








## Curriculum Vitae Prof. Dr. Arjan W. Kleij January 9 – 2025

ORCID: 0000-0002-7402-4764, Researcher ID: J-5281-2015

 	<p><b>2011–present:</b> ICREA research Professor &amp; ICIQ Senior Group Leader Institute of Chemical Research of Catalonia, The Barcelona Institute of Science &amp; Technology, Av. Països Catalans 16, 43007 – Tarragona (Spain) &amp; Catalan Institute of Research &amp; Advanced Studies (ICREA), Lluís Companys 23, 08010 – Barcelona Tel: +34-977920247; Email: <a href="mailto:akleij@iciq.es">akleij@iciq.es</a></p>
	<p><b>2014–2019:</b> Scientific advisor for the Henkel/ICIQ joint industrial unit</p>
	<p><b>2006–2011:</b> Junior ICIQ Group Leader &amp; ICREA fellow</p>
	<p><b>2005–2006:</b> Senior research scientist at Hexion Specialty Chemicals (Rotterdam, the Netherlands). <b>Topics:</b> industrial catalysis, process optimization (resins &amp; resin-precursors), internal consulting</p>
	<p><b>2003–2005:</b> Senior PD-Fellow, University of Amsterdam (NL). Advisor: Prof. Dr. Joost Reek. <b>Topics:</b> supra-molecular catalysis, porphyrin and salen chemistry, homogeneous catalysis.</p>
	<p><b>2002–2003:</b> NWO TALENT postdoctoral fellow, Universidad Autónoma de Madrid (Spain). Advisor: Prof. Dr. Javier de Mendoza. <b>Topics:</b> calixarenes, ureaprymidones, supramolecular recognition.</p>
	<p><b>2000–2002:</b> Project Leader Pharma at Avantium Technologies (Amsterdam, NL). <b>Topics:</b> hydrogenation of aromatics and ketones, biopolymer synthesis, process development, THE techniques.</p>
 Universiteit Utrecht	<p><b>1996–2000:</b> PhD (<i>cum laude</i>) in organometallic chemistry &amp; dendrimers, University of Utrecht (NL). Advisor: Prof. Dr. Gerard van Koten. <b>Topics:</b> carbosilane dendrimers, Pd/Ni/Pt chemistry, Li-chemistry, atom-transfer radical addition &amp; aldol condensation catalysis.</p>
	<p><b>1991–1996:</b> MSc (<i>with honors</i>), University of Utrecht (NL). Advisors: Prof. Dr. Gerard van Koten, Prof. Dr. Leo Jenneskens. <b>Topics:</b> flash-vacuum thermolysis of PAC precursors towards multi-fused aromatic compounds, Zn-catalyzed asymmetric synthesis of chiral alcohols, synthesis of heteroleptic diaryl-Pd complexes.</p>

## 1. Honors – Awards - Distinctions

- Advisory board member for *Advanced Synthesis & Catalysis* (Wiley), **2025**→
- Advisory board member for *Green Chemistry* (RSC), **2025**→
- Member of the governing board (secretary) of the "Grupo Especializado de Química Verde" (GEQV) from the Spanish Chemical Society (RSEQ), **2024**
- RSC guest editor for a *trans*-disciplinary web issue (6EUGSC), **2023**
- 🏆 Scientific Excellence Award from the Catalan Chemical Society (SCQ), **2023**
- Advisory board member for *Sustainable Chemistry for the Environment* (Elsevier), **2023**→
- 🏆 EuChemS European Sustainable Chemistry Award (ESCA), **2023**
- Scientific coordinator of the HORIZON-TMA-MSCA-DN-JD (joint doctoral network) "*D-Carbonize*", **2023-2026**
- Editorial board member of *Industrial Chemistry & Materials* (RSC), **2022**→
- Invited Guest Editor for *Green Chemical Engineering* (*GreenChE*, Elsevier), **2022**
- Invited volume editor for *Advances in Catalysis* (Elsevier) for a topical edition on "Catalysis for Enabling Carbon Dioxide Utilization", **2022**
- Professor *Ad Honorem* at the Universitat Rovira i Virgili (Tarragona), **2021**→
- 🏆 Elected Fellow of the Royal Society of Chemistry (FRSC), **2021**
- Associate editor for *Green Synthesis and Catalysis* (Elsevier), citescor<sup>2023</sup> = 11, **2021**→
- Member of the International Advisory Board of *ChemCatChem* (IF<sup>2023</sup> = 4.5), **2021**-
- Guest professor at the University of Tokyo (Japan), November 15 + 16, **2021** (contact: Prof. Hirohiko Houjou)
- Member of the Editorial Advisory Board of *ACS Sustainable Chemistry & Engineering* (IF<sup>2023</sup> = 8.4), **2021**-
- 🏆 Scientific Research Excellence Award from the Spanish Chemical Society (RSEQ), **2020**
- Selected as an *Outstanding Reviewer* for *Catalysis Science & Technology* (RSC) by the editorial board, February **2020**
- Visiting professor Dalian University of Technology (China, **2020-2023**)
- Elected as Editorial Board member of *ChemSusChem* since **2020** (Wiley; IF<sup>2023</sup> = 8.4)
- Global Scientific Advisor for Henkel, **2019-2020**
- Member of the Division of Green and Sustainable Chemistry of the EUCHEMS (**2019**-)
- Associate Editor for *Organic Chemistry Frontiers* (RSC, IF<sup>2023</sup> = 5.4) since **2019**
- Selected as an *Outstanding Reviewer* for *RSC Advances* (RSC) by the editorial board, October **2019**
- Selected as an *Outstanding Reviewer* for *Green Chemistry* (RSC) by the editorial board, March **2019**
- Invited guest editor for *Advanced Synthesis & Catalysis* (Wiley) for an issue dedicated to CO<sub>2</sub> catalysis (**2019**)

