

## Curriculum Vitae

### Prof. Dr. Paolo Melchiorre

ICREA Research Professor & IC/Q Senior Group Leader  
Institute of Chemical Research of Catalonia (IC/Q), Tarragona – Spain

Date of birth: 29 May 1973 - Nationality: Italian



Web site: [http://www.iciq.org/research/research\\_group/prof-paolo-melchiorre/](http://www.iciq.org/research/research_group/prof-paolo-melchiorre/)

Researcher unique identifiers: Researcher ID: K-9301-2014 [\[link\]](#); ORCID: 0000-0001-8722-4602 [\[link\]](#)

The following list summarises the most important steps of my educational and professional career:

• MSc in Chemistry	University of Bologna (Italy)	1993-1999
• PhD in Chemical Sciences	University of Bologna	2000-2003
• Research Period at Center for Catalysis	University of Århus (DK)	2002
• Postdoctoral Fellow in Chemistry	University of Bologna	2003-2006
• Assistant Professor	University of Bologna	2007-2009

### CURRENT POSITION

Research Professor & Senior Group Leader, ICIQ – Tarragona, Spain

Sept. 2009-present

### FELLOWSHIPS, AWARDS and DISTINCTIONS

- 2007 Recipient of the “G. Ciamician” Gold Medal of the Italian Chemical Society
- 2008 Recipient of the *Liebig Lectureship* awarded by the German Chemical Society
- 2009 *Thieme Journal Prize*
- 2009 ICREA (Institutió Catalana de Recerca i Estudis Avançats) Research Professor
- 2011 *Young Talented Lecture* in the 17<sup>th</sup> European Symposium on Organic Chemistry (ESOC 2011), Crete
- 2011 *ERC Starting Grant* to carry out the 5-year project “ORGA-NAUT: Exploring Chemical Reactivity with Organocatalysis”
- 2013 *JSPS Fellowship* under the FY2013 Program for Research in Japan
- 2014 *Erdtman Lecture 2014* – October 2014, Stockholm, Sweden (presented annually to an organic chemist, worldwide)
- 2015 *Thieme Lecture* – DOMINOCAT SYMPOSIUM, Aachen, Germany
- 2016 *ERC Consolidator Grant* to carry out the 5-year project “CATA-LUX: Light-Driven Asymmetric Organocatalysis”
- 2016 Prize for Scientific Excellence from the Royal Spanish Chemical Society (RSEQ)
- 2019 “*Giorgio Modena*” Medal from the Italian Chemical Society
- 2019 *ERC Proof of Concept* to carry out the project “LIGHT-COAT” on photo-polymerisations
- 2020 Fellow of the Royal Society of Chemistry (FRSC)
- 2021 Pedler Award of the Royal Society of Chemistry (RSC) “for the development of asymmetric photocatalytic methodologies based on excited state intermediates”

### SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2007 – 2021 I have supervised and mentored a total of 29 PhD students (19 PhDs already granted), 38 postdoctoral researchers (7 presently working in my research group), and 21 visiting scientists (including Master students, visiting PhD students and visiting Professors on a 3-12-month tenure).

**Contributions to careers of early-stage researchers.** Some of my past associates have gone on to independent *academic careers*. Examples follow (*name, time, present position*): *Armando Carlone* (PhD 2005-2008) Associate Professor at University of L’Aquila, Italy; *Yankai Liu* (Marie Curie Fellow 2011-13) Assistant Professor at Ocean University, Qingdao, China; *Igor D. Jurberg* (Postdoc 2012) Assistant Professor at Campinas University, Brazil; *Indranil Chatterjee* (Postdoc 2012-2014) Professor at IIT Ropar, Punjab, India; *Xu Tian* (PhD 2010-2014) ‘Thousand Talents Fellow’ at Guangzhou Medical University, China; *Mattia Silvi* (PhD 2011-2015) Research Fellow at Nottingham University, UK; *Luca Dell’Amico* (Marie Curie Fellow 2015-2016) Associate Professor at the University of Padua, Italy; *Ana Bahamonde* (PhD 2014-2017) Assistant Professor at University of California, Riverside, USA; *Zhong-Yan Cao* (Marie Curie Fellow 2017-2018) Professor at Zhejiang University of Technology, Hangzhou, China; *Xin-Jun Tang* (Postdoc 2019-2020) Assistant Professor at China University of Geosciences, Wuhan, China; *Benjamin Laroche* (Postdoc 2019-2020) Assistant Professor at ESPCI Paris, PSL, France; *Manuel Nappi* (PhD 2011-2014) Junior Group Leader at CIQUS, Santiago de Compostela, Spain.

*Selected industry-related careers* – *Giulia Bergonzini* (PhD 2009-2013) to Astra Zeneca, Goteborg, Sweden; *Carlo Cassani* (PhD 2009-2013) to Astra Zeneca, Goteborg, Sweden; *Elena Arceo Rebollo* (Postdoc 2011-2014) to Verisk Analytics Inc, Washington, USA; *Sandeep Reddy Kandukuri* (Postdoc 2013) to Syngenta, Goa, India; *Yannick Rey* (Postdoc 2015-2017) to Merck/Sigma-Aldrich, Switzerland; *John Murphy* (Postdoc

2015-2017) to Astra Zeneca, Goteborg, Sweden; *Thomas Van Leeuwen* (Postdoc 2018) to Syncom, Groningen, Netherlands; *Luca Perego* (Postdoc 2019) to Johnson & Johnson, Schaffhausen, Switzerland; *Bertrand Schweitzer-Chaput* (Postdoc 2015-2019) and *Pablo Bonilla* (PhD 2016-2020) to Janssen, Beerse, Belgium; *Catherine Holden* (Marie Curie fellow 2018-2020) to Syngenta Crop Protection, Jealott's Hill, UK.

### TEACHING ACTIVITIES

2007 – 2009 “Organic Materials” at the Faculty of Industrial Chemistry - University of Bologna, Italy  
2013 – present “Stereoselective and Asymmetric Synthesis”, Master in Synthesis and Catalysis at the University Rovira i Virgili (URV) – Tarragona, Spain

In addition, Professor Melchiorre has delivered advanced courses dedicated to PhD students in many International Schools.

### ORGANISATION OF SCIENTIFIC MEETINGS

2018 Organiser of the *1st European Meeting of Excellence in Chemistry* (EMEC) – Vienna (Austria). Dec. 3, 2018: 30 delegates from the industrial and academic chemistry sectors  
2017 Organiser of the *Japanese-Spanish Symposium on Modern Synthetic Methodology* – Gijon (Spain). April 2017: 150 delegates (info at <http://sjmsm.iciq.es/>)  
2015 Organiser of the symposium “*Lights on Chemistry*” – ICIQ, Tarragona, October 2015: 160 delegates (info at <http://lightsonchemistry.iciq.es/>)  
Since 2019 Co-organiser of the IASOC - Ischia Advanced School of Organic Chemistry, Ischia - Italy

### INSTITUTIONAL RESPONSIBILITIES

2019 - present Associate Editor for *Chemical Science*, the flagship Royal Society of Chemistry journal  
2020 Member of the ICIQ Scientific Strategy Committee  
2019 - present Guest Editor for an upcoming (2022) special issue in Photocatalysis for *Chemical Reviews*  
2013 ICIQ Seminar Manager, in charge of the 2013 seminar program at ICIQ (info [here](#))  
2009 - present Jury member for 21 PhD theses at Spanish & international universities

### REVIEWING ACTIVITIES

2013 – now Member of the *Advanced Synthesis and Catalysis* (Wiley) Academic Advisory Board  
2013 – now Member of the International Advisory Board of *ChemCatChem* (Wiley)  
2016 – now Member of the International Advisory Board of *ChemPhotoChem* (Wiley)  
2005 – now Served as referee for the following international journals, among others: *Nature*, *Nature Chemistry*, *Angew. Chem. Int. Ed.*, *J. Am. Chem. Soc.*; *Chem. Sci.* etc.  
2018 – 2019 In 2018 and 2019, one of the top three contributing referees for ACIE (39 and 35 referee reports, respectively – personal communication from the Editorial Board).  
2017 – now Occasional scientific consultant for Janssen, Syngenta, Bayer, and Merck.  
2008 – now Evaluator of scientific proposals for different national scientific agencies, including: ERCEA; the Deutsche Forschungsgemeinschaft (DFG, Germany); the Swiss National Science Foundation (SNF, Switzerland); the National Science Foundation (NSF, USA); Agence Nationale de la Recherche (ANR, France); etc.  
2015 – now Evaluator for career promotion: University of Manchester (UK); Institute of Transformative Bio-Molecules (ITbM), Nagoya; the National University of Singapore, among others.

### MEMBERSHIPS OF SCIENTIFIC SOCIETIES

2004 Member of Società Chimica Italiana (SCI)  
2010 Member of the American Chemical Society (ACS) and Real Sociedad Española de Química  
2020 Member of the Royal Society of Chemistry (RSC)

### SCIENTIFIC EVALUATIONS

2013 & 2018 5-years ICREA Scientific Evaluations: Granted *outstanding status*  
2014 & 2019 5-years ICIQ Scientific Evaluations: Granted *excellent status*

### MAJOR COLLABORATIONS

2018 - present Scientific collaboration with Syngenta (Jealott's Hill – UK) on the design of photochemical radical cascade processes for the preparation of bio-relevant chiral molecules.  
2018 - 2019 Scientific collaboration with Bayer AG Pharmaceuticals (Wuppertal – Germany) on the development of new photoredox methodologies for amide synthesis. Part of the scientific results published in *Angew. Chem. Int. Ed.* **2020**, 59, 5248–5253 [\[link\]](#).

