6b10146> - IF = 3.7 (2022)
10. A. Zampetti, **A. Minotto**, B.M. Squeo, V. G. Gregoriou, S. Allard, U. Scherf, C.L. Chochos, F. Cacialli
"Highly Efficient Solid-State Near-infrared Organic Light-Emitting Diodes incorporating A-D-A Dyes based on unsubstituted "BODIPY" Moieties"
Scientific reports 7, 1611 (2017) – <https://doi.org/10.1038/s41598-017-01785-2> - IF = 4.6 (2022)
11. R. Bozio, M. Righetto, **A. Minotto**
"Effects of surface and interface traps on exciton and multi-exciton dynamics in core/shell quantum dots"
Proc. SPIE 10348, Physical Chemistry of Semiconductor Materials and Interfaces XVI; (2017) [Proceeding](#)
12. (**A. Minotto**, P. Murto)* at al.
"Efficient Near-Infrared Electroluminescence at 840 nm with "Metal-Free" Small-Molecule: Polymer Blends"
Advanced Materials 30, 1706584 (2018) – <https://doi.org/10.1002/adma.201706584> - IF = 29.4 (2022)
13. S. Baysec, **A. Minotto**, P. Klein, S. Poddi, A. Zampetti, S. Allard, F. Cacialli, U. Scherf
"Tetraphenylethylene-BODIPY aggregation-induced emission luminogens for near-infrared polymer light-emitting diodes"
Science China Chemistry 61, 932 (2018) – <https://doi.org/10.1007/s11426-018-9306-2> - IF = 9.6 (2022)
14. V. Robbiano, S. Surdo, **A. Minotto**, et al.
"C-Si hybrid photonic structures by full infiltration of conjugated polymers into porous silicon rugate filters"
Nanomaterials and Nanotechnology, 8, 1 (2018) – <https://doi.org/10.1177/1847980418788404> - IF = 3.7 (2022)
15. **REVIEW** - (A. Zampetti, **A. Minotto**)*, F. Cacialli
"Near-Infrared (NIR) Organic Light-Emitting Diodes (OLEDs): Challenges and Opportunities"
Advanced Functional Materials 29, 1807623 (2019) – <https://doi.org/10.1002/adfm.201807623> - IF = 19 (2022)
16. A. Burton, **A. Minotto**, P. A. Haigh, Z. Ghassemlooy, F. Cacialli, I. Darwazeh, H. Le Minh
"Optoelectronic Modelling, Circuit Design and Modulation for Polymer-Light Emitting Diodes for Visible Light Communication Systems"
International Conference on Telecommunications (2019) – [Proceeding](#)
17. P. A. Haigh, **A. Minotto**, et al.
"Experimental Demonstration of Staggered CAP Modulation for Low Bandwidth red-emitting Polymer-LED based Visible Light Communications"
IEEE International Conference on Communications Workshops (2019) – [Proceeding](#)
18. P. A. Haigh, P. Chvojka, **A. Minotto**, et al.
"Hybrid Super-Nyquist CAP Modulation based VLC with Low Bandwidth Polymer LEDs"
IEEE Annual International Symposium on Personal, Indoor and Mobile Radio Communications (2019) – [Proceeding](#)
19. M. Zheng, F. Lamberti, L. Franco, E. Collini, I. Fortunati, G. Bottaro, G. Daniel, R. Sorrentino, **A. Minotto**, et al.
"A film-forming graphene/diketopyrrolopyrrole covalent hybrid with far-red optical features: Evidence of photo-stability"
Synthetic Metals 258, 116201 (2019) – <https://doi.org/10.1016/j.synthmet.2019.116201> - IF = 4.4 (2022)