- Chair of the 4<sup>th</sup> EUGSC Conference on Green & Sustainable Chemistry (Tarragona, Spain), September **2019**
- Featured in an "Author Profile" in *Angewandte Chemie* in **2018**
- Editorial board member for *Molecules* (MDPI; IF<sup>2023</sup> = 4.6), **2017-2020**
- Editorial board member for the *Journal of CO<sub>2</sub> Utilization* (Elsevier; IF<sup>2022</sup> = 8.321), **2017-**
- Invited Guest Editor for *ChemSusChem* in **2017** (special issue on CO<sub>2</sub> catalysis)
- Selected as an *Outstanding Reviewer* for *Catalysis Science & Technology* (RSC) by the editorial board, March **2016**
- Chair of the *Conference on Carbon Dioxide Catalysis* (CDCC-1) conference (Portugal, Albufeira), April **2016**
- Advisory board member of *ChemSusChem* (Wiley; IF<sup>2023</sup> = 8.4), **2016-2019**
- Editorial board member for *Current Organic Chemistry* (Bentham; IF<sup>2023</sup> = 2.6), **2014-2020**
- External scientific panel member for the ANR (France) since **2014**
- Invited Guest Editor for *Catalysis Science & Technology* (RSC) in **2014** for a special issue concerning CO<sub>2</sub> conversion catalysis
- Management committee member of COST action CM1305, **2014-2019**
- Advisory board member for *Supramolecular Catalysis* (Versita Publishing) **2013-2015**
- Editorial board member for *ISRN Inorganic Chemistry* (Hindawi Publishing Corporation) **2013-2016**
- Visiting professor at the Universitat Rovira i Virgili (Tarragona, Spain), **2012-2020**
- Chemical consultant (Sabic, Hexion) in **2010-2011**.
- ICREA professorship (Catalonia) since **2011**
- Tenure track position at ICIQ – Tarragona in **2006**
- 🏆 ICREA junior fellow (Catalonia) in **2006**
- Financial performance award at Hexion Specialty Chemicals in **2005**
- Financial performance award at Avantium Technologies in **2002**
- IASOC (Italy) travel scholarship in **2002**
- 🏆 TALENT fellowship from The Netherlands Organization for Scientific Research (NWO, national science foundation) in **2001**
- PhD obtained *Cum Laude* in **2000**
- NWO-Chemical Sciences PhD fellowship **1996-2000**
- Citations (December **2023**): >18600, *h*-index = 72, *i10*-index = 194, average citations/published paper 77.0. Source: Google Academic.
- ~241 journal publications/book chapters and 6 patent applications.

## 2. Funding Record

- Beatriu de Pinós call **2024**, postdoctoral fellowship to Supriya Rej, **2025–2027** (Ref: 2023-BP-00059), "*Exploration of boron-based reducing agent for multiple borylation protocols: New route in photochemical borylation*", EVOLUTION, 152.864,70 Euro.
- MICINN/AEI, programa Estatal de Generación de Conocimiento 2023, **2024-2026** (Ref: PID2023-149295NB-I00), "*Advancing Metal-Assisted Transformations of Functionalized Heterocycles into Novel Stereodefined Scaffolds*", AVANT-GARDE, 268.750 Euro + FPI fellowship
- China Scholarship Council (CSC) PhD fellowship to Yue Ren, **2024-2028** (Ref: 2024-06350035) "*Catalytic Asymmetric Synthesis of Aza/Quaternary Stereocenters Using 1,3-Enynes as Versatile New Substrates*", 64.800 Euro.
- Marie Curie HORIZON-TMA-MSCA-PF-EF grant to Davide Rigo **2024-2026**, "*Isopropenyl esters (iPEs) as building blocks for the synthesis and recycling of renewable polyethers with tunable properties*" (ref: 101153094 – IMPULSE), 165,312.96 Euro
- Juan de la Cierva "Incorporation" PD grant to David H. Lamparelli, **2024-2026**, ref: JDC2022-048812-I, 70.000 Euro (granted but not accepted/executed)
- Marie Curie HORIZON-TMA-MSCA-PF-EF grant to Thiru Senthamarai **2023-2025**, "*The development of bio-supported homogeneous organocatalysts with improved recycling potential through sequential de- and re-polymerization and their use in CO<sub>2</sub> valorization catalysis*" (ref: 101110356-RECIRCULATE), 181,152.96 Euro
- Marie Curie HORIZON-TMA-MSCA-PF-EF grant to Matteo Lanzi **2023-2025**, "*Photocatalyzed enantiodivergent synthesis of homoallylic and carboxylic acids featuring heterodiaryl quaternary carbon stereocenters*" (ref: 101105057-PEACE), 165,312.96 Euro
- Grups de Recerca SGR-Cat **2021** Reconeguts i Finançats per la Generalitat de Catalunya 2021 (Ref: 2021-SGR-00853), "Research Group Kleij", 60.000 Euro.
- Beca predoctoral FPI **2021** (Ref: PRE2021-100384), Alejandro Delgado Montiel, "AVANZANDO LA SINTESIS CATALÍTICA DE ESTEREOCENTROS CUATERNARIOS", CONQUEST, 100.860 Euro
- Beatriu de Pinós call 2021, postdoctoral fellowship to Matteo Lanzi, **2022–2024** (Ref: 2021-BP-00162), "*C-SPLIT: Enantio-divergent synthesis of heterodiaryl substituted homoallylic alcohols featuring quaternary carbon stereocenters*", 144.300 Euro
- China Scholarship Council (CSC) PhD fellowship to Chengyang Chang, **2022-2025** (Ref: 2022-06920011) "*Catalytic Asymmetric Synthesis of Allylic Fluorides using Electrophilic and Nucleophilic Approaches*", 64.800 Euro.
- EU-HORIZON-TMA-MSCA-DN-JD (joint doctoral network), **2022** (Ref: 101073223), "D-Carbonize", 3.168.331,19 Euro (assigned to ICIQ: 876.770,98 Euro)
- MICINN-AEI-Juan de la Cierva **2020** (formación), postdoctoral fellowship, Matteo Lanzi (Ref: FJC2020-044116-I), 52.600 Euro
- BASF funded "Creativity Project", **2021** (Ref: 2021-29-AK), 120.000 Euro

