

## Curriculum Vitae

**Prof. Dr. Paolo Melchiorre** (29/05/1973) - Italian

ICREA Research Professor & ICIQ Senior Group Leader

Institute of Chemical Research of Catalonia (ICIQ)

Tarragona – Spain. E-mail: [pmelchiorre@iciq.es](mailto:pmelchiorre@iciq.es)

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

Twitter handle: @MelchiorreGroup

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



The following list summarises the most important steps of his 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 Centre for Catalysis	University of Århus (DK)	2002
• Postdoctoral Fellow in Chemistry	University of Bologna	2003-2006
• Assistant Professor	University of Bologna	2007-2009
• Research Professor & Group Leader	ICIQ – Tarragona (Spain)	Sept. 2009-present

### Main Professional Experience

September 2009 PM moved to the *Institute of Chemical Research of Catalonia* (ICIQ) in Tarragona as an ICREA (Catalan Institution of Research and Advanced Studies) Professor and ICIQ Senior Group Leader.

October 2007 Assistant Professor (Ricercatore) at Bologna University – *Alma Mater Studiorum* Bologna (Italy) - Dept. of Organic Chemistry, Industrial Chemistry Faculty

### Research Record

Paolo Melchiorre has authored more than 100 publications in international journals with a high impact factor (e.g. 2 × *Nature*, 2 × *Nature Chemistry*, 31 × *Angewandte Chemie*, 7 × *the Journal of American Chemical Society*, 1 × *PNAS*, 1 × *Nature Protocols*, 2 × *Chemical Science*, 8 × *Organic Letters*, 4 × *Chemistry European Journal* and 5 × *Chemical Communication*) and five book chapters.

His papers have attracted more than 7850 citations (source: *ISI-Web of Science* as of December 18, 2017)

#### h factor = 53

PM has delivered more than 130 invited lectures and seminars at the national and international level.

In 2008, he was the main author for three consecutive communications in *Angewandte Chemie (ACIE 2008, 47, 8700-8702; 8703-8706; 8707-8710)*, one of the leading international peer-reviewed journals covering all aspects of chemistry.

PM was also featured in the journal's "Author Profile section" (*ACIE 2009, 48, 3389*), dedicated to chemists who have recently published their tenth paper in *ACIE* since the year 2000.

He has served as referee for the following international journals: *Nature*, *Nature Chemistry*, *Nature Comm.*, *Nature Protocols*, *Nature Chem. Biol.*, *Angew. Chem. Int. Ed.*, *J. Am. Chem. Soc.*, *Chem. Sci.* etc.

In 2009, PM received a certificate for being among the top three contributing referees for *ACIE* (29 referee reports in the year 2009; 32, 28, 24, 24, 26, 28, and 30 reports for the years 2010, 2011, 2012, 2013, 2014, 2015, and 2016 respectively).

### Research Interest

His current scientific interests lie on the discovery and mechanistic elucidation of new asymmetric organocatalytic and photochemical processes that address unsolved problems in synthetic methodology. The final aim is to develop environmentally friendly and innovative catalytic methods that will find widespread use in organic synthesis.

### Memberships

Società Chimica Italiana (from 2004)

American Chemical Society ACS (from 2010)

Real Sociedad Española de Química RSQE (from 2010)

### AWARDS & DISTINCTIONS

- 2006 - Invitation to the 41<sup>st</sup> EUCHEM Conference on Stereochemistry, Bürgenstock, as part of the Junior Scientists Participation programme.
- 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 (Institució Catalana de Recerca i Estudis Avançats) Research Professor
- 2009 - ICIQ Senior Group Leader
- 2009 - Selected for the 1<sup>st</sup> EUCHEM Organic Division Young Investigator's Workshop, Liblice
- "Young Talented Lecture" in the 17<sup>th</sup> European Symposium on Organic Chemistry (ESOC 2011), Crete, Greece, July 2011
- 2011 - **ERC Starting Grant** to carry out the 5-year project "ORGA-NAUT: Exploring Chemical Reactivity with Organocatalysis"
- 2013 - Member of the *Advanced Synthesis and Catalysis* (Wiley) Academic Advisory Board
- 2013 - Member of the International Advisory Board of *ChemCatChem* (Wiley)
- 2013 - **JSPS Fellowship** under the FY2013 Program for Research in Japan
- 2014 - **Erdtman Lecture 2014** – Stockholm (Sweden)
- 2015 - **Thieme Lecture** – DOMINOCAT SYMPOSIUM – Aachen (Germany)
- 2015 - **ERC Consolidator Grant** to carry out the 5-year project "CATA-LUX" (2016-2021)
- 2016 - Member of the International Advisory Board of *ChemPhotoChem* (Wiley)
- 2016 - Prize for Scientific Excellence from the Royal Spanish Chemical Society (**RSEQ**)

