

CURRICULUM VITAE

Name **JESSICA GROPPI, PhD**
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RESEARCH AND TEACHING EXPERIENCE

- Dates (Start - End) 01/12/2021 -
- Employer **Consiglio Nazionale delle Ricerche** – Istituto per la Sintesi Organica e Fotoreattività (Bologna, IT).
- Role **Researcher** – III level tier 2 permanent position. ID code 20906.
- Supervision and Mentoring
 - Co-supervisor** of PhD student Francesco D’Avino (Università di Bologna), Project “Design, synthesis and characterization of (supra)molecular species for the development of functional devices and materials.” (a.a. 2025-2028)
 - Supervisor** of summer internship Bachelor student Christian Matrella (Univeristà di Bologna) Project “Synthesis and characterization of spiropyran functionalized lipids for the development of photoactive liposomal nanoparticles.” (2025)
 - Co-supervisor** of Erasmus Master student Gabriel Dutront (Université Catholique de Louvain), Project “Synthesis and characterization of pH responsive [2]rotaxanes.” (a.a. 2024-2025)
 - Supervisor** of graduate student (A.d.R) Francesco D’Avino within the framework of the PRIN 2022 Project “Photoactivated Cancer Therapy in Controlled Microenvironment” (2024-2025)
 - Co-supervisor** of Master student Dalila Cafagno, Project “Preliminary studies for a new generation of artificial muscles: synthesis of a [c2]daisy chain model and characterization into a polymeric matrix.” (a.a. 2021-2022)
- Dates (Start - End) 01/10/2019 –
- Employer **Alma Mater Studiorum Università di Bologna** – Dipartimento di Scienze e Tecnologie Agro-Alimentari (Bologna, IT).
- Role **Teaching Assistant** – Undergraduate courses: Tecnologie per il Territorio e l’ambiente Agro-Forestale (5831) and Produzioni Animali (8882). Teaching Course: Chemistry.
- Dates (Start - End) 01/10/2018 – 30/11/2021
- Employer **Consiglio Nazionale delle Ricerche** – Istituto per la Sintesi Organica e Fotoreattività (Bologna, IT).
- Role **Senior Postdoctoral Research Fellow** Project MAGNIFY (Grant Agreement No 801378), P.I.: Prof. Alberto Credi.
- Supervision and Mentoring
 - Co-Supervisor** of the Erasmus visiting Student Sofia Della Sala from Glasgow University, Project: “Synthesis of Crown Ether Derivatives for the Construction of Molecular Machines”. (a.a. 2019-2020)
 - Co-Supervisor** of undergraduate student Dario Pederzoli, Project: “Sintesi di Composti Supramolecolari Daisy Chain”. (a.a. 2018-2019)
- Dates (Start - End) 01/10/2016 – 30/09/2018.
- Employer **Alma Mater Studiorum Università di Bologna** – Dipartimento di Scienze e Tecnologie