- Agencia Estatal de Investigación (AEI), programa "Proyectos de Colaboración Internacional", PCI, **2021** (Ref: PCI2021-122021-2B), "Nickel-Catalyzed Regio- and Enantioselective Synthesis of Highly Substituted Allylic Amines", NEMESIS (Debasish Ghorai), 160.932,00 Euro
- ACCIÓ/Generalitat de Catalunya, programa 2021 Tecniospring INDUSTRY, **2022-2023** (Ref: ACE026/21/000087, Dimitrios Skoulas), "Composite Materials made from Biobased Limonene Originating Polycarbonates", COMBILOOP, 138.141,13 Euro
- MICINN, programa "Prueba de Concepto" de programa estatal de I+D+i orientada a los retos de la sociedad, **2021-2022** (Ref: PDC2021-120952-I00), "Design and Scale Up of Biobased Functionalized Polycarbonates for Adhesive and Coating Applications", MACROLEMON, 120.750 Euro
- MICINN, programa Estatal de Generación de Conocimiento 2020 - Agencia Estatal de Investigación, **2021-2023** (Ref: PID2020-112684GB-I00), "AVANZANDO LA SINTESIS CATALITICA DE ESTEREOCENTROS CUATERNARIOS", CONQUEST, 217.800 Euro
- China Scholarship Council (CSC) PhD fellowship to Wangyu Shi, **2021-2025** (Ref: 2021-06350046) "A Catalytic Cascade Approach towards Polymerizable Cyclic Organic Carbonates", 64.800 Euro.
- China Scholarship Council (CSC) PhD fellowship to Fengyun Gao, **2021-2025** (Ref: 2021-06180010) "Enantiodivergent Approach for the Synthesis of Diaryl All-Carbon-Substituted Quaternary Stereocenters", 64.800 Euro.
- Marie Curie H2020 MSCA-IF grant to Balász Tóth **2022-2024**, "Co/Photoredox Catalysis for the Synthesis of Fluorine-Containing Skipped Dienes Featuring a Quaternary Carbon Stereocenter" (ref: 101026029-FUSE), 160,932.48 Euro. \*4
- Europa Investigación **2020**, MINECO (Ref: EIN2020-112336) "ESTRATEGIAS PARA LA TRANSFORMACION CATALITICA DE LOS RESIDUOS PLASTICOS EN COMPONENTES VALIOSOS", 15.000 Euro.
- Europa Investigación **2020**, MINECO (Ref: EIN2020-112346) "RED DE FORMACION ENFOCADA EN NUEVAS RUTAS PARA VALORIZAR TRANSFORMACIONES BASADAS EN EL USO DE CO<sub>2</sub>", 14.982 Euro.
- China Scholarship Council (CSC) PhD fellowship to Qian Zeng, **2020-2024** (Ref: 2020-06920024) "Merging Stereo- and Enantioselective Decarboxylative Conversion of Vinyl Carbonates: Creation of Challenging Quaternary Carbon Stereocenters", 64.800 Euro.
- TRIPyr, "Tecnologías Químicas para la Valorización de Residuos Industriales en los Pirineos" (ref: EFA308/19 Interreg POCTEFA) **2020-2022**, 836.448,36 Euro totally financed; 84.000 Euro for the Kleij group.
- Marie Curie H2020 MSCA-IF-**2019** grant to Bart Limburg, "Photocatalyzed Formation of Amino Acids" (ref: 889754-PHOTOCARBOX), 160,932.48 Euro

- FPI predoctoral fellowship, Alba Villar Yanez **2019** (Ref: PRE2018-083947), "*Síntesis estereo y enantioselectiva para la valorización de heterociclos funcionales*", 92.750 Euro.
- DAAD (German Academic Exchange Service), postdoctoral grant to Alexander Lucht **2019** (Ref: 0001251653-1), "*Asymmetric Synthesis via Domino Allylic Alcohol Activation/Amination*", 15.786 Euro.
- Beatriu de Pinós call 2018, postdoctoral fellowship to Debasish Ghorai, **2020–2023** (Ref: 2018-BP-00243), "*Nickel-Mediated Regio- and Enantioselective Synthesis of Allylic Amines*", 144.300 Euro.
- China Scholarship Council (CSC) PhD fellowship to Xuetong Li, **2019–2023** (Ref: 2019-06870036) "*Synthesis of Chiral Heterocycles via Kinetic Resolution using Organocatalysis*", 64.800 Euro.
- China Scholarship Council (CSC) PhD fellowship to Jixiang Ni, **2019–2023** (Ref: 2019-06180075) "*Valorisation of CO<sub>2</sub> based Heterocycles: Stereocontrolled Transition Metal Catalyzed Decarboxylative Transformations*", 64.800 Euro.
- AGAUR/FEDER, Convocatòria d'Indústria del Coneixement (**2018**) Modalitat A. Llabor, "*POLIMON: Polyesters from renewable sources*" (Ref: 2018-LLAV-00078), 20.000 Euro.
- Marie Curie H2020 MSCA-IF grant to Francesco Della Monica **2018**, "*Sustainable Polyesters and Renewable Terpenoid Monomers*" (ref: 840557-SUPREME), 172.932,48 Euro
- La Caixa INPhINIT predoctoral fellowship to Nicola Zanda (co-supervised with Miquel Pericàs) **2018**, "*Catalytic Asymmetric Transformations in Continuous Flow: Telescoped Synthesis of Relevant Molecules and Beyond*", 115.500 Euro.
- Juan de la Cierva postdoctoral "*incorporación*" fellowship **2018** (Ref: IJCI-2017-33878), Bart Limburg, 70.000 Euro.
- China Scholarship Council (CSC) PhD fellowship to Chang Qiao, **2018–2022** (Ref: 2018-06200078) "*Using Terpene Building Blocks towards Biobased Polycarbonates and Polyesters*", 48.000 Euro.
- ICIQ/La Caixa valorization grant – project Bio-Logical! (**2018**); using biobased polymers derived from terpenes in new material development, estimated 10-15 kEuro
- "Convocatòria d'ajuts per donar suport a les activitats dels grups de recerca de Catalunya" (SGR **2017-2019**) – reference 9015-361170/2017 (2017-SGR-232), 44.480 Euro.
- MINECO research project **2018-2020** "*Stereo and Enantioselective Valorization of Functional Heterocycles*", RE-CYCLE-IT (Ref: CTQ2017-88920-P), 154.880 Euro.
- China Scholarship Council (CSC) PhD fellowship to Kun Guo, **2017-2021** (Ref: 2017-06920025) "*Decarboxylative Functionalization of Vinyl Carbonates using Carbon Nucleophiles*", 48.000 Euro.
- FPI/SO fellowship **2017-2021** Cristina Maquilón (Ref: SEV-2013-0319-17-3/BES-2017-081151) "*Substrate-assisted catalytic conversion of carbon dioxide into fine chemicals*", MINECO, 92.750 Euro.
- China Scholarship Council (CSC) PhD fellowship to Jianing Xie, **2016-2020** (Ref: 2016-06200061) "*New Opportunities for CO<sub>2</sub> Conversion into Monomers and Polymers*", 48.000 Euro.