### Scientific Evaluations

#### 2009: ICREA – Research Professorship

following an international evaluation on the research profile, candidature presentation supported by Prof. K. A. Jørgensen (Aarhus University, DK) and Prof. D. Enders (Aachen University, DE) - one out of 22 positions from all disciplines.

#### 2012: Scientific National Habilitation (Italian Ministerial Evaluation Panel, ASN)

through an international research commission, PM was awarded an habilitation as Full Professor.

#### 2012: 3-years ICREA Scientific Evaluation

following an international evaluation on the research activities for the period (Sept. 2009/Sept. 2012). Granted outstanding status (maximum mark).

#### 2014: 5-years ICIQ Scientific Evaluation

following an evaluation from the ICIQ Scientific Advisory Board (information at <http://www.iciq.org/about-us/organisational-chart/scientific-advisory-board/>) on the research activities for the period (Sept. 2009/May 2014). Granted excellent status

### Research Funding

#### Research Projects (selected examples):

#### 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

#### H2020-MSCA-ITN-2016, *grant agreement no. 722591*

**PHOTOTRAIN**

*Funding agency:* MSCA-ITN

Period: from 1-Nov-2016 till 30-Oct-2020

Amount: 430.000€

**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 31-Dec-2019

*Amount:* 210.000€

*Role:* Principal Investigator

**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

**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

**Research Contracts (selected examples):**

**Postdoctoral fellowships**

**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

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

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

### Organization of Scientific Events

- Mini-symposium "Lights on Chemistry" – ICIQ, Tarragona, October 2015: 160 participants (info at <http://lightsonchemistry.iciq.es/>)

- *Japanese-Spanish Symposium on Modern Synthetic Methodology* – Gijón (Spain). April 2017: 150 participants (info at <http://sjsmsm.iciq.es/>)

### The Melchiorre Group @ ICIQ

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

- Supervisor: Paolo Melchiorre (Italian)
- 8 PhD students: Luca Buzzetti (Italy), Sara Cuadros (Spain), Giandomenico Magagnano (Italy), Daniele Mazzarella (Italy), Pablo Bonilla (Spain), Nurtalya Alandini (Indonesia), Eduardo de Pedro Beato (Spain), Eugenio Gandolfo (Italy).
- 1 master student: Miguel Bernús Pérez (Spain).
- 9 Postdoctoral fellows: Dr. Bertrand Schweitzer-Chaput (France), Dr. Giacomo Crisenza (Italy), Dr. Zhong-Yan Cao (China), Dr. Tamal Ghosh (India), Dr. Sudipta Raha Roy (India), Dr. Catherine Holden (UK); Dr. Giulio Goti (Italy); Dr. Bartosz Bieszczad (Poland); Dr. Matthew Allan Horwitz (USA); Dr. Thomas Van Leeuwen (Holland).
- 1 Laboratory technician: Dr. Eva Raluy (Spain)
- 1 Administrative support