### LEADERSHIP in INDUSTRIAL INNOVATION or DESIGN

In 2020, he co-founded *Trellum Technologies Ltd*, a spin-off of ICIQ. *Trellum Technologies* brings together several ICIQ research groups, pooling their expertise and know-how on photocatalysis and reactor-building in order to provide a new line of photoreactors for photochemical applications, including in industrial settings.

## Research Funding

### Ongoing Research Projects:

**ERC Consolidator Grant, grant agreement no. 681840**

**CATA-LUX** - Light-Driven Asymmetric Organocatalysis

*Funding agency:* ERC (European Research Council)

Period: from 1-Nov-2016 till 30-Oct-2021

Amount: 2.000.000€ / Role: Principal Investigator

**ERC Proof of Concept Grant, grant agreement no. 899541**

**LIGHT-COAT**

*Funding agency:* ERC (European Research Council)

Period: from 1-Jun-2020 till 30-Nov-2021

Amount: 150.000€ / Role: Principal Investigator

**2017 SGR 981**

*Funding agency:* Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR)

Period: from 1-Jan-2017 till 31-Dec-2020

Amount: 44.480€ / Role: Principal Investigator

**PHOTO-(M)-TOOLS**

**PID2019-106278GB-I00** (subprograma BQU)

*Funding agency:* Proyectos de I+D+i 2019 - Ministerio de Educación y Ciencia (MICINN), España

Period: from 1-Jun-2020 till 30-Dec-2023

Amount: 254.000€ / Role: Principal Investigator

**Marie Curie H2020-MSCA-IF-2020 agreement no. 101031533**

**PHOTO-ITU**

*Funding agency:* REA (Research Executive Agency), EU

Period: from 1-March-2020 till 28-Feb-2022

Amount: 160.932€. *Name of the Fellow:* Dr. Will Hartley

**Marie Curie H2020-MSCA-IF-2020 agreement no. 101032077**

**BIO-LIGHT**

*Funding agency:* REA (Research Executive Agency), EU

Period: from 1-March-2020 till 28-Feb-2022

Amount: 160.932€. *Name of the Fellow:* Dr. Vasilis Tseliou

**Marie Curie H2020-MSCA-IF-2019 agreement no. 894795**

**PHOTO-CYCLE**

*Funding agency:* REA (Research Executive Agency), EU

Period: from 1-March-2020 till 28-Feb-2022

Amount: 160.932€. *Name of the Fellow:* Dr. Dengke Ma

## Research Record

Paolo Melchiorre has authored a total of 131 publications in international journals with a high impact factor (numbers in parenthesis refer to the 2011-2021 timespan): e.g. 3 (3) × *Nature*; 41 (31) × *Angewandte Chemie*; 4 (4) × *Nature Chemistry*; 1 (1) × *Nature Protocols*; 1 (1) × *PNAS*; 10 (10) × *the Journal of American Chemical Society*; 4 (4) × *Chemical Science*; 2 (2) × *Nature Communications* and 7 book chapters.

**h factor = 65**

His papers have attracted a total of **12100** citations (source: *ISI-Web of Science* as of August 21, 2021).

### Ten representative primary literature senior-author publications

Publication Record: 131 Publications, 3 Patents; *Metrics ISI-Web of Science:* 12300 Citations; h-index 65; *Metrics Google Scholar:* 14125 Citations; h-index 69; i10-index 129 [\[link\]](#) (as of 24 September 2021).

## Prof. Dr Paolo Melchiorre

### Research Funding

#### Ongoing Research Projects:

**ERC Consolidator Grant, grant agreement no. 681840****CATA-LUX** - Light-Driven Asymmetric Organocatalysis*Funding agency:* ERC (European Research Council)

Period: from 1-Nov-2016 till 30-Oct-2021

Amount: 2.000.000€

Role: Principal Investigator

**ERC Proof of Concept Grant, grant agreement no. 899541****LIGHT-COAT***Funding agency:* ERC (European Research Council)

Period: from 1-Jun-2020 till 30-Nov-2021

Amount: 150.000€

Role: Principal Investigator

**2017 SGR 981***Funding agency:* Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR)

Period: from 1-Jan-2017 till 31-Dec-2020

Amount: 44.480€

Role: Principal Investigator

**PHOTO-(M)-TOOLS****PID2019-106278GB-I00** (subprograma BQU)*Funding agency:* Proyectos de I+D+i 2019 - Ministerio de Educación y Ciencia (MICINN), España

Period: from 1-Jun-2020 till 30-Dec-2023

Amount: 254.000€ / Role: Principal Investigator

#### Past Research Projects (selected examples):

**ERC Starting Grant, grant agreement no. 278541****ORGA-NAUT** - Exploring Chemical Reactivity with Organocatalysis*Funding agency:* ERC (European Research Council)

Period: from 1-Nov-2011 till 30-Oct-2016

Amount: 1.500.000€

Role: Principal Investigator

**CTQ2016-75520-P** (subprograma BQU)**PHOTO-ORGANO CAT - Making Biologically Relevant Chiral Molecules with Light***Funding agency:* Proyectos de I+D+i 2016 - Ministerio de Educación y Ciencia (MICINN), España

Period: from 1-Jan-2017 till 30-Nov-2020

Amount: 254.000€

Role: Principal Investigator

**CTQ2013-45938-P** (subprograma BQU)**VINYLOGOUS ORGANO-CASCADE CATALYSIS***Funding agency:* Proyectos de I+D+i 2013 - Ministerio de Educación y Ciencia (MICINN), España

Period: from 1-Jan-2014 till 31-Dec-2016

Amount: 169.000€

Role: Principal Investigator

**CTQ2010-15513** (subprograma BQU)**Organo-Cas Cat***Funding agency:* Proyectos de I+D+i 2010 - Ministerio de Educación y Ciencia (MICINN), España

Period: from 1-Jan-2011 till 31-Dec-2013

Amount: 148.000€

Role: Principal Investigator

**Ongoing Research Contracts (selected examples):****Postdoctoral fellowships****Marie Curie H2020-MSCA-IF-2020 agreement no. 101032077  
BIO-LIGHT**

*Funding agency:* REA (Research Executive Agency), EU  
*Period:* from 1-August-2021 till 31-July-2023  
*Amount:* 160.932€. *Name of the Fellow:* Dr. Vasileios Tseliou

**Marie Curie H2020-MSCA-IF-2020 agreement no. 101031533  
Photo-ITU**

*Funding agency:* REA (Research Executive Agency), EU  
*Period:* from 1-March-2021 till 28-Feb-2023  
*Amount:* 160.932€. *Name of the Fellow:* Dr. Will C. Hartley

**Marie Curie H2020-MSCA-IF-2019 agreement no. 894795  
PHOTO-CYCLE**

*Funding agency:* REA (Research Executive Agency), EU  
*Period:* from 1-March-2020 till 28-Feb-2022  
*Amount:* 160.932€. *Name of the Fellow:* Dr. Dengke Ma

**Past Research Contracts (selected examples):****Marie Curie H2020-MSCA-IF-2017 agreement no. 796460  
PHOTO-FLUOR**

*Funding agency:* REA (Research Executive Agency), EU  
*Period:* from 1-May-2018 till 30-Apr-2020  
*Amount:* 170.121€. *Name of the Fellow:* Dr. Sudipta Raha-Roy

**Marie Curie H2020-MSCA-IF-2017 agreement no. 795793  
PHOTO ORGANO-Ir CAT**

*Funding agency:* REA (Research Executive Agency), EU  
*Period:* from 1-Apr-2018 till 31-Mar-2020  
*Amount:* 158.121€. *Name of the Fellow:* Dr. Giacomo Crisenza

**Marie Curie H2020-MSCA-IF-2017 agreement no. 794211  
PHOTOCHIRO**

*Funding agency:* REA (Research Executive Agency), EU  
*Period:* from 1-March-2018 till 28-Feb-2020  
*Amount:* 170.121€. *Name of the Fellow:* Dr. Catherine Holden

**Marie Curie H2020-MSCA-IF-2015 agreement no. 702405  
PHOTO ORGANO-GOLD**

*Funding agency:* REA (Research Executive Agency), EU  
*Period:* from 1-May-2016 till 30-Apr-2018  
*Amount:* 158.121€. *Name of the Fellow:* Dr. Zhong-Yan Cao

**Marie Curie H2020-MSCA-IF-2014 agreement no. 658980  
Organo-Gold Cat**

*Funding agency:* REA (Research Executive Agency), EU  
*Period:* from 1-Jun-2015 till 31-May-2017  
*Amount:* 158.121€. *Name of the Fellow:* Dr. Charlie Verrier

**Forschungsstipendien für promovierte Nachwuchswissenschaftler (Postdoc- Programm)  
Nr.: 91509740**

Control of Remote Stereochemistry in the Synthesis of Complex Molecules by Means of Vinylogous Organocascade Catalysis  
*Funding agency:* DAAD German Academic Exchange Service  
*Period:* from 1-Aug-2013 till 31-Jul-2014  
*Name of the Fellow:* Dr. Nora Hofmann

**Marie Curie FP7-PEOPLE-2010-IIF agreement no. 273088  
Organo-Cas Cat**

*Funding agency:* REA (Research Executive Agency), EU  
*Period:* from 25-Apr-2011 till 24-Apr-2013

Amount: 175.000€. *Name of the Fellow:* Dr. Yankai Liu

**Juan de la Cierva. JCI-2011-10793**

**Developing new organocatalytic approaches to chemical synthesis using novel reactivity concepts**

*Funding agency:* Ministerio de Educación y Ciencia, España

*Period:* from 3-Jan-2011 till 10-Nov-2013. *Name of the Fellow:* Dr. Antonio Moran

**PhD fellowships**

**1 INPhINIT Incoming Fellowship**, 2021 La Caixa.

**4 FPU Fellowships** Formación de Profesorado Universitario (FPU-MED, Grant agreements AP2009-0950, AP2010-1963, FPU13/02402 and FPU19/05872)

**3 FPI Fellowships** Formación e Incorporación de Investigadores (FPI). *Funding agency:* Ministerio de Educación y Ciencia, España.