<ul style="list-style-type: none"> • Role 	<p>Agro-Alimentari (Bologna, IT).</p> <p>Postdoctoral Research Fellow Project “LEAPS” (Grant Agreement No 692981), P.I.: Prof. Alberto Credi.</p>
<ul style="list-style-type: none"> • Supervision and Mentoring 	<p>Supervision of the Research Activity in the Laboratory of Master student Chiara Taticchi, Project “Studio della stabilità di pseudorotassani fotoattivi come prototipi di pompe molecolari”. (a.a. 2018-2019)</p>
<ul style="list-style-type: none"> • Dates (Start - End) • Employer • Role 	<p>05/10/2015 – 04/04/2016.</p> <p>Queen Mary University of London – School of Biological and Chemical Sciences (London, UK).</p> <p>Technical Teaching Assistant</p>
<ul style="list-style-type: none"> • Dates (Start - End) • Employer • Role 	<p>07/01/2012 - 31/03/2015</p> <p>Queen Mary University of London – School of Biological and Chemical Sciences (London, UK).</p> <p>Laboratory Demonstrator</p>
EDUCATION	
<ul style="list-style-type: none"> • Dates (Start - End) • Qualification 	<p>01/10/2011 - 31/03/2016</p> <p>Queen Mary University of London – School of Biological and Chemical Sciences (London, UK).</p> <p>PhD in Chemistry. (Diploma 00013288. 31/03/2016). Project “BIOENERGY”. Thesis Title: “Toward the Control of the Partial Covalent Modification of Glassy Carbon Surfaces”; Supervisor: Prof. Jeremy D. Kilburn, CO-Supervisor: Prof. Philip N. Bartlett.</p>
<ul style="list-style-type: none"> • Dates (Start - End) • Qualification 	<p>15/06/2011 – 20/06/2011</p> <p>Università degli Studi di Parma.</p> <p>Chartered Chemist (Num. Reg.: ES2011017050000000i7).</p>
<ul style="list-style-type: none"> • Dates (Start - End) • Qualification 	<p>01/11/2008 - 22/10/2010</p> <p>Università degli Studi di Parma</p> <p>Master’s degree in chemistry. Specialization: Organic Chemistry (Diploma n° 7493, 25/01/2011). Thesis Title: “Sintesi di sali di dialchilammonio e loro complessi con derivati calix[6]arenici”. Supervisor: Prof. Arturo Arduini , Co-Supervisor: Prof. Andrea Secchi.</p>
<ul style="list-style-type: none"> • Dates (Start - End) • Qualification 	<p>01/10/2005 - 24/10/2008</p> <p>Università degli Studi di Parma</p> <p>Bachelor’s degree in chemical sciences and technologies. (Diploma n° 10923, 22/12/2008). Thesis Title: “Sintesi di derivati calixarenici per la costruzione di dispositivi molecolari”, Supervisor: Prof. Arturo Arduini, Co-Supervisor: Prof. Andrea Secchi</p>
GRANTS & PRIZES	
	<p>2024 - RSC Research Grant. Funded by Royal Society of Chemistry (GB)</p> <p>2023 - PRIN 2022 (Projects of Relevant National Interest) funded by Ministero dell’Università e Ricerca (IT).</p> <p>2023 - Short Term Mobility Grant funded by Consiglio Nazionale delle Ricerche (IT) to carry out research activities in cooperation with foreign Universities and Research Institutions of clear international standing. The grant covered a three-weeks research visit to Institut Charles Sandron (CNRS) in the group of Prof. Nicolas Giuseppone, September-October 2023, Strasbourg, FR.</p>

2023 - **Researcher Development and Travel Grant** Funded by Royal Society of Chemistry (GB) to attend the conference “17th International Symposium on Macrocyclic and Supramolecular Chemistry (ISMCS-2023)”, June 2023, Reykjavik, IS.

2017 - **Conference Grant from Gruppo Italiano di Fotochimica** to attend the conference “Italian Photochemistry Meeting 2017”, December 2017, Perugia, IT.

2014 - **Best Poster Prize** at the International Conference “15th Topical Meeting of the International Society of Electrochemistry: Interfacial Electrochemistry at Atomic, Molecular and Nanoscale Domains”. April 2014, Nigara Falls, CAN.

2014 - **Queen Mary University Postgraduate Research Fund** by Queen Mary University of London (UK).