- Marie Curie COFUND/Severo Ochoa program, postdoctoral grant Rui Huang, **2016-2018** (Ref: ICIQ-IPMP-2015-1) "*In Situ Spectroscopic Analysis of Catalytic Intermediates in CO<sub>2</sub> Conversion Catalysis*", 79.400 Euro.
- Marie Curie COFUND/Severo Ochoa program, postdoctoral grant **2016-2018** Nicole Kindermann (Ref: ICIQ-IPMP-2015-7) "*Advancing New Modes of CO<sub>2</sub> Activation and Application thereof in Organic Synthesis*", 79.400 Euro.
- FPI/SO fellowship **2015-2019** José Enrique Gómez (Ref: BES-2015-072614) "*Advancing new modes of CO<sub>2</sub> activation in organic chemistry*", MINECO, 70.000 Euro.
- Marie Curie COFUND/Severo Ochoa postdoctoral grant **2015-2017** Tharun Jose (Ref: ICIQ-IPMP-2015-1) "*New catalytic systems for continuous flow conversion of CO<sub>2</sub>*", 79.000 Euro.
- FPI predoctoral fellowship **2014-2017** (Ref: BES-2012-061904), related to CTQ2011-27385 project, 75.000 Euro.
- MINECO research project **2015-2017** "DESAROLLA DE NUEVAS METODOLOGIAS EFICIENTES PARA LA SINTESIS DE BIO-CARBONATOS" (Ref: CTQ2014-60419-R), 151.250,00 Euro
- FI predoctoral fellowship **2014-2017**, reference FI-DGR 2014 (G43619550), Generalitat de Catalunya (AUGUR), 60.000 Euro.
- FPU fellowship **2015-2017** (Ref: FPU14/00178) "*Desarrollo de Sistemas Catalíticos y Metodologías Para la Inserción del Dióxido de Carbono en Síntesis Química*", MINECO, 40.000 Euro.
- MINECO-Severo Ochoa PhD grant **2015-2018** (Ref: SEV-2013-0319-01) "*Activation of Small, Carbon-Based inert Molecules*", 70.000 Euro.
- Marie Curie IEF fellowship **2014-2016** (MSCA, Ref: FP7-PEOPLE-2013-IEF, RENOVACARB-622587 from the European Union, 166.336 Euro
- Cellex-ICIQ postdoctoral grant (*Discovery of New Catalysts for the Synthesis of Bio-Renewable Polymers and Heterocyclic Structures Incorporating CO<sub>2</sub> as a Synthone*) **2014-2016**, 70.000 Euro.
- Marie Curie COFUND program grant (Ref: ICIQ-IPMP-2013-1) **2013-2016**, 42.000 Euro.
- Tecniospring grant/ACCIÓ **2013** reference TECSPR13-1-0042 (ConduNT), Generalitat de Catalunya & Marie Curie scheme, 88.552,88 Euro.
- MICINN research project **2012-2014**, reference CTQ2011-27385, "*Conversión catalítica de CO<sub>2</sub> sobre condiciones suaves utilizando complejos de tipo metallosalen*", 170.000 Euro.
- Industry collaborative project with Sabic **2011-2013**, 180.000 Euro.
- Postdoctoral grant through the Programa Consolider Ingenio 2010 program from MICINN, reference "INTECAT", **2011-2013**, 72.000 Euro.
- Contract research for Hexion Specialty Chemicals **2010** "*New Methodologies towards Fine Chemical Intermediates*", 10.000 Euro.
- Contract research for Uquifa S.L. (Catalonia, Spain) **2010** "*Synthesis of a Pharmaceutical Drug Component*", 83.000 Euro.
- Contract research for DOW Chemicals Benelux **2009** "*Synthesis of a dinuclear Zn complex*", 1250 Euro.
- FPU predoctoral fellowship from MICINN **2009-2011** (Ref: AP2009-4561), 50.000 Euro.

- Torres Quevedo grant from MICINN **2009-2011** (Ref: PTQ-09-01-00044), 21.884 Euro.
- FPU predoctoral fellowship from MICINN **2008-2011** (Ref: AP2008-02356), 37.000 Euro.
- FPU predoctoral fellowship from MICINN **2007-2010** (Ref: AP2007-03771), 37.000 Euro.
- MICINN research project **2009-2011** (Ref: CTQ2008-02050), 143.000 Euro.



### 3. Lecture Record since 2008

- **2025:** Invited lecture at University of Bayreuth, date to confirm
- **2025:** Invited lecture in Tübingen, date to confirm
- **2025:** Invited lecture at the Green Chemistry Centre York (UK), date to confirm
  
- **2025:** Plenary lecture at the Symposium on Biobased Polymers (Tübingen, Germany), October 9: "**Title**"
- **2025:** Invited lecture at the Gordon Research Conference on Heterocyclic Compounds (Newport, Salve Regina University, USA), June 22-27: "**Title**"
- **2025:** Invited lecture at the University of Parma (Italy), April 23: "**Title**"
- **2025:** Invited lecture at the University Milano Statale (Italy), April 22: "**Title**"
- **2024:** Invited lecture at the RSC Symposium on Chemical Feedstocks for Sustainable Industry (London, UK), December 12-13: "Catalytic Upgrading of Terpenes and Fatty Acids into Functionalized Polymers"
- **2024:** Invited lecture at the SCQ mini-congress "*Highlighting Organic Chemistry in Catalonia*" (auspices by EuCheMS), November 8: "Photocatalytic Strategies to Rapidly Access Molecular Complexity"
- **2024:** Invited lecture at WS2 "Polymer Synthesis" of *D*-Carbonize (Rennes, France), October 14+15: "Creation of Functional Monomers from Carbon Dioxide"
- **2024:** Invited lecture at the "Emerging Landscape of Organometallic Chemistry and Catalysis" symposium (virtual symposium at the ACS Fall meeting; Jitendra K. Bera), August 18-22: "Metal-Promoted Stereoselective Formation of Densely Functionalized Small Molecules"
- **2024:** Invited lecture at State Key Laboratory of Advanced Technology for Material Synthesis and Processing, Wuhan University of Technology (China), August 1: "Catalysis to Create Value from Carbon Dioxide and Biomass"
- **2024:** Plenary lecture at the 12<sup>th</sup> Workshop on Fats and Oils as Renewable Feedstock for the Chemical Industry (Dortmund, Germany), June 3-5 "Fatty Acid and Terpene Oxides as Versatile Precursors for Biobased Engineering Macromolecules"
- **2024:** Invited Seminar at the University of Crete (Greece), May 31: "Taming and Shaping the Synthetic Chemistry of Organic Carbonates through Catalysis"
- **2024:** Invited Seminar at the Universidad de Valladolid (Spain), May 23<sup>th</sup>: "Stereoselective Synthesis Empowered by Transition Metal Catalysis and Photochemistry"
- **2024:** Invited Lecture at "8<sup>a</sup>-Jornadas Red CASI" (Fuenterrabía), April 10+11 "Asymmetric Synthesis of Small Molecules Featuring Sterically Congested Carbon Stereogenic Centers"
- **2024:** Invited Lecture at the Autónoma University of Madrid (UAM), March 8: "Stereoselective Synthesis Empowered by Transition Metal Catalysis and Photochemistry"
- **2024:** Keynote lecture at the SISOC XIV (Torino, Italy), February 24-27: "Advancing the Synthesis of Congested Stereogenic Centers"
- **2024:** Invited lectures at the CaRLa Winter School on Homogeneous Catalysis (Heidelberg), February 11-16: 1<sup>st</sup> "Transition Metal Catalyzed Formation of