**1 FI Fellowship.** *Funding agency:* AGAUR, Agència de Gestió d'Ajuts Universitaris i Recerca. (Exp 2021FI\_B00304)



## Prof. Dr Paolo Melchiorre

### Full Publication List

#### PUBLICATIONS

116 Research Articles  
14 Reviews/Highlight Articles  
7 Book Chapters  
3 Patents

**Paolo Melchiorre** (*author profile*): *Angew. Chem. Int. Ed.* **2009**, *48*, 3389 [\[link\]](#)

PM has an h-factor of **65** and has attracted a total of 12300 citations for the period 1999-2021 (source: *ISI-Web of Science as of September 24, 2021*).

3 most important publications:

**Photochemical generation of radicals from alkyl electrophiles using a nucleophilic organic catalyst**

Bertrand Schweitzer-Chaput, Matthew A. Horwitz, Eduardo de Pedro Beato, and Paolo Melchiorre  
*Nature Chem.* **2019**, *11*, 129–135. [\[Link\]](#)

**Asymmetric catalytic formation of quaternary carbons by iminium ion trapping of radicals**

John J. Murphy, David Bastida, Suva Paria, Maurizio Fagnoni, and Paolo Melchiorre  
*Nature* **2016**, *532*, 218–222

**Photochemical activity of a key donor–acceptor complex can drive stereoselective catalytic  $\alpha$ -alkylation of aldehydes**

Elena Arceo, Igor D. Jurberg, Ana Álvarez-Fernández, and Paolo Melchiorre  
*Nature Chem.* **2013**, *5*, 750–756. [\[Link\]](#)

#### Full list of publications:

**131. Catalytic asymmetric C–C cross-couplings enabled by photoexcitation**

G. E. M. Crisenza, A. Faraone, E. Gandolfo, D. Mazzarella, P. Melchiorre,  
*Nature Chem.* **13**, 575–580 (2021) [\[link\]](#)

**130. A General Organocatalytic System for Electron Donor–Acceptor Complex Photoactivation and Its Use in Radical Processes**

Eduardo de Pedro Beato, Davide Spinnato, Wei Zhou, and Paolo Melchiorre  
*J. Am. Chem. Soc.* **2021**, *143*, 12304–12314 (open access [\[Link\]](#))

**129. A General Organocatalytic System for Enantioselective Radical Conjugate Additions to Enals**

Emilien Le Saux, Dengke Ma, Pablo Bonilla, Catherine M. Holden, Danilo Lustosa, and Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2021**, *60*, 5357–5362 (open access [\[Link\]](#))

**128. Photochemical Chemoselective Alkylation of Tryptophan-Containing Peptides**

Benjamin Laroche, Xinjun Tang, Gaétan Archer, Riccardo Di Sanza, and Paolo Melchiorre  
*Org. Lett.* **2021**, *23*, 285–289 ([\[Link\]](#))

**127. Synthetic Methods Driven by the Photoactivity of Electron Donor-Acceptor Complexes**

Giacomo E. M. Crisenza, Daniele Mazzarella, and Paolo Melchiorre  
*J. Am. Chem. Soc.* **2020**, *142*, 5461–5476 (review, open access [\[Link\]](#))

**126. Chemistry glows green with photoredox catalysis**

Giacomo E. M. Crisenza, and Paolo Melchiorre  
*Nat. Commun.* **2020**, *11*, article number: 803 (review, open access [\[Link\]](#))

**125. A Photochemical Organocatalytic Strategy for the  $\alpha$ -Alkylation of Ketones by using Radicals**

Davide Spinnato, Bertrand Schweitzer-Chaput, Giulio Goti, Maksim Oseka, and Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2020**, *59*, 9485–9490 (open access [\[Link\]](#))

**124. Amide Synthesis by Nickel/Photoredox-Catalyzed Direct Carbamoylation of (Hetero)Aryl Bromides**

Nurtalya Alandini, Luca Buzzetti, Gianfranco Favi, Tim Schulte, Lisa Candish, Karl Collins, Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2020**, *59*, 5248–5253 (open access [\[Link\]](#))

**123. Photochemical generation of acyl and carbamoyl radicals using a nucleophilic organic catalyst: applications and mechanism thereof**

Eduardo de Pedro Beato, Daniele Mazzarella, Matteo Balletti, and Paolo Melchiorre  
*Chem. Sci.* **2020**, *11*, 6312–6324 (open access [\[Link\]](#))

**122. Photo-Organocatalytic Enantioselective Radical Cascade Enabled by Single-Electron Transfer Activation of Allenes**

Luca A. Perego, Pablo Bonilla, and Paolo Melchiorre  
*Adv. Synth. Catal.* **2020**, *362*, 302–307 (EN Jacobsen special issue)

**121. Photochemical Asymmetric Nickel-Catalyzed Acyl Cross-Coupling**

Eugenio Gandolfo, Xinjun Tang, Sudipta Raha Roy, and Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2019**, *58*, 16854–16858 (open access [\[Link\]](#))

**120. Photochemical C-H Hydroxyalkylation of Quinolines and Isoquinolines**

Bartosz Bieszcza, Luca A. Perego, and Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2019**, *58*, 16878–16883 (open access [\[Link\]](#))

**119. A Redox Active Nickel Complex that Acts as an Electron Mediator in Photochemical Giese Reactions**

Thomas van Leeuwen, Luca Buzzetti, Luca A. Perego and Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2019**, *58*, 4953–4957 (open access [\[Link\]](#))

**118. Photochemical Organocatalytic Borylation of Alkyl Chlorides, Bromides, and Sulfonates**

Daniele Mazzarella, Giandomenico Magagnano, Bertrand Schweitzer-Chaput and Paolo Melchiorre  
*ACS Catal.* **2019**, *9*, 5876–5880 (open access [\[Link\]](#))

**117. A visible-light mediated three-component radical process using dithiocarbamate anion catalysis**

Sara Cuadros, Matthew A. Horwitz, Bertrand Schweitzer-Chaput and Paolo Melchiorre  
*Chem. Sci.* **2019**, *10*, 5484–5488 (open access [\[Link\]](#))

**116. Photochemical generation of radicals from alkyl electrophiles using a nucleophilic organic catalyst**

Bertrand Schweitzer-Chaput, Matthew A. Horwitz, Eduardo de Pedro Beato, and Paolo Melchiorre  
*Nature Chem.* **2019**, *11*, 129–135. [\[Link\]](#)

**115. Stereocontrolled Synthesis of 1,4-Dicarbonyl Compounds by Photochemical Organocatalytic Acyl Radical Addition to Enals**

Giulio Goti, Bartosz Bieszcza, Alberto Vega-Peñaloza, and Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2019**, *58*, 1213–1217 (open access [\[Link\]](#))

**114. Mechanistic Studies in Photocatalysis**

Luca Buzzetti, Giacomo E. M. Crisenza, and Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2019**, *58*, 3730–3747 (review - open access, [\[Link\]](#))

**113. Enhancing the potential of enantioselective organocatalysis with light**

Mattia Silvi, and Paolo Melchiorre  
*Nature* **2018**, *554*, 41–49 (review [\[Link\]](#))

**112. Enantioselective radical conjugate additions driven by a photoactive intramolecular iminium-ion-based EDA complex**

Zhong-Yan Cao, Tamal Ghosh, and Paolo Melchiorre  
*Nat. Commun.* **2018**, *9*, 3274 (open access [\[Link\]](#))

**111. Organocatalytic Strategies to Stereoselectively Trap Photochemically Generated Hydroxy-o-quinodimethanes**

Sara Cuadros and Paolo Melchiorre  
*Eur. J. Org. Chem.* **2018**, 2884–2891 (review)

**110. Asymmetric photocatalytic C–H functionalization of toluene and derivatives**

Daniele Mazzarella, Giacomo E.M. Crisenza, and Paolo Melchiorre  
*J. Am. Chem. Soc.* **2018**, *140*, 8439–8443 (open access [\[Link\]](#))