### Supervised Ph. D. Theses

#### 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 Química

**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****Luca Buzzetti** (expected 2017)**Sara Cuadros** (expected 2018)**Giandomenico Magagnano** (expected 2018)**Daniele Mazzarella** (expected 2020)**Pablo Bonilla** (expected 2020)**Nurtalya Alandini** (expected 2020)**Eduardo de Pedro Beato** (expected 2021)**Eugenio Gandolfo** (expected 2021)**Supervised Post-doc's and visiting students****Present Postdoctoral fellows:****Dr. Tamal Ghosh**, PhD from Regensburg University, Germany (Prof. Burkhard König)**Dr. Sudipta Raha Roy**, postdoc at Technion, Israel (Prof. Ilan Marek)**Dr. Bertrand Schweitzer-Chaput**, PhD from MPI Mulheim, Germany (Dr. Martin Klusmann)**Dr. Giacomo Crisenza**, PhD from Bristol University, UK (Dr. John Bower)**Dr. Zhong-Yan Cao**, PhD from East China Normal University, Shanghai (Prof. Jian Zhou)**Dr. Catherine Holden**, PhD from Manchester University, UK (Prof. Michael Greaney)**Dr. Giulio Goti**, PhD from Milano University, Italy (Prof. Anna Bernardi)**Dr. Bartosz Bieszcza**d, PhD from Dublin University College, Ireland (Prof. Declan Gilheany)**Dr. Matthew Allan Horwitz**, PhD from North Carolina at Chapel Hill, USA (Prof. Jeff Johnson)**Dr. Thomas Van Leeuwen**, PhD from Groningen University, the Netherlands (Prof. Ben Feringa)

**Past Postdoctoral fellows:**

**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 propelants 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:****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:****Dr. Michele Retini**

Università degli Studi di Urbino 'Carlo Bo' – Urbino (Italy)

Fellowship 'Marco Polo' (Italy) for research period abroad

Period of research at ICIQ: from 1/4/11 till 31/10/11

**Dr. Elisa Montroni**

Alma Mater Studiorum-Università degli di Bologna- Dipartimento di Chimica 'Giacomo Ciamician'

Fellowship 'Marco Polo' (Italy) for research period abroad

Period of research at ICIQ: from 1/2/13 till 31/07/13

**Mr. Rodrigo Cesar da Silva**

Federal University of Sao Carlos - UFS Car (Brazil)

Fellowship 'FAPESP (0907281-0), (Brazil) for research period abroad

Period of research at ICIQ: from 4/2/13 till 31/10/13

**Cristofer Pezzetta**, May-Sept 2017

Dr. Reddy's Laboratories (Cambridge)

**Tsuyoshi Otani**, July-Sept. 2017

Nagoya University

**Maksim Ošeka**, October, 2016 - April, 2017

Tallinn University of Technology

**Derick R. White**, June-August, 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-September 2014

PhD student at University of Michigan (USA)

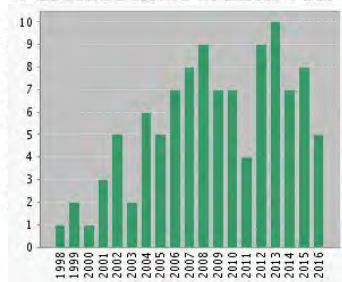
## PUBLICATIONS

97 Research Articles  
 11 Reviews/Highlight Articles  
 5 Book Chapters  
 1 Patent

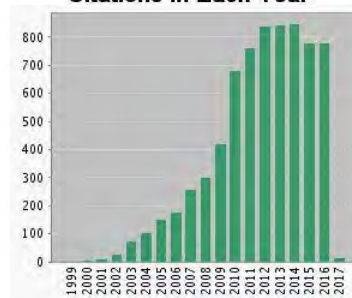
**Paolo Melchiorre** (*author profile*): *Angew. Chem. Int. Ed.* **2009**, *48*, 3389 [[link](#)]

PM has an h-factor of **53** and has attracted a total of 7850 citations for the period 1999-2017 (source: *ISI-Web of Science as of December 19, 2017*). As an illustration of the scientific output, Paolo's publication record and citation profile are presented below:

**Published Items in Each Year**



**Citations in Each Year**



### 108. Enhancing the potential of enantioselective organocatalysis with light

Mattia Silvi, and Paolo Melchiorre

*Nature* **2017**, DOI: 10.1038/nature25175 (in press - review)

### 107. Enantioselective Photochemical Organo-Cascade Catalysis

Łukasz Woźniak, Giandomenico Magagnano, and Paolo Melchiorre

*Angew. Chem. Int. Ed.* DOI: 10.1002/anie.201711397 (open access [[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

A. Bahamonde, J.J. Murphy, M. Savarese, E. Bremond, A. Cavalli, P. 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

L. Buzzetti, A. Prieto, S. R. Roy, P. 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

S. Cuadros, L. Dell'Amico, P. Melchiorre

*Angew. Chem. Int. Ed.* **2017**, *56*, 1875-11879 (open access [[Link](#)])