Sterically Challenging Stereocenters and Mechanistic Interpretation"; 2<sup>nd</sup> "Sustainable (Polymer) Catalysis for a Greener Future"

- **2024:** Plenary lecture at the 13<sup>a</sup> Trobada de Joves Investigadors dels Països Catalans, Secció Jove de la Societat Catalana de Química (Tarragona, Spain), 29-31 January: "Striving towards Circularity in the Catalytic Formation of Biobased Polymers"
- **2023:** Invited lecture at the ICOS-23 conference (Shanghai, China), October 15-20: "Catalytic Creation of Sterically Challenging Stereogenic Centers"
- **2023:** Invited lecture at the organic seminar series at the EPFL (host: Jerome Waser), September 25: "TM-catalyzed Formation of Bulky Stereogenic Centers: Concepts and Mechanistic Insights"
- **2023:** Keynote lecture at the EUCOMC XXV (Alcalá de Henares, Spain), September 4-8: "Catalytic Creation of Sterically Challenging Stereogenic Centers: Concepts and Mechanistic Insights"
- **2023:** Plenary lecture at the 6<sup>th</sup> EuChemS Conference on Green and Sustainable Chemistry (Salerno, Italy), September 3-6: "Empowering Carbon Recycling through Catalysis – Concepts and Opportunities"
- **2023:** Invited lecture at the ICCDU-XX (Bari, Italy), June 25-29: "Advancing the Non-Reductive Catalytic Transformation of Carbon Dioxide"
- **2023:** Invited lecture at the SCQ annual award ceremony (Barcelona), June 22: "A Catalytic Journey in Carbon Management and Recycling"
- **2023:** Keynote lecture at the 1<sup>st</sup> International Workshop of Green Chemistry, Cartagena (Murcia, Spain; <https://www.iwsuschem2023.org/>), May 8-11: "Catalytic Diversification using Carbon Dioxide: Functional Heterocycles and Polymerizable Monomers"
- **2023:** Invited lecture at the Aachen-Maastricht Institute for Biobased Materials (AMIBM, the Netherlands, Prof. Romano Orru), March 23: "Catalysis as a Key Approach to Upgrade Renewable Carbon into Chemicals and Polymers"
- **2023:** Invited lecture at the University of Helsinki (Prof. Timo Repo), March 10: "Catalytic Diversification using Carbon Dioxide: Towards Functional Heterocycles and Polymerizable Monomers"
- **2022:** Invited lecture at the lecture program of ICBMS at the University of Lyon (Lyon, France), November 24 "Catalysis for CO<sub>2</sub> Conversion and Stereoselective Decarboxylative Cross-Coupling Reactions"
- **2022:** Invited lecture at the S3Chem Smart Chemistry Specialization Strategy meeting organized by ACCIO (Tarragona, ICIQ), September 13+14 "Design, Synthesis and Recycling of (Potentially) Circular Polymers"
- **2022:** Plenary lecture at the Circuit Summer School (Quebec City, Canada), August 2+3: "Recycling and Valorization of Renewable Carbon Sources through Catalysis"
- **2022:** Keynote lecture at the ISGC conference (La Rochelle, France), May 19: "Upgrading Renewable Carbon to Chemicals and Polymers through Catalysis"
- **2022:** Invited lecture at the "Carbon Capture and Utilization: Challenges and Opportunities in Catalysis" conference organized at KAUST-SA (host: Kuo-Wei Huang), May 17 "Advancing Carbon Dioxide Management through Catalysis"
- **2022:** Keynote Lecture at XVI Reunión del Grupo Especializado de Polímeros GEP de la Real Sociedad Española de Química (San Sebastián, Spain), May 11: "Functional Polyesters and Polycarbonates from Renewable Carbon Sources"

- **2022**: Invited lecture at Delft University (host Prof. A. Urakawa), February 23: "Carbon Management Catalysis: Closing the Loop?"
- **2022**: Invited lecture for the Lecture Series of ICRI-BioM (Lodz, Poland), director Prof. Alexander Steinbüchel, February 25: "Catalytic Biomass Valorization: Taming a Sustainable Future"
- **2022**: Online lecture at Henkel (host: Dr Ligang Zhao), February 11: "Biopolymers derived from terpenes and fatty acids: access to functional polyesters and polycarbonates"
- **2021**: Invited seminar (virtual) at the University of Tokyo (host: Prof. Hirohiko Houjou), November 16: "Expanding Chemical Space for the Catalytic Upgrading of Carbon Dioxide"
- **2021**: Plenary lecture at the 5<sup>th</sup> EuChemS conference on Green and Sustainable Chemistry 5EUGSC (Prof. Konstantinos S. Triantafyllidis), September 29: "Exploring and Expanding Carbon Dioxide Chemical Space Through Novel Catalysis Approaches".
- **2021**: Invited lecture at the IUPAC CCCE 2021, symposium "New Frontiers in Biodegradable and Bioderived Polymers" (Prof. Chris Kozak), August 13-20: "Biopolymers derived from Terpenes: Access to Functional Polyesters and Polycarbonates".
- **2021**: Plenary virtual lecture at the "Sustainable Chemistry Lecture Series", SCLS (Prof. Shoubhik Das), May 20: "Carbon Dioxide as C1 Resource in Catalytic Upgrading"
- **2021**: Invited virtual lecture Green Chemistry Group of the Italian Chemical Society (SCI, Prof. Carmine Capacchione), April 27: "Carbon Dioxide as a Feedstock for Fine Chemical and Functional Polymer Development"
- **2021**: Invited virtual lecture at the MRS Spring Meeting & Exhibit 2021, in the symposium *Progress in green chemistry approaches for sustainable materials* (Prof. Christine Jerome), April 17-23: "Terpenes as Feedstock for Polymers: Structural Diversity and Post-Synthetic Opportunities"
- **2020**: Invited lecture at the 5<sup>th</sup> Green & Sustainable Chemistry Conference (Bonn, Germany), November 10+11: "Catalytic Recycling Strategies for Carbon Dioxide and its Conversion into Polymerizable Monomers"
- **2020**: Plenary lecture at 1<sup>st</sup> Young Chemists Summit in Austria (Innsbruck), September 22: "Catalysis for Improved Waste Management: Can Value be Merged with Sustainability? "
- **2020**: ICIQ internal seminar (Tarragona), July 3: "Creating and Transforming CO<sub>2</sub>-based Heterocycles using Catalysis"
- **2020**: Invited lecture at the University of Twente (the Netherlands), March 2: "Creating Value: Empowering Catalysis as Enabling Technology for the Conversion of Renewables"
- **2020**: Invited lecture at KAUST (Saudi Arabia), Carbon Capture and Utilization: Challenges and Opportunities, February: "Building up Complexity through Stereoselective Transformations of Modular Heterocyclic Substrates"
- **2020**: Invited lecture at the Organisch-Chemisches Institut, Westfälische Universität Münster (Germany), January 14: "Upgrading CO<sub>2</sub> based Heterocycles through Diastereo- and Enantioselective Synthesis"
- **2020**: Invited lecture at BASF (Münster, Germany), January 15: "Turning Waste into Value through Catalysis: Fine-Chemical and Polymer Synthesis"