109. **Photo-Organocatalytic Enantioselective Radical Cascade Reactions of Unactivated Olefins**  
Pablo Bonilla, Yannick P. Rey, Catherine Holden, and Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2018**, *57*, 12819–12823 (open access [\[Link\]](#))
108. **Enantioselective Photochemical Organo-Cascade Catalysis**  
Łukasz Woźniak, Giandomenico Magagnano, and Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2018**, *57*, 1068–1072 (open access [\[Link\]](#))
107. **Direct Stereoselective Installation of Alkyl Fragments at the  $\beta$ -Carbon of Enals via Excited Iminium Ion Catalysis**  
Charlie Verrier, Nurtalya Alandini, Cristofer Pezzetta, Mauro Moliterno, Luca Buzzetti, Hamish B. Hepburn, Alberto Vega-Peñaloza, Mattia Silvi, Paolo Melchiorre  
*ACS Catalysis* **2018**, *8*, 1062–1066 ([\[Link\]](#))
106. **Visible-Light Excitation of Iminium Ions Enables the Enantioselective  $\beta$ -Alkylation of Enals**  
Mattia Silvi, Charlie Verrier, Yannick Rey, Luca Buzzetti, and Paolo Melchiorre  
*Nature Chem.* **2017**, *9*, 868–873 (open access [\[Link\]](#))
105. **Studies on the Enantioselective Iminium Ion Trapping of Radicals Triggered by an Electron-Relay Mechanism**  
Ana Bahamonde, John J. Murphy, Marika Savarese, Erik Bremond, Andrea Cavalli, Paolo Melchiorre  
*J. Am. Chem. Soc.* **2017**, *139*, 4559–4567 (open access [\[Link\]](#))
104. **Radical-based C-C Bond-Forming Processes Enabled by the Photoexcitation of 4-Alkyl-1,4-dihydropyridines**  
Luca Buzzetti, Alexis Prieto, Sudipta R. Roy, Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2017**, *56*, 15039–15043 (open access [\[Link\]](#))
103. **Forging Quaternary Fluorine Stereocenters by a Light-driven Organocatalytic Aldol Desymmetrization Process**  
Sara Cuadros, Luca Dell'Amico, Paolo Melchiorre  
*Angew. Chem. Int. Ed.* **2017**, *56*, 11875–11879 (open access [\[Link\]](#))
102. **Enantioselective Formal  $\alpha$ -Methylation and  $\alpha$ -Benzylation of Aldehydes by Means of Photo-Organocatalysis**  
Giacomo Filippini, Mattia Silvi, Paolo Melchiorre  
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Luca Dell'Amico, Alberto Vega-Peñaloza, Sara Cuadros, and Paolo Melchiorre  
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17. **Asymmetric Catalytic Synthesis of Enantiopure *N*-Protected 1,2-Amino Alcohols**  
G. Bartoli\*, M. Bosco, A. Carlone, M. Locatelli, P. Melchiorre,\* L. Sambri  
*Org. Lett.* **2004**, *6*, 3973–3975 [\[link\]](#)

16. **A Lewis Acid-Mediated Protocol for the Protection of Aryl Amines as their Boc-Derivatives**  
G. Bartoli\*, M. Bosco, M. Locatelli, E. Marcantoni, M. Massaccesi, P. Melchiorre, L. Sambri  
*Synlett* **2004**, 1794–1798

15. **Asymmetric Aminolysis of Aromatic Epoxides: A Facile Catalytic Enantioselective Synthesis of *anti*-β-Amino Alcohols**  
G. Bartoli,\* M. Bosco, A. Carlone, M. Locatelli, M. Massaccesi, P. Melchiorre,\* L. Sambri  
*Org. Lett.* **2004**, *6*, 2173–2176 [\[link\]](#)

14. **Zn(ClO<sub>4</sub>)<sub>2</sub>·6H<sub>2</sub>O as a Powerful Catalyst for the Conversion of β-Ketoesters into β-Enamino Esters**  
G. Bartoli\*, M. Bosco, M. Locatelli, E. Marcantoni, P. Melchiorre, L. Sambri  
*Synlett* **2004**, 239–242

13. **Highly Stereoselective Reduction of β-Keto Amides: The First General and Efficient Approach to *N*-mono and non-Substituted *anti*-α-Alkyl β-Hydroxy Amides**  
G. Bartoli\*, M. Bosco, E. Marcantoni, P. Melchiorre, S. Rinaldi, L. Sambri  
*Synlett* **2004**, 73–76

### Publications as a PhD Student

12. **Kinetic Resolution of Epoxides via C-C Bond Forming Reaction. Highly Enantioselective Addition of Indoles to *cis*, *trans*, and *meso* Aromatic Epoxides Catalysed by Cr(Salen) Complexes**  
M. Bandini, P. G. Cozzi, P. Melchiorre, A. Umani-Ronchi  
*Angew. Chem. Int. Ed.* **2004**, *43*, 84–87 [\[link\]](#)

11. **Direct Enantioselective Michael Addition of Aldehydes to Vinyl Ketones Catalyzed by Chiral Amines**  
P. Melchiorre, K. A. Jørgensen  
*J. Org. Chem.* **2003**, *68*, 4151–4157 [\[link\]](#)

10. **Catalytic enantioselective conjugated addition of indoles to simple α,β-unsaturated ketones**  
M. Bandini, M. Fagioli, P. Melchiorre, A. Melloni, A. Umani-Ronchi  
*Tetrahedron Lett.* **2003**, *44*, 5843–5846

9. **A Convenient Catalytic Procedure for the Addition of Trimethylsilyl Cyanide to Functionalized Ketones, Mediated by InBr<sub>3</sub> – Insight into the Reaction Mechanism**  
M. Bandini, P. G. Cozzi, A. Garelli, P. Melchiorre, A. Umani-Ronchi  
*Eur. J. Org. Chem.* **2002**, 3243–3249

8. **Indium(III) Bromide- Catalyzed the Regio- and Stereoselective Ring-Opening of Aromatic Epoxides with Indoles**  
M. Bandini, P. G. Cozzi, P. Melchiorre, A. Umani-Ronchi  
*J. Org. Chem.* **2002**, *67*, 5386–5389

7. **A Practical Indium Tribromide Catalysed Addition of Indoles to Nitroalkenes in Aqueous Media**  
M. Bandini, P. Melchiorre, A. Melloni, A. Umani-Ronchi  
*Synthesis* **2002**, 1110–1114

6. **Sequential One-pot InBr<sub>3</sub>-Catalyzed 1,4- then 1,2- Nucleophilic Addition to Enones**  
M. Bandini, P. G. Cozzi, M. Giacomini, P. Melchiorre, S. Selva, A. Umani-Ronchi  
*J. Org. Chem.* **2002**, *67*, 3700–3704

5. **Chemo- and enantioselective catalytic addition of propargyl chloride to aldehydes promoted by [Cr(Salen)] complexes**

M. Bandini, P. G. Cozzi, P. Melchiorre, R. Tino, A. Umani-Ronchi  
*Tetrahedron: Asymmetry* **2001**, *12*, 1063–1069

4. **Cr(Salen)-Catalyzed Addition of 1,3-Dichloropropane to Aromatic Aldehydes. A Simple Access to Active Vinyl Epoxides**

M. Bandini, P. G. Cozzi, P. Melchiorre, S. Morganti, A. Umani-Ronchi  
*Org. Lett.* **2001**, *3*, 1153–1155

3. **Indium tribromide: a highly effective catalyst for the addition of trimethylsilyl cyanide to  $\alpha$ -hetero-substituted ketones**

M. Bandini, P. G. Cozzi, P. Melchiorre, A. Umani-Ronchi  
*Tetrahedron Lett.* **2001**, *42*, 3041–3043

2. **Synthesis and Binding Activity of Endomorphin-1 Analogues Containing  $\beta$ -Amino Acids**

G. Cardillo, L. Gentilucci, P. Melchiorre, S. Spampinato  
*Bioorg. Med. Chem. Lett.* **2000**, *10*, 2755–2758

1. **The First Catalytic Enantioselective Nozaki-Hiyama Reaction**

M. Bandini, P. G. Cozzi, P. Melchiorre, A. Umani-Ronchi  
*Angew. Chem. Int. Ed.* **1999**, *38*, 3357–3359 - Selected as a **VIP Paper** [\[link\]](#)

## BOOKS & CHAPTERS

1) G. Bartoli, P. Melchiorre

Chapter 2 “Michael Addition” in: **Catalytic Asymmetric Friedel-Crafts Alkylations**,  
Eds. A. Umani-Ronchi, M. Bandini, Wiley-VCH, 2009, pp 49-67.