RESEARCH PROJECTS

<ul style="list-style-type: none">• Dates (Start - End)• Project Name and Info• Role	2024-2025 Fine Tuning the pKa of pH Responsive [2]Rotaxanes Switches Through Design. A Systematic Study – Funded by The Royal Society of Chemistry (UK). Consiglio Nazionale delle Ricerche, Istituto per la Sintesi Organica e la Fotoreattività (ISOF), Bologna, IT PI
<ul style="list-style-type: none">• Dates (Start - End)• Project Name and Info• Role	2023 - 2026 PHOCA – Photoactivated Cancer Therapy in Controlled Microenvironment. Progetti di Ricerca di Rilevante Interesse Nazionale (PRIN) Call 2022. Funded by Ministero dell’Università e della Ricerca (IT). Consiglio Nazionale delle Ricerche, Istituto per la Sintesi Organica e la Fotoreattività (ISOF), Bologna, IT. Project Coordinator – P.I. CNR unit.
<ul style="list-style-type: none">• Dates (Start - End)• Project Name and Info• Role	2022 - 2026 ECOSISTER – Ecosystem for Sustainable Transition in Emilia-Romagna, cod. Progetto ECS_00000033 – Piano Nazionale di Ripresa e Resilienza (PNRR). Funded by the European Union (Next Generation EU) and Ministero dell’Università e della Ricerca (IT). Spoke 1: Materials For Sustainability and Ecological Transition; Spoke 4: Smart Mobility, Housing and Energy Solution for a Carbon Neutral Society; Spoke 2: Clean Energy Production, Storage and Saving. Consiglio Nazionale delle Ricerche, Istituto per la Sintesi Organica e la Fotoreattività (ISOF), Bologna, IT. Researcher
<ul style="list-style-type: none">• Dates (Start - End)• Project Name and Info• Role	2022 - 2024 ITN-ArtMoMa – Artificial Molecular Machines, finanziato da H2020-MSCA-ITN-2019 Grant (Grant Agreement No 860434), Unit P.I.: Prof. Alberto Credi. Consiglio Nazionale delle Ricerche, Istituto per la Sintesi Organica e la Fotoreattività (ISOF), Bologna, IT. Participant Contact (Project Management)
<ul style="list-style-type: none">• Dates (Start - End)• Project Name and Info• Role	2021 - 2023 MAGNIFY – From nano to Macro: a GrouNdbreakIng actuation technology For robotic sYstems, funded by H2020-FETOPEN Grant (Grant Agreement No 801378), Unit P.I.: Prof. Alberto Credi. Consiglio Nazionale delle Ricerche, Istituto per la Sintesi Organica e la Fotoreattività (ISOF), Bologna, IT. Researcher and Participant Contact (Project Management)
<ul style="list-style-type: none">• Dates (Start - End)• Project Name and Info	2018 - 2021 MAGNIFY – From nano to Macro: a GrouNdbreakIng actuation technology For robotic sYstems, funded by H2020-FETOPEN Grant (Grant Agreement No 801378), Unit P.I.: Prof. Alberto Credi. Consiglio Nazionale delle Ricerche, Istituto per la Sintesi Organica e

<ul style="list-style-type: none"> • Role 	la Fotoreattività (ISOF), Bologna, IT. Postdoctoral Research Fellow
<ul style="list-style-type: none"> • Dates (Start - End) • Project Name and Info 	2016 - 2018 LEAPS – Light Effected Autonomous PumpS, funded by ERC Advanced Grant (Grant Agreement No 692981), P.I.: Prof. Alberto Credi. Dipartimento di Scienze e Tecnologie Agro-Alimentari, Università di Bologna, Bologna, IT.
<ul style="list-style-type: none"> • Role • Dates (Start - End) • Project Name and Info 	Postdoctoral Research Fellow 2011 - 2015 ITN-BIOENERGY - Biofuel Cells: From fundamentals to applications of bioelectrochemistry” funded by FP7-PEOPLE (Grant Agreement No 607793), P.I.: Prof. Philip N. Bartlett. University of Southampton, Southampton, UK.
<ul style="list-style-type: none"> • Role 	Associate PhD Student
PUBLICATIONS	ORCID: 0000-0003-0307-9781 Scopus ID: 57050271700 <ul style="list-style-type: none"> - Andreoni, L.; Gropi, J.*; Seven, O; Baroncini, M.; Credi, A.; Silvi, S. “Directional Ring Translocation in a pH- and Redox-Driven Tristable [2]Rotaxane”, Angew. Chem. Int. Ed. 2025, 64, e202414609. DOI: 10.1002/anie.202414609. *Corresponding Author; §Hot Paper. - - Petri, E.; Gotti, C.; Gropi, J.; Liguori, A.; Silvi, S.; Credi, A.; Zucchelli, A.; Soavi, F.; Focarete, M.L.; Gualandi, C.; Arbizzani, C. “Electrochemically Responsive Nanofibers by Stimulation of a Dialky-Bipyridinium Molecular Switch”, Mat. Chem. Phys. 2024, 317, 129155. DOI: 10.1016/j.matchemphys.2024.129155 - Yerien, D.E.; Gropi, J.; Postigo, A.; Credi, A.; Conde, R.S.; Baroncini, M. “Late-Stage Photocatalytic Fluoroalkylation of Aromatic Crown Ethers in Aqueous Media”, Eur. J. Org. Chem. 2023, 27, e202300478 DOI: 10.1002/ejoc.202300478 - Andreoni, L.; Cester Bonati, F.; Gropi, J.; Balestri, D.; Cera, G.; Credi, A.; Secchi, A.; Silvi, S. “Selective enhancement of organic dye properties through encapsulation in rotaxane orientational isomers”, Chem. Commun. 2023, 59, 4970. DOI: 10.1039/D3CC01135F. - Corra, S.; Tranfic Bakic, M.; Gropi, J.; Baroncini, M.; Silvi, S.; Penocchio, E.; Esposito, M.; Credi A. “Kinetic and energetic insights in the dissipative non-equilibrium operation of an autonomous light-powered supramolecular pump”, Nat. Nanotech. 2022, 17, 746. DOI: 10.1038/s41565-022-01151-y. - Boschi, A.; Cinili, S.; Bystrenova, E.; Ruani, G.; Gropi, J.; Credi, A.; Baroncini, M.; Candini, A.; Gentili, D.; Cavallini, M. “Multimodal Sensing in Rewritable, Datamatrix Azobenzene-based Devices”, J. Mat. Chem. C 2022, 10, 10132. DOI: 10.1039/D2TC01565J. - Casimiro, L.; Andreoni, L.; Gropi, J.; Credi, A.; Métivier, R.; Silvi, S. “4.4'-dimethylazobenzene as a Chemical Actinometer”, Photochem. Photobiol. Sci. 2022, 21, 825. DOI: 10.1007/s43630-021-00162-3. - Andreoni, L.; Baroncini, M.; Gropi, J.; Silvi, S.; Taticchi C.; Credi, A. “Photochemical Energy Conversion with Artificial Molecular Machines”, Energy & Fuels 2021, 35, 18900. DOI: 10.1021/acs.energyfuels.1c02921.