### 102. Enantioselective Formal $\alpha$ -Methylation and $\alpha$ -Benzylation of Aldehydes by Means of Photo-Organocatalysis

G. Filippini, M. Silvi, P. Melchiorre

*Angew. Chem. Int. Ed.* **2017**, *56*, 4447-4451 (open access [[Link](#)])

### 101. Light-Driven Enantioselective Organocatalytic $\beta$ -Benzoylation of Enals

Luca Dell'Amico, Victor M. Fernández-Alvarez, Feliu Maseras, and Paolo Melchiorre

*Angew. Chem. Int. Ed.* **2017**, *56*, 3304-3308 (open access [[Link](#)])

**100. Light-triggered Enantioselective Organocatalytic Mannich-type Reaction**

Hamish B. Hepburn, Giandomenico Magagnano, and Paolo Melchiorre

*Synthesis* **2017**, *49*, 76-86 ([Link](#))Special Issue celebrating the 70<sup>th</sup> Birthday of Prof. Dr. Dieter Enders (Invited paper)**99. 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 ([Link](#))Highlighted in *Chemical & Engineering News* 2016, 94(16), 9 and *Synfact* 2016, 12, 739**98. Mechanism of the Stereoselective  $\alpha$ -Alkylation of Aldehydes Driven by the Photochemical Activity of Enamines**

Ana Bahamonde, and Paolo Melchiorre

*J. Am. Chem. Soc.* **2016**, *138*, 8019-8030 (open access [Link](#))**97. Enantioselective Vinylogous Organocascade Reactions**

Hamish B. Hepburn, Luca Dell'Amico, and Paolo Melchiorre

*Chemical Record* **2016**, *16*, 1787–1806 (invited Personal Account)**96. Enantioselective Organocatalytic Diels–Alder Trapping of Photochemically Generated Hydroxy *o*-Quinodimethanes**

Luca Dell'Amico, Alberto Vega-Peñaloza, Sara Cuadros, and Paolo Melchiorre

*Angew. Chem. Int. Ed.* **2016**, *55*, 3313–3317 (open access [Link](#))**95. Brønsted acid-catalysed conjugate addition of photochemically generated  $\alpha$ -amino radicals to alkenylpyridines**

Hamish B. Hepburn, and P. Melchiorre

*Chem. Commun.* **2016**, *52*, 3520–3523 (open access [Link](#))**94. Light opens pathways for nickel catalysis**

John J. Murphy, and Paolo Melchiorre

*Nature* **2015**, *524*, 297-298 (News & Views [Link](#))**93. Diastereodivergent organocatalysis for the asymmetric synthesis of chiral annulated furans**

Charlie Verrier, and Paolo Melchiorre

*Chem. Sci.* **2015**, *6*, 4242–4246 (open access [Link](#))**92. Enantioselective Organocatalytic Alkylation of Aldehydes and Enals Driven by the Direct Photoexcitation of Enamines**

M. Silvi, E. Arceo, I. D. Jurberg, C. Cassani, and P. Melchiorre

*J. Am. Chem. Soc.* **2015**, *137*, 6120–6123 (open access [Link](#))**91. Photo-organocatalytic Enantioselective Perfluoroalkylation of  $\beta$ -Ketoesters**

Łukasz Woźniak, John J. Murphy, and Paolo Melchiorre

*J. Am. Chem. Soc.* **2015**, *137*, 5678–5681 (open access [Link](#))**90. Computational Study with DFT and Kinetic Models on the Mechanism of Photoinitiated Aromatic Perfluoroalkylations**

Victor M. Fernández-Alvarez, Manuel Nappi, Paolo Melchiorre, and Feliu Maseras

*Org. Lett.* **2015**, *17*, 2676–2679 ([Link](#))**89. X-Ray Characterization of an EDA Complex which Drives the Photochemical Alkylation of Indoles**

Sandeep R. Kandukuri, Ana Bahamonde, Indranil Chatterjee, Igor D. Jurberg, Eduardo C. Escudero-Adán, and Paolo Melchiorre