2) P. Melchiorre,

Chapter 1.1.8 “Iminium Catalysis of Enals and Enones with Primary Amines”  
in **Asymmetric Organocatalysis - Science of Synthesis Reference Library**,  
Editor: Benjamin List, Thieme, **2012**, pp 403-438

3) René Tannert, Antonio Moran, and Paolo Melchiorre,

“Three or More Components Reactions (Single Catalyst Systems)”  
in **Comprehensive Enantioselective Organocatalysis, Volume 3**  
Editor: Peter Dalko, Wiley-VCH, **2013**, pp 1285-1332

4) E. Arceo, P. Melchiorre,

Chapter 8.03 “Reduction of C=N to CHNH by Hydride Delivery from C”  
In **Comprehensive Organic Synthesis 2nd Edition**,  
Editors: Gary A. Molander and Paul Knochel (eds.) - Elsevier, **2014**, pp 151-197

5) John J. Murphy, Mattia Silvi, and Paolo Melchiorre,

Chapter 17 “Enamine-mediated Catalysis”  
In **Lewis Base Catalysis in Organic Synthesis**,  
Editors: E. Vedejs and S. Denmark - Wiley-VCH, **2016**

6) Yannick P. Rey, Hamish B. Hepburn, and Paolo Melchiorre,

Chapter 17 “Organocatalysis with Amines in Photocatalysis”  
In **Science of Synthesis: Photocatalysis in Organic Synthesis**  
Editor: B. König, Thieme, **2018**

7) Catherine Holden, and Paolo Melchiorre,

“Photochemistry and excited-state reactivity of organocatalytic intermediates”  
In “*Photochemistry: Volume 47*”, Royal Society of Chemistry, **2019**, 344 - 378

## Granted and filed patents

- ‘Cinchona alkaloid derivatives, their process of preparation and their use as catalysts’, EP2687527 (A1)
- ‘Photoinitiator compounds’ WO2020011922
- ‘Carboxylic dithiocarbamic acid anhydride and compositions thereof’, EP20382017.0

## Prof. Dr Paolo Melchiorre

### Lectures

#### Invited Presentations at Meetings and Symposia

96. CFF 2021 - Chemistry for the Future, Pisa, Italy (online), July 2021.
95. ISPROCHEM 2021 International School of Process Chemistry (online), May 2021.
94. Trends in Medicinal Chemistry, Urbino, Italy (online), December 2020.
93. Photochemistry School of the Spanish Association of Bioinorganic Chemistry (online), September 2020.
92. 2<sup>nd</sup> EurJOC Virtual Symposium (online), April 2020.
91. 1<sup>st</sup> Symposium on Synthetic Chemistry and Catalysis, NTU Singapore. January 2020
90. Barluenga Symposium, Oviedo (Spain), November 2019
89. 18<sup>th</sup> Blue Danube Symposium on Heterocyclic Chemistry, Ljubljana (Slovenia). September 2019
88. 5<sup>th</sup> Symposium on Asymmetric Synthesis, Warsaw (Poland). September 2019
87. Mechanistic Homogeneous Catalysis – A Meeting between Theory and Experiment, Stockholm (Sweden). September 2019
86. European Symposium of Organic Chemistry, ESOC, Vienna (Austria). July 2019
85. Workshop on Chemistry and Applications of Organic Chromophores, Cardiff (UK). July 2019
84. 39<sup>th</sup> European School of Medicinal Chemistry, Urbino (Italy). July 2019
83. 3<sup>rd</sup> Lima Scientific day, Mulhouse (France). June 2019
82. Bürgenstock Conference 2019 – Brunnen (Switzerland). May 2019
81. “Giorgio Modena” Award Symposium – Padova (Italy). May 2019
80. Radical Symposium – Fuzhou (China). April 2019
79. 2<sup>nd</sup> National Organic Radical Symposium – Shenzhen (China). April 2019
77. Spotlight on Photoredox Catalysis and Photochemistry, London (U.K.) February 2019
76. 1<sup>st</sup> CCNU International Photocatalysis Symposium. Wuhan (China). November 2018.
75. 17<sup>th</sup> BMOS Brazilian Meeting in Organic Chemistry. Salvador (Brazil). October 2018.
74. IASOC. Napoli (Italy). September 2018.
73. Conference on Photochemistry. Munich (Germany). September 2018.
72. 8<sup>th</sup> International Forum on Homogeneous Catalysis, Shanghai (China). September 2018
71. Balticum Organicum Syntheticum 2018. Tallinn (Estonia). July 2018
70. VII EWDSy: Seventh European Workshop in Drug Synthesis – Siena (Italy). May 2018
69. Sesión Científica en la Real Academia de Ciencias, Madrid (Spain). May 2018.
68. 2<sup>nd</sup> Japanese-Spanish Symposium on Modern Synthetic Methodology – Kyoto (Japan). May 2017
67. SINCHEM Winter School, Bologna (Italy). February 2018.
66. 1<sup>st</sup> Alpine Winter Conference on Medicinal and Synthetic Chemistry - St. Anton (Austria). January 2018.
65. Japanese National Symposium in Organocatalysis. Sendai (Japan). November 2017.
64. Photocatalysis in Organic Synthesis Meeting. Goteborg (Sweden). November 2017.
63. International Conference on Organic Chemistry. Guangzhou (China). November 2017
62. Bayer Workshop. Photoredox catalysis – the future is bright. Dusseldorf (Germany). November 2017.
61. Beilstein Organic Chemistry Symposium 2017 on “Tomorrow's Catalysis for Research and Industry”. Postdam (Germany). October 2017
60. Le Giornate di Chimica Organica a Pavia – Pavia (Italy). October 2017
59. GECO 58 (Groupe d'étude de Chimie Organique) – Dinard (France). August 2017
58. 36<sup>th</sup> Biannual Meeting of the Spanish Royal Chemical Society – Sitges (Spain). June 2017
57. 18<sup>th</sup> Netherlands' Catalysis and Chemistry Conference – Noordwijkerhout (Netherlands). March 2017
56. Japanese-Spanish Symposium on Modern Synthetic Methodology – Gijon (Spain). April 2017
55. Chemical Photocatalysis Seminar – Regensburg (Germany). March 2017
54. Photocatalysis-Afternoon-Symposium – Munster (Germany). January 2017

53. Athens International Catalysis Symposium - Athens (Greece). November 2016
52. 12<sup>th</sup> International Symposium on Organic Free Radicals, ISOFR 12 - Shanghai (China). October 2016
51. 6<sup>a</sup> Jornadas Red CASI, Palma de Mallorca (Spain). October 2016
50. JCO 2016: Journées de Chimie Organique – Paris (France). September 2016
49. III US-Spain Symposium in Asymmetric Chemical Synthesis and Catalysis – Bilbao (Spain). May 2016
48. VI EWDSy: Sixth European Workshop in Drug Synthesis – Siena (Italy). May 2016
47. ANORCQ 13: Anglo-Norman Organic Chemistry Colloquium – Rouen (France). April 2016
46. DOMINOCAT 1 SYMPOSIUM – Aachen (Germany). September 2015
45. International Conference Synthesis and Catalysis – Evora (Portugal). September 2015
44. 39<sup>th</sup> Naito Conference "The chemistry of organocatalysts" - Sapporo (Japan). July 2015
43. pre-OMCOS mini-Symposium – ICIQ - Tarragona (Spain). June 2015
42. Bilateral Symposium Technion-ICIQ – Tarragona (Spain). February 2015
41. XIV Sigma-Aldrich Young Chemists Symposium (SAYCS 2014) – Riccione (Italy). October 2014
40. 2<sup>nd</sup> Young Mediterranean Research Workshop 2014 - Marseille (France). October 2012
39. 5<sup>a</sup> Jornadas Red CASI, Palma de Mallorca (Spain). October 2014
38. Ramón Areces Scientific Symposium "Chemistry: answers for a better world" – Madrid. Oct 2014
37. 4<sup>th</sup> Brazil-Spain Workshop – San Sebastián (Spain). July 2014
36. 49<sup>th</sup> Bürgesntock Conference on Stereochemistry, Brunnen (*moderator*) – May 2014
35. Asymmetric Organocatalysis; Challenges and Innovations, Oxford (UK) - April 2014
34. Congress of the Chemical Society of Japan, Nagoya (Japan) - JSPS Fellowship – March 2014
33. ZING Asymmetric Synthesis Conference, Malaga (Spain). February 2014
32. ORCA meeting, Alicante (Spain). October 2013
31. ORCA training school, Alicante (Spain). October 2013
30. ICIQ-UniCat Summer School, Tarragona (Spain). July 2013
29. XXXVIII "A. CORBELLA" SUMMER SCHOOL, Gargnano (Italy). June 2013
28. II Workshop UFI-QOSYC, Bilbao (Spain). April 2013
27. 4<sup>a</sup> Jornadas Red CASI, Palma de Mallorca (Spain). October 2012
26. IASOC 2012 – Ischia Advanced School of Organic Chemistry (Italy). September 2012
25. OXFORD – ICIQ BILATERAL MEETING, Oxford (UK). September 2012
24. "Catalysis in Organic Synthesis" (ICCOS-2012), Moscow (Russia). September 2012
23. 30<sup>th</sup> meeting of Slovak and Czech organic chemist, Smolenice (Slovakia). September 2012
22. IUPAC Conference on Green Chemistry (4th ICGC), Foz de Iguazu (Brazil). August 2012
21. 24 Reunión Bienal del Grupo de Química Orgánica, San Sebastian (Spain). July 2012
20. 15<sup>th</sup> ICC 2012, Munich (Germany). July 2012
19. COST action, ORCA meeting, Marseille (France). March 2012
18. NEW PERSPECTIVES IN ASYMMETRIC SYNTHESIS 2<sup>nd</sup> edition – Valencia (Spain). Dec 2011
17. NANO-HOST School, University of Zaragoza (Spain). November 2011
16. INTECAT Meeting, Huelva (Spain). October 2011
15. ESOC 2011, Crete (Greece). July 2011
14. ESMEC 2011, Urbino (Italy). June 2011
13. CATAFLU.OR Meeting, Bologna (Italy). February 2011
12. XIV NOST – Organic Chemistry Conference, Goa (India). December 2010
11. INTECAT meeting, ICIQ, Tarragona (Spain). November 2010
10. ESF-COST High-Level Research Conference, Maratea (Italy). September 2010
9. Scuola GIC, Palermo (Italy). September 2010
8. ISO $\mu$  2010, Max Planck Institute, Mülheim (Germany). July 2010
7. BOSS XII, Namur (Belgium). July 2010
6. 2<sup>o</sup> Microsymposium on Asymmetric Synthesis, Warsaw (Poland). September 2009
5. 1<sup>st</sup> EUCHEM Organic Division Young Investigator's Workshop, Liblice (Czech Republic). July 2009