- Corra, S.; Casimiro, L.; Baroncini, M.; **Gropi, J.**; La Rosa, M.; Tranfic Bakic, M.; Silvi, S.; Credi A. "Artificial Supramolecular Pumps Powered by Light", *Chem. Eur. J.* **2021**, 27, 43, 11076. DOI: [10.1002/chem.202101163](https://doi.org/10.1002/chem.202101163). §Front Cover, §Top Downloaded Paper 2021-2022
- **Gropi, J.**; Canton, M.; Casimiro, L.; Corra, S.; Baroncini, M.; Silvi, S.; Credi, A. "Second-Generation Light Fueled Supramolecular Pumps", *J. Am. Chem. Soc.* **2021**, 143, 29, 10890. DOI: [10.1021/jacs.1c06027](https://doi.org/10.1021/jacs.1c06027).
- Nicoli, F.; Baroncini, M.; Silvi, S.; **Gropi, J.***; Credi, A. "Direct Synthegyic Routes to Functionalised Crown Ethers", *Org. Chem. Front.* **2021**, 8, 19, 5531. DOI: [10.1039/D1QO00699A](https://doi.org/10.1039/D1QO00699A) *Corresponding Author.
- **Gropi, J.**; Casimiro, L.; Canton, M.; Corra, S.; Jafari-Nasab, M.; Tabacchi, G.; Cavallo, L.; Baroncini, M.; Silvi, S.; Fois, E.; Credi, A. "Precision Molecular Threading/Dethreading", *Angew. Chem. Int. Ed.* **2020**, 59, 14825. DOI: [10.1002/anie.202003064](https://doi.org/10.1002/anie.202003064).
- **Gropi, J.**; Baroncini, M.; Venturi, M.; Silvi, S.; Credi, A. "Design of photo-activated molecular machines: highlights from the past ten years", *Chem. Commun.* **2019**, 55, 12595. DOI: [10.1039/C9CC06516D](https://doi.org/10.1039/C9CC06516D).
- Corra, S.; de Vet, C.; **Gropi, J.**; La Rosa, M.; Silvi, S.; Baroncini, M.; Credi, A. "Chemical on/off switching of mechanically planar chirality and chiral anion recognition in a [2]rotaxane molecular shuttle", *J. Am. Chem. Soc.* **2019**, 141, 23, 9129. DOI: [10.1021/jacs.9b00941](https://doi.org/10.1021/jacs.9b00941).
- Baroncini, M.; **Gropi, J.**; Corrà, S.; Silvi, S.; Credi, A. "Light responsive (supra)molecular architectures: recent advances" *Adv. Optical Mater.* **2019**, 7, 1900382. DOI: [10.1002/adom.201900392](https://doi.org/10.1002/adom.201900392).
- Vialetto, J.; **Gropi, J.**; La Rosa, M.; Silvi, S.; Credi, A.; Baroncini, M. "Solution and solid state photochromism in a family of shape persistent azobenzene tetramers functionalized with alkyloxy substituents", *Photochem. Photobiol. Sci.* **2019**, 18, 2281. DOI: [10.1039/c9pp00022d](https://doi.org/10.1039/c9pp00022d).
- Baroncini, M.; Canton, M.; Casimiro, L.; Corrà, S.; **Gropi, J.**; La Rosa, M.; Silvi, S., Credi, A. "Photoactive molecular-based devices, machines and materials: recent advances", *Eur. J. Inorg. Chem.* **2018**, 42, 4589. DOI: [10.1002/ejic.201800923](https://doi.org/10.1002/ejic.201800923). §Front Cover; §Very Important Paper
- Casimiro, L.; **Gropi, J.**; Baroncini, M.; La Rosa, M.; Credi, A.; Silvi, S. "Photochemical Investigation of Cyanoazobenzene Derivatives as Components of Artificial Supramolecular Pumps", *Photochem. Photobiol. Sci.* **2018**, 17, 734 – 740. DOI: [10.1039/c8pp00062j](https://doi.org/10.1039/c8pp00062j).
- Baroncini, M.; Casimiro, L.; de Vet, C.; **Gropi, J.**; Silvi, S., Credi, A. "Making and Operating Molecular Machines: A Multidisciplinary Challenge", *Chemistryopen* **2018**, 7, 169 – 179. DOI: [10.1002/open.201700181](https://doi.org/10.1002/open.201700181). §Top Downloaded Paper 2018-2019.
- Orlandini, G.; **Gropi, J.***; Secchi, A.; Arduini, A.; Kilburn, J. D. "Electrochemical Response of the Threading/de-threading Process of Calix[6]arene-based Pseudorotaxanes Anchored on Glassy Carbon Electrodes", *Electrochimica Acta* **2017**, 227, 391 – 400. DOI: [10.1016/j.electacta.2016.12.169](https://doi.org/10.1016/j.electacta.2016.12.169) *Corresponding