- **2019:** Invited lecture at the Universitat de Barcelona (Spain), November 7: "From Carbon Dioxide to Heterocycles and Beyond: Stereoselective and Asymmetric Synthesis"
- **2019:** Invited Lecture at Sichuan University, College of Chemistry (host: Prof. Da-Gang Yu), October: "Carbon Dioxide based Heterocycles: From their Conception to Applications in Stereocontrolled Synthesis"
- **2019:** Invited Lecture at Xi'an Jiaotong University, Frontier Institute of Science and Technology (FIST), (host: Prof. Wusheng Guo), October: "Carbon Dioxide based Heterocycles: From their Conception to Applications in Stereocontrolled Synthesis"
- **2019:** Invited Keynote at the International Green and Sustainable Chemistry Conference (Beijing, China), October: "Carbon Dioxide Based Heterocycles: New Concepts and Opportunities"
- **2019:** Invited Keynote lecture at the ICCDU (Aachen, Germany), June: "New Catalytic Approaches for CO<sub>2</sub> Valorization into Heterocycles"
- **2019:** Invited lecture at the University of Amsterdam, Van 't Hoff Institute for Molecular Sciences (Amsterdam, The Netherlands), June: "Transition Metal Mediated Formation of Elusive Stereocenters through the Use of CO<sub>2</sub>-based Synthons"
- **2019:** Invited lecture at Mercachem (Nijmegen, The Netherlands), June: "Stereoselective and Asymmetric Synthesis of Small Molecules Empowered by Carbon Dioxide"
- **2019:** Invited lecture at the University of Groningen, Stratingh Institute (Groningen, The Netherlands), June: "Transition Metal Mediated Formation of Elusive Stereocenters through the Use of CO<sub>2</sub>-based Synthons"
- **2019:** Invited Lecture at Syncom BV (Groningen, The Netherlands), June: "Stereoselective and Asymmetric Synthesis of Small Molecules Empowered by Carbon Dioxide"
- **2019:** Invited Lecture at Lubrizol (Montmeló, Spain), April: "Catalytic Preparation of Polyesters, Polycarbonates and Polyurethanes derived from Renewable Feedstock"
- **2019:** Invited lecture at the University of Salerno (Italy, Prof. Carmine Capacchione), May: "From CO<sub>2</sub> to Value: A Catalytic Journey"
- **2018:** ACCIO day on Interreg S3Chem "Smart Chemistry Specialization Strategy", November: "Polímers que incorporen CO<sub>2</sub> i Llimonè"
- **2018:** Research visit to the Universitat Politècnica de Catalunya (Prof. Carlos Alemán's group), November: "Catalytic Preparation of Polyesters and Polycarbonates derived from Renewable Feedstock"
- **2018:** Invited lecture at the University of Tokyo (Japan; Prof. Kyoko Nozaki), August: "Tsuji-Trost inspired Stereoselective and Asymmetric Synthesis of Allylic Scaffolds"
- **2018:** Invited lecture at the ICC-2018 in Sendai (S49, Japan), August: "A Domino Approach towards the Synthesis of Elusive Heterocycles from Carbon Dioxide"
- **2018:** Invited lecture at the University of Osaka (Japan; Prof. Satoshi Minakata), July: "Tsuji-Trost Chemistry as Inspiration for Stereoselective Synthesis from Small Heterocyclic Scaffolds".
- **2018:** Invited Lecture at the ICOMC-28, Florence (Italy), July: "Carbon Dioxide Based Heterocycles in Asymmetric Catalysis Space"