4. XXXIV "A. CORBELLA" SUMMER SCHOOL, Gargnano (Italy). June 2009
3. VIII Laboratorio di Metodologie Sintetiche in Chimica Farmaceutica, Siena (Italy). February 2009
2. IASOC 2008 – Ischia Advanced School of Organic Chemistry (Italy). September 2008
1. SISOC 07: 7<sup>th</sup> Spanish-Italian Symposium – Oviedo (Spain). September 2008

### Invited Lectures

98. Rencontres de Chimie Organique, Paris (France) *on line*, May 2021
97. Sustainable Chemistry Lecture Series (Belgium) *on line*, March 2021
96. Seoul National University, Seoul (Korea) *on line*, November 2020
95. IIT Guwahati (India) *on line*, November 2020
94. Mc Gill University, Montréal (Canada), December 2019
93. University of Ottawa, Ottawa (Canada), December 2019
92. Mc Gill University, Montréal (Canada), December 2019
91. University of Montréal (Canada), December 2019
90. University of Barcelona, (Spain), December 2019
89. Soochow University, Shanghai (China), November 2019
88. Autonomous University of Barcelona (UAB, Spain), October 2019
87. Syngenta, Jealotts Hill (UK), September 2019
86. Aptuit, Verona (Italy), May 2019
85. Dr. Paul Janssen Lecture Series, Jansen - Beerse (Belgium), May 2019
84. East China Normal University, Shanghai (China), April 2019
83. Hong Kong University of Science and Technology, Hong Kong (China), April 2019
82. Sygnaturediscovery, Nottingham (UK). February 2019
81. University of Bordeaux (France). December 2018
80. UCB Biofarma, Brussels (Belgium) November 2018
79. Sanofi-Aventis Frankfurt, Germany. October 2018.
78. University of Naples, Federico II (Italy). September 2018.
77. Firmenich, Geneva (Switzerland). June 2018
76. Autonomous University of Madrid - UAM (Spain). June 2018.
75. Merck Chemistry Lecture (US). April 2018
74. University of Princeton (US). April 2018
73. University of Philadelphia (US). April 2018
72. University of Lausanne (Switzerland). April 2018
71. University of Nagoya (Japan). February 2018
70. University of Tokyo (Japan). November 2017
69. University of Honk Kong (China). November 2017
68. University of Cambridge (UK). October 2017
67. Syngenta Chemistry lecture 2017 - Stein (Switzerland). October 2017
66. University of Groningen (Holland). October 2017
65. University of Budapest - Budapest (Hungary). September 2017
64. University of Strasbourg, Strasbourg (France). March 2017
63. University of Basel, Basel (Switzerland). March 2017
62. Nanyang Technological University, Singapore. February 2017
61. ICFO - The Institute of Photonic Sciences, Barcelona (Spain). May 2016
60. Leipzig University (Germany). December 2015
59. Manchester University (UK). December 2015
58. University Claude Bernard Lyon 1 – Lyon (France). June 2015
57. Ocean University – Qiangdao (China). May 2015



56. East China Normal University – Shanghai (China). May 2015
55. Hangzhou University – Hangzhou (China). May 2015
54. Central China Normal University – Wuhan (China). May 2015
53. Sichuan University, Wangjiang Campus – Chengdu (China). May 2015
52. Sichuan University, Huaxi Campus – Chengdu (China). May 2015
51. University of Vienna – Vienna (Austria). May 2015
50. Nottingham University – Nottingham (UK). April 2015
49. Universidad del País Vasco – San Sebastian (Spain). December 2014
48. Erdtman Lecture 2014 – Stockholm (Sweden). October 2014
47. Aarhus University, Denmark – July 2014
46. Università di Bologna, Italy – June 2014
45. Chimie ParisTech, Paris (France) - May 2014
44. Pierre and Marie Curie University, Paris (France) - May 2014
43. Dr Reddy's Laboratories Ltd, Oxford (UK) - April 2014
42. Nagoya University, Nagoya (Japan) - JSPS Fellowship – March 2014
41. Sumitomo Chemical Company, Osakashi (Japan) - JSPS Fellowship – March 2014
40. Osaka University, Osaka (Japan) - JSPS Fellowship – March 2014
39. Kyoto University, Faculty of Science, Kyoto (Japan) - JSPS Fellowship – March 2014
38. Kyoto University, Faculty of Engineering, Kyoto (Japan) - JSPS Fellowship – March 2014
37. Tokyo University of Science, Tokyo (Japan) - JSPS Fellowship – March 2014
36. Tokyo University of Agriculture, Tokyo (Japan) - JSPS Fellowship – March 2014
35. Gakushuin University, Tokyo (Japan) - JSPS Fellowship – March 2014
34. Tohoku University, Sendai (Japan) - JSPS Fellowship – March 2014
33. Universität Marburg (Germany). January 2014
32. University of Graz, Graz (Austria). January 2014
31. University of Caen, Caen (France). November 2013
30. University of Geneva, Geneva (Switzerland). November 2013
29. Universidad de Sevilla (Spain). October 2013
28. Università La Sapienza, Roma (Italia). May 2013
27. Universität Münster (Germany). May 2013
26. EPFL, Lausanne (Switzerland). March 2013
25. University of Namur (FUNDP), Namur (Belgium). November 2012
24. Universidade Federal de São Carlos, (Brazil). August 2012
23. Ludwig Maximilians Universität (LMU), Munich (Germany). July 2012
22. Suzhou University, Suzhou (China). May 2012
21. Fudan University, Shanghai (China). May 2012
20. Shanghai Institute of Organic Chemistry (SIOC), Shanghai (China). May 2012
19. East China Normal University, Shanghai (China). May 2012
18. West China School of Pharmacy, Sichuan University, Chengdu (China). May 2012
17. Peking University, Beijing (China). May 2012
16. CSIC, Madrid (Spain). February 2012
15. Universidad Autónoma de Madrid (Spain). February 2012
14. Università Ca' Foscari, Venezia (Italy). November 2011
13. Universidad de Barcelona; Barcelona (Spain). October 2011
12. The Scripps Research Institute, La Jolla (US). August 2011
11. Instituto Universitario Química Organometálica "Enrique Moles"; Oviedo (Spain). May 2011
10. The Institute of Chemical Research of Catalonia (ICIQ), Tarragona (Spain). March 2009
8. Liebig lectureship: Universität Frankfurt an Main (Germany). November 2008
7. Liebig lectureship: Max Planck Institute, Mülheim (Germany). November 2008

6. Liebig lectureship: Universität Regensburg (Germany). November 2008
5. Liebig lectureship: Universität zu Köln (Germany). November 2008
4. Liebig lectureship: Universität Münster (Germany). November 2008
3. Liebig lectureship: Erlangen-Nürnberg Universität (Germany). November 2008
2. Liebig lectureship: Technische Universität München (Germany). November 2008
1. OC-Colloquium – Aachen University (Germany). April 2008

## The Melchiorre Group

**The Melchiorre Group** comprises a substantial number of collaborators from across the world, creating an international and stimulating environment:

- Supervisor: Paolo Melchiorre (Italian)
- 12 PhD students: Eduardo de Pedro Beato (Spain), Davide Spinnato (Italy), Adriana Faraone (Italy), Matteo Balletti (Italy), Emilien Le Saux (France), Whei Zou (China), Eleni Georgiou (Cyprus, co-supervisor), Laura Kqiku (Germany), Thomas Hin-Fung Wong (Australia), Shuo Wu (China), Igor Dmitriev (Russia) and Florian Schiel (Austria)
- 2 Visiting student: Enrico Marcantonio (Italy) Elena Ermini (Italy)
- 7 Postdoctoral fellows: Dr. Dengke Ma (China); Dr. Martin Berger (Austria), Dr. Will Hartley (UK), Dr. Jan Vilím (Czech Republic), Dr. Yann Baumgartner (Switzerland) Dr. Margherita Zanini (Italy) and Dr. Vasileios Tseliou (Greece)
- 1 Laboratory technician: Dr. Laia Cuesta (Spain), 1 Administrative support: Nuria Planella

### Supervised Ph. D. Theses at ICIQ

#### 16 – Eugenio Gandolfo

Defense: 09-Sep-2021

Title of the Thesis: “Light-driven Metal-catalyzed Asymmetric Transformations”

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

#### 15 – Daniele Mazzarella

Defense: 07-Sep-2020

Title of the Thesis: “C-C and C-B Bond Forming Strategies Driven by the Photoexcitation of Organocatalytic Intermediates”

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next Position: Postdoctoral fellow at UvA (University of Amsterdam) – The Netherlands.