CONFERENCES AND PRESENTATIONS

Author

- **Gropi, J.;** Bartlett, P. N.; Kilburn, J. D. "Toward the Control of the Creation of Mixed Monolayers on Glassy Carbon Surfaces by Amine Oxidation", *Chem. Eur. J.* **2016**, 22, 1030 – 1036. DOI: [10.1002/chem.201503120](https://doi.org/10.1002/chem.201503120). §Hot Paper.

- **Gropi, J.;** Bartlett, P. N.; Kilburn, J. D. "CCDC 1439213: Experimental Crystal Structure Determination", 2016, DOI: [10.5517/ccdc.csd.cc1k9m7q](https://doi.org/10.5517/ccdc.csd.cc1k9m7q).
- **Gropi, J.;** Bartlett, P. N.; Kilburn, J. D. "CCDC 1439214: Experimental Crystal Structure Determination", 2016, DOI: [10.5517/ccdc.csd.cc1k9m8r](https://doi.org/10.5517/ccdc.csd.cc1k9m8r).
- **Gropi, J.** "Toward the Control of Partial Covalent Modification of Glassy Carbon Surfaces", Theses Collection. Editore: Queen Mary University of London (London, UK). Link: [Queen Mary University Theses Collection](https://www.theses.com/record/id/1111111)