- **2018:** Invited lecture at XXVII RSEQ Biental Meeting of Organic Chemistry (Santiago de Compostela, Spain), June: "Beyond Classical Reactivity in Decarboxylative Tsuji-Trost Transformations"
- **2018:** Invited lecture at the VI Workshop on Sustainable Chemistry Tools in Green Chemistry, Universitat Jaume I (Castellón), May: "Catalysis as a Key Enabling Technology for CO<sub>2</sub> Valorization"
- **2018:** Invited lecture at the conference '*Plastics are Future*' symposium in Valencia (Spain), April: "Innovadores Biopolímeros a partir de CO<sub>2</sub> ¿Un nuevo Camino hacia los Policarbonatos sin Bisfenol?"
- **2018:** Invited lecture at the Vrije Universiteit van Amsterdam (The Netherlands), March: "Exploring Organic Chemistry Space with Cyclic Carbonates"
- **2018:** Invited lecture at the 6<sup>th</sup> Conference on Carbon Dioxide as Feedstock for Fuels, Chemistry and Polymers (Cologne, Germany), March: "Where Carbon Dioxide and Terpenes Merge into Biopolymers: Creating Potential as Platform Molecules for the Polymer Industry"
- **2018:** Invited lecture at the Molecular Science and Nanosystems Department from the Università Ca' Foscari Venezia (Italy), February: "Substrate-Controlled Activation of CO<sub>2</sub> towards Molecular Complexity"
- **2018:** Invited lecture at the "Small Molecules Workshop" in Venice (Italy), February: "Catalytic Valorization of Carbon Dioxide and Beyond in Organic Chemistry Space"
- **2017:** Invited lectures at the ICASEC Summer School 2017 in Göttingen (Germany), September: "Concepts and Strategies in CO<sub>2</sub> conversion and Valorization", and "Building up Molecular Complexity with CO<sub>2</sub>: Fine-Chemicals, Pharmaceuticals and Biobased Polymers".
- **2017:** Keynote lecture at the 3EUGSC in York (UK), September: "Modulation of Thermal Properties of Terpene-Based Polymers: Access to Unusually High Glass Transitions"
- **2017:** Invited lecture at Shanghai Jiao Tong University (China), July: "Carbon dioxide and Terpenes: From Waste to Value"
- **2017:** Invited talk at Sun Yat-Sen University, Guangzhou (China), July: "Carbon Dioxide in Advanced Organic Synthesis"
- **2017:** Invited talk at the State Key Laboratory and Institute of Elemento Organic Chemistry, Nankai University (China), July: "Carbon Dioxide in Advanced Organic Synthesis"
- **2017:** Invited talk at the Institute of Process Engineering (IPE), Chinese Academy of Sciences (CAS), Beijing (China), July: "Catalytic Preparation of Functional Cyclic Organic Carbonates"
- **2017:** Invited talk at the State Key Laboratory of Fine Chemicals, Dalian University of Technology (China), July: "Valorization of Organic Carbonates and Related Heterocycles"
- **2017:** Keynote lecture at the ICCDU-XV in Shanghai (China), July: "Building Up Molecular Complexity from Carbon Dioxide"
- **2017:** Lecture at the XXXVI Reunión Biental de la Real Sociedad Española de Química (RSEQ) in Sitges (Spain), June: "Carbon Dioxide: A Source of Renewable Carbon in Fine-Chemical Synthesis"

- **2017**: Invited Lecture in the MSE symposium of the Vidyasirimedhi Institute of Science and Technology in Rayong (Thailand), May: "Catalysis for CO<sub>2</sub> Valorization: Organic Carbonates as Synthetic Targets and Intermediates"
- **2017**: Invited Lecture at the 2<sup>nd</sup> SusChem/PTECO<sub>2</sub> joint conference *Use and Transformation of CO<sub>2</sub>* (Tarragona, Spain), May: "Modulation of Thermal Properties of Biobased Poly(limonene)-bis-Carbonates: Access to Unusually High Glass Transitions"
- **2017**: Invited seminar at Henkel AG & Co (Dusseldorf, Germany), April: "Catalytic Conversion of Renewable Compounds: Access to Biobased Polymers with Modular Properties"
- **2017**: Invited Lecture at LIKAT Rostock (Germany), January: "Cyclic Organic Carbonates: Synthesis and Application in Stereo- and Enantio-Selective Synthesis"
- **2016**: Invited lecture at the University of Liège (Belgium), November: "Organic Carbonates relevant for Fine Chemical and Polymer Applications"
- **2016**: Keynote lecture at the ICCDU-16 Sheffield (UK), September: "Catalytic Conversion of CO<sub>2</sub> towards and beyond Organic Carbonates"
- **2016**: Invited Lecture at Sheffield Hallam University (UK), September: "Vinyl Carbonates as Versatile Scaffolds in Stereo- and Enantioselective Synthesis"
- **2016**: ICC-42 Brest (France), July: "A Sustainable, Regio- and Stereoselective Formation of Highly Substituted (Z)-Allylic Amines"
- **2016**: Keynote at the Canadian Chemistry Conference (CSC, Halifax/Canada), June: "Sustainable Metals for Efficient CO<sub>2</sub> Conversion into Fine Chemicals and Polymers"
- **2016**: Invited Lecture at the 2<sup>nd</sup> Small Molecule Activation Conference (Cancun, Mexico), May: "Small Molecule Catalysis using CO<sub>2</sub>: Access to Valuable Organic Motifs"
- **2016**: Invited Lecture at the Carisma Meeting CM1205 (Ljubljana, Slovenia), March: "A Stereo-Selective Formation of Highly Substituted (Z)-Allylic Amines"
- **2016**: Invited Lecture at the University of Padova (Italy), March: "Carbon Dioxide Mediated Organic Synthesis Through Metal- and Organo-Catalysis"
- **2015**: 19<sup>th</sup> Annual Green Chemistry & Engineering Conference (Bethesda, USA), July: "Access to Renewable Biopolymers from Limonene and Carbon Dioxide"
- **2015**: 19<sup>th</sup> Annual Green Chemistry & Engineering Conference (Bethesda, USA), July: "Diastereoselective Preparation of cis-Diols from Organic Carbonates: Using CO<sub>2</sub> as a Temporary Protecting Group"
- **2015**: ICCDU-XIII Singapore, July: "Catalytic Organic Synthesis Using Organic Carbonates as Versatile Intermediates"
- **2015**: Invited Lecture at the Bienal RESQ (La Coruña), July: "Al(III) and Fe(III) Catalysts for the Conversion of Carbon Dioxide into Value-Added Organic Compounds and Polymers"
- **2015**: Invited Lecture at the Institute of Bioengineering & Nanotechnology (Singapore), July: "Catalytic Conversion of a Waste Material: Carbon Dioxide Valorization"
- **2015**: Invited Lecture at the RedINTECAT (CTQ2014-52974-REDC) meeting (Zaragoza), September: "Catalytic Upgrading of CO<sub>2</sub> to Value-Added Chemicals"
- **2015**: International Symposium on Green Chemistry (ISGC-3) May: "Advancing the catalysis of highly substituted oxiranes/CO<sub>2</sub> coupling reactions".