*Angew. Chem. Int. Ed.* **2015**, *54*, 1485–1489. [Link](#)**88. Photochemical direct perfluoroalkylation of phenols**

Giacomo Filippini, Manuel Nappi, and Paolo Melchiorre

*Tetrahedron* **2015**, *71*, 4535–4542 [Link](#)

Symposium in Print to honour the Tetrahedron Young Investigator Award to Prof. Yoshiaki Nakao



**87. Photo-Organocatalysis of Atom-Transfer Radical Additions to Alkenes**

Elena Arceo, Elisa Montroni, and Paolo Melchiorre

*Angew. Chem. Int. Ed.* **2014**, *53*, 12064–12068. [\[Link\]](#)Selected as a **VIP Paper****86. Metal-free Photochemical Aromatic Perfluoroalkylation of  $\alpha$ -Cyano Arylacetates**

Manuel Nappi, Giulia Bergonzini, and Paolo Melchiorre

*Angew. Chem. Int. Ed.* **2014**, *53*, 4921–4925. [\[Link\]](#)Selected as a HOT Paper - Highlighted in SynForm 2014, issue 2014/09 [\[Link\]](#)**85. Enantioselective direct  $\alpha$ -alkylation of cyclic ketones by means of photo-organocatalysis**

Elena Arceo, Ana Bahamonde, Giulia Bergonzini, and Paolo Melchiorre

*Chem. Science* **2014**, *5*, 2438–2442. [\[Link\]](#)

Highlighted in Synfact 2014, 535

**84. Asymmetric Vinylogous Diels–Alder Reactions Catalyzed by a Chiral Phosphoric Acid**

Xu Tian, Nora Hofmann, and Paolo Melchiorre

*Angew. Chem. Int. Ed.* **2014**, *53*, 2997–3000. [\[Link\]](#)

Highlighted in Synfact 2014, 433

**83. Synthesis of Cyclopropane Spirooxindoles by means of a Vinylogous Organocatalytic Cascade**

Rodrigo César da Silva, Indranil Chatterjee, Eduardo Escudero-Adán, Marcio Weber Paixão, and Paolo Melchiorre

*Asian J. Org. Chem.* **2014**, *3*, 466–469.

Special Issue: Organocatalysis (edited by Professor Keiji Maruoka)

**82. 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. [\[Link\]](#)

Highlighted in Synfact 2013, 1229

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- 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 8.03 "Reduction of C=N to CHNH by Hydride Delivery from C"  
In **Lewis Base Catalysis in Organic Synthesis**,  
Editors: E. Vedejs and S. Denmark - Wiley-VCH, 2016, *in press*

**PATENT**

- 1) "PROCESS FOR PREPARING CINCHONA ALKALOID DERIVATIVES"  
Patent application number EP12382291 (July 2012)  
The patent describes an effective way to prepare new organocatalysts derived from cinchona alkaloids, which are now available at STREM Chemicals Inc.

**PhD thesis (defense April 2003)**

"Catalytic and Stereoselective Processes in Organic Synthesis"  
University of Bologna, Italy.

**Lectures****Invited Presentations at Meetings and Symposia**

68. Brazilian Meeting on Organic Synthesis. Salvador (Brazil). October 2018.
67. IASOC. Napoli (Italy). September 2018.
66. Conference on Photochemistry. Munich (Germany). September 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. GECCO 58 (Groupe d'étude de Chimie Organique) – Dinard (France). August 2017
58. 36th 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> Bürgenstock 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

72. University of Princeton (US). April 2018
71. University of Philadelphia (US). April 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, Senday (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

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

- 2011** Esther Alza Barrios (ICIQ-Universität 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-Universität 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  
**2018** Saad Shaaban (University of Vienna, Austria) - supervisor Prof. Nuno Maulide  
**2018** Daniele Perrotta (EPFL Lausanne, Switzerland) - supervisor Prof. Jerome Waser

#### Teaching Activities

- 2007-2009** - Faculty of Industrial Chemistry - University of Bologna (Italy)  
 Course on "Organic Materials". Credits given: 5  
**2013-2017** - University Rovira i Virgili (URV) - Tarragona (Spain)  
 "Stereoselective and Asymmetric Synthesis"; Master in Synthesis and Catalysis; Credits given: 3