#### 14 – Pablo Bonilla

Defense: 09-Jul-2020

Title of the Thesis: “Combining Iminium Ion-Mediated Catalysis and Photochemistry to Develop Enantioselective Radical Processes”

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next Position: Chemical Process R&D - Johnson & Johnson (Janssen division), Schaffhausen (Switzerland).

#### 13 – Nurtalya Alandini

Defense: 08-Jul-2020

Title of the Thesis: “1,4-Dihydropyridines as Versatile Reagents in Photochemical Carbon-Carbon Bond-Forming Processes”

University: Universidad Rovira i Virgili – Tarragona, Punctuation: Cum Laude

Next position: Postdoctoral fellow at LMU Munich – Germany (advisor: Prof. Paul Knochel)

#### 12 - Dr. Giandomenico Magagnano

Defense: 24-Oct-2019

Title of the Thesis: “Photochemical Processes Enabled by the Direct Excitation of Organic Intermediates”

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: Postdoctoral researcher at CSOL Unit, ICIQ, Tarragona – Spain.

#### 11 - Dr. Sara Cuadros

Defense: 17-Oct-2019

Title of the Thesis: “Exploiting Organocatalysis in Photochemical Processes”

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: Research fellow at the Janssen Pharmaceutical Companies of Johnson & Johnson, Toledo – Spain (advisor: Dr. Jesús Alcázar)

**10 - Dr. Luca Buzzetti**

Defense: 29-Oct-2018

Title of the Thesis: "Photochemical Strategies for Carbon-Carbon Bond Forming Processes"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: Postdoctoral fellow at EPFL, Lausanne – Switzerland (advisor: Prof. Jerome Waser)

**9 - Dr. Lukasz Wozniak**

Defense: 23-Oct-2017

Title of the Thesis: "New Strategies for Enantioselective Catalysis of Photochemical Reactions"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: Postdoctoral fellow at EPFL, Lausanne – Switzerland (advisor: Prof. Nicolai Cramer)

**8 - Dr. Giacomo Filippini**

Defense: 17-Oct-2017

Title of the Thesis: "Development of Radical Reactions triggered by the Photochemical Activity of Organic Intermediates"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: Postdoctoral fellow at University of Trieste – Italy (advisor: Prof. Maurizio Prato)

**7 - Dr. Ana Bahamonde**

Defense: 15-Jun-2017

Title of the Thesis: "Development and Mechanistic Elucidation of Photochemical Reactions"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: Postdoctoral fellow at University of Utah – USA (advisor: Prof. Matthew Sigman)

**6 - Dr. David Bastida**

Defense: 15-Dec-2015

Title of the Thesis: "Novel Enantioselective Aminocatalytic Processes by means of Vinylogous Reactivity and Photoredox Catalysis"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: Production Chemist at Esteve Quimica

**5 - Dr. Mattia Silvi**

Defense: 15-Oct-2015

Title of the Thesis: "New Directions in Aminocatalysis: Vinylogy and Photochemistry"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: MSCA Postdoctoral fellow at University of Bristol – UK (advisor: Prof. Varinder Aggarwal)

**4 - Dr. Manuel Nappi**

Defense: 17-Oct-2014

Title of the Thesis: "Novel Organocatalytic and Photochemical Processes"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: MSCA Postdoctoral fellow at University of Cambridge – UK (advisor: Prof. Matthew Gaunt)

**3 - Dr. Xu Tian**

Defense: 10-Apr-2014

Title of the Thesis: "New Asymmetric Organocatalytic Processes promoted by *Cinchona*-based Primary Amines"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: Assistant Professor at Central South University (CSU) – Changsha (China)

**2 - Dr. Carlo Cassani**

Defense: 16-Dec-2013

Title of the Thesis: "Aminocatalytic Functionalization of Carbonyl Compounds: a Powerful Strategy for Enantioselective Reaction Development"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Next position: MSCA Postdoctoral fellow at the University of Goteborg (Sweden). Presently at Astra Zeneca

**1 - Dr. Giulia Bergonzini**

Defense: 24-Oct-2013

Title of the Thesis: "Assessing the versatility of organocatalysis as a strategy for enabling novel asymmetric transformations"

University: Universidad Rovira i Virgili – Tarragona. Punctuation: Cum Laude

Present position: postdoctoral associate at the University of Goteborg (Sweden). Presently at Astra Zeneca

## Current PhD Students

**Eduardo de Pedro Beato** (expected 2021)  
**Adriana Faraone** (expected 2022)  
**Davide Spinnato** (expected 2022)  
**Matteo Balletti** (expected 2023)  
**Emilien Le Saux** (expected 2023)  
**Wei Zhou** (expected 2023)  
**Laura Kqiku** (expected 2024)  
**Thomas Hin-Fung Wong** (expected 2024)  
**Shuo Wu** (expected 2024)  
**Igor Dmitriev** (expected 2025)  
**Florian Schiel** (expected 2025)

## Supervised Post-doc's and visiting students

### Present Postdoctoral fellows:

**Dr. Vasileios Tseliou.** PhD from the University of Amsterdam, The Netherlands (Prof. Francesco G. Mutti)  
**Dr. Margherita Zanini.** PhD from the Universitat Rovira i Virgili, Spain (Prof. Antonio M. Echavarren)  
**Dr. Yann Baumgartner.** PhD from Basel University, Switzerland (Prof. Olivier Baudoin)  
**Dr. Jan Vilim.** PhD from University of Amsterdam, The Netherlands (Prof. Francesco G. Mutti)  
**Dr. Will Hartley.** PhD from University of St Andrews, UK (Prof. Andrew D. Smith)  
**Dr. Martin Berger.** PhD from University of Vienna, Austria (Prof. Nuno Maulide)  
**Dr. Dengke Ma.** PhD from Zhejiang University, China (Prof. Shengming Ma)

### Past Postdoctoral fellows:

**Dr. Riccardo di Sanza.** 2020/2021 Next position: Signature Discovery, Nottingham (U.K.)  
**Dr. Xinjun Tang,** 2019/2020. Next position: Associate professor at China University of Geosciences, Wuhan (China)  
**Dr. Giacomo Crisenza,** 2017/2020. Next position: Lecturer at the University of Manchester (U.K.)  
**Dr. Benjamin Laroche,** 2019/2020 Next position: Associate professor at ESPCI Paris – PSL (France)  
**Dr. Catherine Holden,** 2017/2020. Next position: Team Leader at Syngenta Crop Protection (U.K.)  
**Dr. Danilo M. Lustosa,** 2017/2018. Next position: postdoc in the Anat Milo's Group (Israel)  
**Dr. Giulio Goti,** 2017/2019. Next positions: Research fellow at CNR-ICCOM, Florence (Italy)  
**Dr. Bartosz Bieszcza,** 2017/2019. Next position: University of Regensburg (Germany)  
**Dr. Bertrand Schweitzer-Chaput,** 2015/2019. Next position: Janssen, Beerse (Belgium)  
**Dr. Luca Alessandro Perego,** 2018/2019 Next position: Chemical Process R&D - Johnson & Johnson (Janssen division), Schaffhausen (Switzerland).  
**Dr. Matthew Allan Horwitz,** 2017/2018. Next position: Postdoc - University of Oxford (U.K.)  
**Dr. Thomas Van Leeuwen,** 2017/2018. Next position: Syncom, Groningen (The Netherlands)  
**Dr. Zhong-Yan Cao,** 2016/2018. Next Position: Shanghai Key Laboratory of Green Chemistry and Chemical Processes, School of Chemistry and Molecular Engineering, East China Normal University (China)  
**Dr. Sudipta Raha Roy,** 2017/2018. Next position: Assistant professor IIT Delhi (India)  
**Dr. Alexis Prieto,** 2016/17. Next position: Institut Lavoisier de Versailles (France).  
**Dr. Charlie Verrier,** 2014/2017. Next position: University of Lyon (France).  
**Dr. Alberto Vega,** 2015/2017. Next position: University of Mexico City (Mexico).  
**Dr. Yannick Rey,** 2015/2017. Next position: Merck/Sigma-Aldrich (Switzerland).  
**Dr. Hamish Hepburn,** 2015/2017. Next position: University of Oxford (Mexico).  
**Dr. John Joseph Murphy,** 2014/2016. Next position: Postdoc at MPI, Mulheim (Germany).  
**Dr. Luca Dell'Amico,** 2014/2016. Next position: Assistant Professor at the University of Padova (Italy).  
**Dr. Suva Paria,** 2014/2016. Next position: Postdoc at the University of Kyoto, Japan – Prof. Keiji Maruoka.  
**Dr. Sandeep Reddy Kandukuri,** 2013. Next position: Senior Research Scientist in Syngenta, Goa (India)  
**Dr. Elena Arceo Rebollo,** 2011/2014. Next position: R&D Chemist at TCI America Inc. Portland, USA  
**Dr. Nora Hofmann,** 2013/2014.  
**Dr. Indranil Chatterjee,** 2012/2014. Next position: Assistant professor at IIT Ropar, Punjab, India.  
**Dr. Ana Belén Álvarez Fernández,** 2012.  
**Dr. Yankai Liu,** 2010/2012. Next position: Assistant Professor at Ocean University – Qiangdao, China.  
**Dr. Antonio Moran,** 2011/2013. Next Position: R&D technician at EXPAL propellants factory, Múrcia.  
**Dr. Renè Tannert,** 2012. Next position: Researcher at the German Aerospace Center (DLR), Cologne.  
**Dr. Igor D. Jurberg,** 2012. Next position: Assistant Professor at the University of Campinas, Brazil.  
**Dr. Silvia Vera,** 2010/2011. Next position: Associate Researcher at the University of Basque Country.