20. P. A. Haigh, P. Chvojka, **A. Minotto** et al.
"Strategies for organic VLC: Effects of clipping on the performance of multi-band CAP modulation with polymer-based light-emitting diodes"
European Conference on Optical Communication (2019), [Proceeding](#)
21. **A. Minotto**, P. A. Haigh, Ł. Łukasiewicz, E. Lunedei, D. T. Gryko, I. Darwazeh, F. Cacialli
"Visible Light Communications with Efficient Far-Red/Near-infrared Polymer Light-emitting Diodes"
Light: Science & Applications 9, 70 (2020) – <https://doi.org/10.1038/s41377-020-0314-z> - IF = 19.4 (2022)
22. G. Albano, L. A. Aronica, **A. Minotto**, F. Cacialli, L. Di Bari
"Chiral oligothiophenes with remarkable circularly polarized luminescence and electroluminescence in thin films"
Chemistry – A European Journal 26, 16662 (2020) – <https://doi.org/10.1002/chem.202003547> - IF = 4.3 (2022)
23. J. Royakkers, **A. Minotto**, D. Congrave, W. Zeng, A. Hassan, A. Leventis, F. Cacialli, H. Bronstein
"Suppressing Solid-State Quenching in Red Emitting Conjugated Polymers"
Chemistry of Materials 32, 10140 (2020) – <https://doi.org/10.1021/acs.chemmater.0c03604> - IF = 8.6 (2022)
24. P. Chvojka, P. A. Haigh, **A. Minotto** et al
"Expanded Multiband Super-Nyquist CAP Modulation for Highly Bandlimited Organic Visible Light Communications"
IEEE Systems Journal 14, 2544-2550 (2020) – <https://doi.org/10.1109/JSYST.2019.2939026> - IF = 4.4 (2022)
25. J. Royakkers, **A. Minotto**, et al.
"Doubly Encapsulated Perylene Diimides: Effect of Molecular Encapsulation on Photophysical Properties"
The Journal of Organic Chemistry 85, 207-214 (2020) – <https://doi.org/10.1021/acs.joc.9b02597> - IF = 3.6 (2022)
26. **A. Minotto**, I. Bulut, A. G. Rapidis, G. Carnicella, M. Patrini, E. Lunedei, H. L. Anderson, F. Cacialli
"Towards efficient near-infrared fluorescence"
Light: Science & Applications 10, 18 (2021) – <https://doi.org/10.1038/s41377-020-00456-8> - IF = 19.4 (2022)
27. J. Shaikh, D. Congrave, A. Forster, **A. Minotto**, et al.
"Intrinsic photogeneration of long-lived charges in a donor-orthogonal acceptor conjugated polymer"
Chemical Science 12, 8165-8177 (2021) – <https://doi.org/10.1039/D1SC00919B> - IF = 8.4 (2022)
28. REVIEW - K. Guo, M. Righetto, **A. Minotto**, A. Zampetti, F. Cacialli
"Non-toxic Non-toxic near-infrared light-emitting diodes"
iScience 24, 102545 (2021) – <https://doi.org/10.1016/j.isci.2021.102545> - IF = 5.8 (2022)
29. Z. Chen, V. Robbiano, G. M. Paternò, G. Carnicella, A. Debrassi, A. A. La Mattina, S. Mariani, **A. Minotto** et al.
"Nanoscale Photoluminescence Manipulation in Monolithic Porous Silicon Oxide Microcavity Coated with Rhodamine-Labeled Polyelectrolyte via Electrostatic Nanoassembling"
Advanced Optical Materials 9, 2100036 (2021) – <https://doi.org/10.1002/adom.202100036> - IF = 9.0 (2022)
30. J. Royakkers, K. Guo, D. T. W. Toolan, L. Feng, **A. Minotto** et al.
"Molecular Encapsulation of Naphthalene Diimide (NDI) Based π -Conjugated Polymers: A Tool for Understanding Photoluminescence"
Angewandte Chemie 60, 25005-25012 (2021) – <https://doi.org/10.1002/adom.202100036> - IF = 16.6 (2022)
31. G. F. Cotella, A. Bonasera, G. Carnicella, **A. Minotto**, S. Hecht, F. Cacialli
"Diarylethenes in Optically Switchable Organic Light-Emitting Diodes: Direct Investigation of the Reversible Charge Carrier Trapping Process"
Advanced Optical Materials 10, 2101116 (2022) – <https://doi.org/10.1002/adom.202101116> - IF = 9.0 (2022)
32. L. Tejerina, A. G. Rapidis, M. Rickhaus, P. Murto, Z. Genene, E. Wang, **A. Minotto**, H. L. Anderson, F. Cacialli
"A porphyrin pentamer as a bright emitter for NIR OLEDs"
Journal of Materials Chemistry C 10, 5929-5933 (2022) – <https://doi.org/10.1039/D1TC05951C> - IF = 6.4 (2022)
33. INVITED EDITORIAL IN NATURE PHOTONICS ("News & Views" section):
A. Minotto
"Efficient emitters in the NIR-II window"
Nature Photonics 16, 812–813 (2022) – <https://doi.org/10.1038/s41566-022-01109-5> - IF = 35.0 (2022)
34. A. Pancaldi, L. Raimondo, **A. Minotto**, A. Sassella
"Post-Growth Dynamics and Growth Modeling of Organic Semiconductor Thin Films"
Langmuir 39, 3266-3272 (2023) – <https://doi.org/10.1021/acs.langmuir.2c03066> - IF = 3.9 (2022)