- Supr@Paris – 3rd French Supramolecular Chemistry Congress. 15-17 May, Paris, France. (Oral Presentation)
- 17th International Symposium on Macrocyclic and Supramolecular Chemistry. 25-29 June 2023, Reykjavik, Iceland. (Poster Presentation)
- Giornate di Dipartimento DSCTM, 26-28 October 2022, Catania, Italia. (Oral Presentation)
- Mach-5: Molecular Machinery: Making, Measuring, Modelling 2022, 11-14 September 2022, Plon, Germania. (Oral Presentation, Invited Speaker)
- TSRC Molecular Motors Rotors and Switches 2022, 12-16 July 2022, Telluride (CO), USA. (Oral Presentation, Invited Speaker)
- Coffee Talk @ ISOF. 12 April 2022, Bologna, Italia. (Oral Presentation, Invited Speaker)
- Italian Photochemistry Meeting 2021. 14-15 December 2021, Torino, Italia. (Oral Presentation)
- Macrocyclic and Supramolecular Chemistry Meeting (RSC). 14-15 December 2021, On-Line Edition. (Oral Presentation)
- Supramolecular Chemistry Days for Young Researchers. 13-15 October 2021, On-Line Edition. (Oral Presentation)
- GIF² – Giornate Italiane di Fotochimica del Gruppo Italiano di Fotochimica. 23-24 September 2021, On-Line Edition. (Oral Presentation)
- 1st Women in Supramolecular Chemistry (WISC) Workshop. 6-8 September 2021, Cagliari, Italia. (Oral Presentation)
- Supra@Stras, 27 July 2021, On-Line Edition. (Poster Presentation)

- Doctoral School in Medical and Environmental Nanoscience. Università di Bologna, 25 January 2021. Lecture: "The bottom-up approach to nanotechnology: supramolecular chemistry and self-assembly" within the course: Molecular devices and machines: fundamentals and prospective applications in technology and medicine. (Invited Lecture)
- 14th International Symposium on Macrocyclic and Supramolecular Chemistry. 2-6 June 2019, Lecce, Italia. (Poster Presentation)
- XLVI Congresso Nazionale di Chimica Inorganica. 10-13 September 2018, Bologna, Italia. (Oral Presentation)
- 13th International Symposium on Macrocyclic and Supramolecular Chemistry. 8-13 July 2018, Quebec City, Canada. (Poster Presentation)
- Coffee Talk @ ISOF. 26 June 2018, Bologna, Italia. (Oral Presentation, Invited Speaker)
- Italian Photochemistry Meeting 2017. 14-16 December 2017, Perugia, Italia. (Oral Presentation)
- Gordon Research Conference: Artificial Molecular Switches & Motors. 11-16 June 2017, Perugia, Italia. (Poster Presentation)
- Bioenergy ITN Summer School. September 2014, Ile d'Oleron, Francia. (Oral Presentation)
- 15th Topical Meeting of the International Society of Electrochemistry: Interfacial Electrochemistry at Atomic, Molecular and Nanoscale Domains. 27-30 April 2014, Niagara Falls, Canada. (Poster Presentation)
- London and South-East Region Postgraduate Electrochemistry Meeting and ISE Satellite Student Regional Symposium on Electrochemistry. 4 June 2013, UCL, London, UK. (Poster Presentation)

CONFERENCES AND SEMINAR ORGANIZATION

2024: Member of the organising committee of the International Conference “MACH-5 2024 – Molecular Machinery: Making, Measuring, Modelling”, 1-4 September 2024, Bertinoro, Italy.

2023: Member of the organising committee of the ITN-ArtMoMa Spring School and the scientific workshop “Stimuli Responsive Dynamic Systems and Materials”, 17-21 April 2023, Bologna, IT.

2022: Member of the organising committee of the workshop “Center for Light Activated Nanostructures: The first five years of a joint UNIBO-CNR journey in frontier research on photochemical nanosciences”, 13 July 2022, Bologna, IT.

2018: Member of the local organising team of the “XLVI Congresso Nazionale di Chimica Inorganica” 10-13 September 2018, Bologna, IT.

2012: Staff member at the “RSC Macrocyclic and Supramolecular Chemistry Meeting”, 17-18 December 2012, Londra, UK.

AFFILIATIONS

- Royal Society of Chemistry. (2012 –)
- Gruppo Italiano di Fotochimica. (2017 –)
- European Photochemistry Association. (2017 –)
- American Chemical Society. (2014 – 2017)
- Bioelectrochemical Society. (2012 – 2016)

OUTREACH

2019: European Night of Researchers.

2016: STEM AMBASSADOR. Member of the STEMNET Network (UK). The main outreach activities carried out were:

“I’m a Scientist (2016)” organized by the Royal Society of Chemistry.

“Building Bridges (2016)” organized by the London Science Museum.