**Erasmus Students:****Mr. Davide Carboni**

Erasmus student  
University of Bologna (Italy)  
Period of research at ICIQ: from 1/3/21 till 30/7/21

**Mr. Gaétan Archer**

Erasmus student  
Chimie Paris Tech -École Nationale Supérieure de Chimie de Paris- (France)  
Period of research at ICIQ: 17/02/2020 till 14/08/20

**Miss Denise Cibu**

Erasmus student placement under Lifelong learning Programme  
LMU Munich (Germany)  
Academic year 2012/2013; period of research at ICIQ: from 1/6/13 till 31/8/13

**Mr. Quenten Deraedt**

Université Notre-Dame de la Paix FUNDP B NAMUR 01 (Belgium)  
Erasmus stage 2009/2010: period of research at ICIQ: from 25/1/2010 till 24/4/2010  
Subject area 442 ERA 13.3 chemistry

**Mr. Alexandre Rossignon**

Université Notre-Dame de la Paix FUNDP B NAMUR 01 (Belgium)  
Erasmus stage 2012/2013: period of research at ICIQ: from 25/2/2013 till 27/5/2013  
Subject area 442 ERA 13.3 chemistry

**Visiting PhD students:**

**Elena Ermini**, Jun-Sep 2021  
University of Siena (Italy)

**Enrico Marcantonio**, May-Oct 2021  
University of Parma (Italy)

**Pietro Capurro**, Jan –Jul 2021  
University of Genova (Italy)

**Yang Yang**, Nov 2019 – Mar 2020  
University of Copenhagen (Denmark)

**Robert Pawlowski**, March 2020  
Institute of Organic Chemistry of the Polish Academy of Sciences (Poland)

**Tommaso Bortolato**, Jan-Mar 2020  
Università degli Studi di Padova (Italy)

**Oliwia Matuszewska**, Sep-Nov 2019  
Cardiff University (UK)

**Cristofer Pezzetta**, May-Sep 2017  
Dr. Reddy's Laboratories (Cambridge)

**Tsuyoshi Otani**, Jul-Sep 2017  
Nagoya University (Japan)

**Maksim Ošeka**, Oct 2016 - Apr 2017  
Tallinn University of Technology (Estonia)

**Derick R. White**, Jun-Aug, 2015  
PhD student at University of Michigan (USA)

**Morgane Detraz**, Feb-Aug 2015  
Next Position: PhD student at the University of Rouen (France)

**Bryan Shigeru Matsuura**, June-Sep. 2014  
PhD student at University of Michigan (USA)

**Dr. Elisa Montroni**, Feb-Jul 2013  
Alma Mater Studiorum-Università di Bologna- Dipartimento di Chimica 'Giacomo Ciamician'  
Fellowship 'Marco Polo' (Italy) for research period abroad

**Mr. Rodrigo Cesar da Silva**, Feb-Oct 2013  
Federal University of Sao Carlos - UFS Car (Brazil)  
Fellowship 'FAPESP (0907281-0), (Brazil) for research period abroad

**Dr. Michele Retini**, Apr-Oct 2011  
Università degli Studi di Urbino 'Carlo Bo' – Urbino (Italy)  
Fellowship 'Marco Polo' (Italy) for research period abroad

### Visiting professor:

**Dr. Gianfranco Favi**, Mar-May 2018  
Università degli Studi di Urbino 'Carlo Bo' – Urbino (Italy)

### Contributions to careers of early-stage researchers.

Some of my past associates have gone on to independent *academic careers*. Examples follow (*name*, time, present position): *Armando Carlone* (PhD 2005-2008) Associate Professor at University of L'Aquila - Italy; *Yankai Liu* (Marie Curie Fellow 2011-13) Assistant Professor at Ocean University - Qingdao, China; *Igor D. Jurberg* (Postdoc 2012) Assistant Professor at Campinas University – Brazil; *Indranil Chatterjee* (Postdoc 2012-2014) Assistant Professor at IIT Ropar, Punjab – India; *Xu Tian* (PhD 2010-2014) 'Thousand Talents Fellow' at Guangzhou Medical University – China; *Mattia Silvi* (PhD 2011-2015) Research Fellow at Nottingham University, UK; *Luca Dell'Amico* (Marie Curie Fellow 2015-2016) Associate Professor at the University of Padua - Italy; *Ana Bahamonde* (PhD 2014-2017) Assistant Professor at University of California, Riverside - USA; *Zhong-Yan Cao* (Marie Curie Fellow 2017-2018) Professor at Zhejiang University of Technology, Hangzhou - China; *XinJun Tang* (Postdoc 2019-2020) Assistant Professor at China University of Geosciences, Wuhan - China; *Benjamin Laroche* (Postdoc 2019-2020) Assistant Professor at ESPCI Paris – PSL, France.

**Selected industry-related careers** – *Giulia Bergonzini* (PhD 2009-2013) to Astra Zeneca, Goteborg – Sweden; *Carlo Cassani* (PhD 2009-2013) to Astra Zeneca, Goteborg – Sweden; *Elena Arceo Rebollo* (Postdoc 2011-2014) to Verisk Analytics Inc, Washington – USA; *Sandeep Reddy Kandukur* (Postdoc 2013) to Syngenta, Goa – India; *Yannick Rey* (Postdoc 2015-2017) to Merck/Sigma-Aldrich – Switzerland; *John Murphy* (Postdoc 2015-2017) to Astra Zeneca, Goteborg; *Thomas Van Leeuwen* (Postdoc 2018) to Syncom, Groningen – the Netherlands; *Luca Perego* (Postdoc 2019) to Johnson & Johnson, Schaffhausen – Switzerland; *Bertrand Schweitzer-Chaput* (Postdoc 2015-2019) to Janssen, Beerse – Belgium; *Catherine Holden* (Marie Curie fellow 2018-2020) to Syngenta Crop Protection, Jealott's Hill – UK.

### PM as a Member of Ph. D. Committees

**2011** Esther Alza Barrios (ICIQ-Universitat Rovira i Virgili) - supervisor Prof. M. Pericas  
**2012** Andrea Nekane Roig Alba (Universidad de Barcelona) - supervisor Prof. A. Moyano  
**2013** Rafael Cano Monserrat (Universidad de Alicante, Spain) - supervisor Prof. F. Alonso  
**2013** Valentina Corvaglia (Università Di Trieste, Italy) - supervisor Prof. D. Bonifazi  
**2013** Ángel Martínez Castañeda (Universidad de Oviedo, Spain) - supervisor Dr. H. Solla  
**2013** Miriam Diaz de los Bernardos (ICIQ-Universitat Rovira i Virgili) - supervisor Prof. S. Castillon/Prof. P. W. N. M van Leeuwen  
**2013** Ana María Cespo Peña (Universidad de Sevilla, Spain) - supervisor Prof. R. Fernández/Prof. J. M. Lassaletta  
**2014** Lars Krogager Ransborg (Aarhus University, Denmark) - supervisor Prof. Karl A. Jørgensen  
**2017** Laura Fra (ICIQ-Universitat Rovira i Virgili) – supervisor Prof. Kilian Muñoz  
**2018** Saad Shaaban (University of Vienna, Austria) - supervisor Prof. Nuno Maulide  
**2018** Daniele Perrotta (EPFL Lausanne, Switzerland) - supervisor Prof. Jerome Waser  
**2018** Vincent Pirenne (University of Bordeaux, France) – supervisor Prof. Yannick Landais  
**2019** Cristina García Morales (ICIQ-Universitat Rovira i Virgili) – supervisor Prof. Antonio M. Echavarren  
**2019** Alexandra Bosnidou (ICIQ- Universitat Rovira i Virgili) – supervisor Prof. Kilian Muñoz  
**2020** Thomas Rigotti (Universidad Autónoma de Madrid, Spain) – supervisor Prof. José Aleman  
**2020** Runze Mao (EPFL Lausanne, Switzerland) – supervisor Prof. Xile Hu  
**2020** Margherita Zanini (ICIQ-Universitat Rovira i Virgili) – supervisor Prof. Antonio M. Echavarren  
**2021** Sandrine Hell (Oxford University, UK) – supervisor Prof. David Hodgson  
**2021** Esteban Matador (University of Sevilla, Spain) – supervisor Prof. Rosario Fernández