Granted patents & published patent applications

35. **A. Minotto**, V. Berryman-Bousquet
"Light-emitting device including mixtures of different quantum dots"
US Patent 11,653,514 B2 (filed on May 18, 2021 // granted on May 16, 2023)
36. **A. Minotto**, A. Zampetti, V. Berryman-Bousquet
"Photo-lithographed array of light-emitting and light-converting devices"
US Patent Application 17/377,655 (filed on Jul 16, 2021 // published on Jan 19, 2023: US 2023/0018862 A1)
37. H. Hopkin, V. Berryman-Bousquet, A. Kay, A. Yudin, **A. Minotto**
"Uv-patterned conductive polymer electrode for qled"
US Patent Application 17/390,246 (filed on Jul 30, 2021 // published on Feb 2, 2023: US 2023/0037057 A1)

* These authors contributed equally

Works/proposals under review/in preparation

- 1 filed patent application, awaiting publication.
- 2 research articles on singlet exciton fission in rubrene crystalline thin films in preparation.
- 1 proposal submitted (PRIN PNRR 2022, as participant) – awaiting for results.

CONFERENCES (AS OF 24/07/2023)

1. POSTER: CFN Summer School on Nanophotonics, 10-13/09/2012 (Bad Herrenalb, Germany),
“CdSe/Cd_xZn_{1-x}S graded QDs: influence of the outer shell on the optical properties”
2. POSTER: NANOTECHITALY2013, 27-28/11/2013 (Venezia, Italy),
“SERS Investigation on CdSe Based Core-Shell Quantum Dots Interfaces”
3. POSTER: QD2014, 8th International conference on quantum dots, 11-16/5/2014 (Pisa, Italy),
“The effect of core-shell interfaces on the optical properties of CdSe-Cd_xZn_{1-x}S quantum dots”
4. ORAL PRESENTATION: SPIE Optics + Photonics - Nanophotonic Materials XI, 17-21/8/2014 (San Diego, USA),
“Influence of core-shell interfaces on exciton and multi-exciton dynamics of CdSe-CdZnS quantum dots”
5. POSTER: ECME, 13th European Conference of Molecular Electronics, 1-5/9/2015 (Strasbourg, France),
“Polyanthracene-porphyrin complexes as active materials for novel NIR-OLEDs”
6. ORAL PRESENTATION: The Rank Prize Funds: Symposium on Exciton Processes in Molecular Materials, 21-24/9/2015 (Grasmere, UK),
“Near-infrared (NIR) OLEDs: challenges and opportunities”
7. POSTER: London Polymer Meeting, 13/4/2016 (London, UK)
“Efficient NIR OLEDs based on metal-free low-gap moieties”
8. ORAL PRESENTATION: ITN OSNIRO workshop, 27-28/9/2016 (Eindhoven, NL)
“Approaches for increasing OLEDs efficiency”
9. ORAL PRESENTATION (INVITED): International School “Optical characterization of photonic structures” – ETN Marie-Curie Synchronics, 6-8/6/2017 (Pisa, IT)
“Organic Near-infrared LEDs”
10. ORAL PRESENTATION: OP 2017 The 12th International Conference on Optical Probes of Organic and Hybrid Semiconductors 19-23/6/2017 (Quebec City, CAN)
“Efficient Near-infrared Polymer LEDs based on Porphyrin Oligomers”
11. ORAL PRESENTATION: E-MRS 2017 - Fall meeting, 18-21/9/2017 (Warsaw, PL)
“Efficient near-infrared polymer LEDs based on a “heavy-metal-free” active layer”
12. ORAL PRESENTATION: E-MRS 2018 - Spring meeting, 18-22/6/2018 (Strasbourg, FR)
“AIE luminogens for polymer light-emitting diodes”
13. POSTER: London Light Showcase – King’s College, 16/1/2019 (London, UK)
“Porphyrin Hexamers as Highly Efficient Near-Infrared Emitters for Polymer Light-Emitting Diodes”
14. ORAL PRESENTATION: OP 2019, The 13th International Conference on Optical Probes of Organic and Hybrid Optoelectronic Materials and Applications, 7-12/7/2019 (Vilnius, LT)
“Efficient Far-red/Near-infrared Polymer Light-emitting Diodes Incorporating a Diketopyrrolopyrrole Derivative”
15. POSTER (x2): IPOE 2022, 3rd International Conference on Interface Properties In organic and Hybrid Electronic: Perspectives & Key Challenges, 13-16/6/2022 (Malaga, ES)
 - a. “Unveiling the robustness of porphyrin crystalline nanowires towards aggressive chemicals”
 - b. “Tuning the Growth of Metallo-Porphyrin Nanostructures”
16. ORAL PRESENTATION: ICOE 2023, 16th edition of the International Conference on Organic Electronics, 3-7/7/2023 (Madrid, ES)
“Singlet Exciton Fission as a Probe of the Amorphous-to-Crystal Transition in Rubrene Thin Films”