- **2015:** University of Leuven (Belgium), March: "Valorization of Carbon Dioxide: New Opportunities in Biorenewable Polymer and Carbamate Synthesis"
- **2015:** 1<sup>st</sup> SusChem/PTECO<sub>2</sub> joint conference "Use and transformation of CO<sub>2</sub>" (Madrid, Spain), February: "Creating Value from CO<sub>2</sub> and Renewable Feed Stocks: Biopolymer Synthesis"
- **2015:** Workshop RedIntecat (CTQ-2014-52974-REDC) (Tarragona), February: "CO<sub>2</sub> Catalysis, Renewables and Beyond"
- **2014:** Keynote at 7th Green Solvents Conference in Dresden (Germany), October: "Solvent-Controlled Reactivity and Selectivity Profiles in Carbon Dioxide Conversion Catalysis"
- **2014:** ICC-41 conference in Singapore (Singapore) July: "Highly Active and Selective Carbon Dioxide Conversion Catalysts"
- **2014:** COST CM1205 (Carisma) congress (Venice, Italy) May: "Carbon Dioxide as a Temporary PG: Efficient Synthesis of Cyclic Cis-Diol Scaffolds"
- **2013:** ACS spring meeting New Orleans, Special ENFL Symposium on CO<sub>2</sub>, April: "CO<sub>2</sub> Conversion into Organic Carbonates using a Metallosalen Catalyst: New Insights from DFT Analysis"
- **2013:** ISGC-2 conference La Rochelle (France), May: "Merging Organocatalysis and CO<sub>2</sub> Fixation: Efficient Synthesis of Organic Carbonates under Mild Conditions"
- **2013:** ICCDU-12 conference Alexandria (USA), June: "A powerful Al(III) catalyst for highly functional organic carbonate formation".
- **2013:** University of Leuven (Belgium), January: "New Powerful Catalysts in the Context of CO<sub>2</sub> Conversion".
- **2013:** Symmetry Festival Delft (The Netherlands), August: "Supramolecular Chirality at the Molecular Level and Beyond"
- **2013:** NOVA 2nd Conference on CO<sub>2</sub> as Feedstock for Chemistry and Polymers (Essen, Germany), October: "Catalytic Potential of Amino-Trisphenolate Complexes in Polycarbonate Synthesis"
- **2013:** JSCC-Coordination Chemistry meeting in Okinawa (Japan), November: "Neural Networks through Self-Assembly and their Use as CNT Dispersing Materials"
- **2013:** Graduate School of Engineering Science, Osaka University (Japan), October: "Carbon Dioxide as a Molecular Building Block in Organic Synthesis"
- **2013:** Department of Chemistry, University of Tsukuba (Japan), October: "Self-Assembly of Molecular Building Blocks: Building up Complexity"
- **2013:** JSCC-Coordination Chemistry meeting on Okinawa (Japan), November: "Neural Networks through Self-Assembly and their Use as CNT Dispersing Materials"
- **2013:** Department of Biology and Chemistry, Distinguished BCH Seminar, City University of Hong Kong, November: "Self-Assembly of Molecular Building Blocks: Building up Complexity"
- **2013:** Zing Coordination Chemistry Conference (Xcaret, Mexico), December: "Coordination compounds for the construction of functional nanomaterials"
- **2012:** ISMEC conference Lisbon (Portugal), June: "Supramolecular Chirogenesis with Schiff base Complexes: A Gateway for Determination of Absolute Configurations"
- **2012:** ICC-15 conference Munich (Germany), July: "Fe(III) Catalyzed Synthesis of Five- and Six-Membered Organic Carbonates"

- **2012:** ICC-15 conference Munich (Germany), July: "Synergistic effects in energy-efficient organocatalysed formation of organic carbonates"
- **2012:** ICC-40 conference Valencia (Spain), September: "Effective Supramolecular Chirogenesis Effects using Schiff Base Hosts"
- **2012:** "Giving Wings to Homogeneous Catalysts", Symposium honoring the 70th birthday of Piet van Leeuwen, Tarragona (Spain), February: "When Salen Structures Enter the Field of Homogeneous Catalysis"
- **2012:** COST CM1003 meeting Padova (Italy), May: "Reactivity control in Fe(III) complexes supported by amino triphenolate ligands"
- **2012:** Visit to PolyMaterials GMBH, Kaufbeuren (Germany), September: "Schiff Base Structures in Self-Assembly and Materials Chemistry"
- **2012:** University of Oxford (UK), September: "Carbon Dioxide as Reagent: Efficient Catalytic Strategies for its Conversion".
- **2011:** University of Girona (Spain) March: "Self-Assembly of Zn-based Salen Scaffolds: Cooperativity and Stability"
- **2011:** NCCC-XII conference (Noordwijkerhout, The Netherlands) March: "Supramolecular chirogenesis in metallosalen structures using carboxylic acids"
- **2011:** EICC-1 conference (Manchester, UK) May: "The peculiar case of tetra-coordinated square planar Zn(II)"
- **2011:** ICCDU-XI conference (Dijon, France), May: "Ambient Carbon Dioxide Fixation Catalysis"
- **2011:** ZING Coordination Chemistry Conference (Xcaret, Mexico), December: "Ambient Fixation of Carbon Dioxide: Myth or Reality?"
- **2010:** VU University Amsterdam (Netherlands) August: "Chirogenesis and Homogeneous Catalysis with Metallosalen Architectures"
- **2010:** CAFC-9 conference (Zaragoza, Spain) October: "Enantioselective approaches towards chiral cyclic carbonates"
- **2010:** COST D-40 meeting Ankara (Turkey) May: "Metallosalen Diversity: From Cooperative Catalysis to Carbon Dioxide 'Fixation' Chemistry"
- **2010:** PACIFICHEM 2010 (Honolulu, USA) December: "Supramolecular assembly behavior and catalytic features of macrocyclic metallosalen structures"
- **2009:** Royal Dutch Chemical Society (KNCV) meeting (Amsterdam, The Netherlands) May: "Metathesis as a convenient preparative tool for multinuclear metallosalens and their catalytic application in the hydrolytic kinetic resolution of (*rac*)-epoxides"
- **2009:** University of Utrecht (The Netherlands) September: "Metallosalens: Modular Synthons for New Materials"
- **2008:** Royal Dutch Chemical Society (KNCV) meeting section Organic Chemistry (Groningen, The Netherlands) May: "New Applications for Salen Frameworks: Colorimetric Sensors and Homogeneous Catalysis"
- **2008:** DCC workshop (Tarragona, Spain) February: "Self-Assembling Heteromultimetallic Salen Structures: Towards Bimetallic Cooperative Catalysis"
- **2008:** LCC-ICIQ joint institutional meeting (Tarragona, Spain) January: "Self-Assembling Heteromultimetallic Salen Structures: Towards Bimetallic Cooperative Catalysis"
- **2008:** IMM-ICIQ joint institutional meeting (Nijmegen, The Netherlands) April: "The Renaissance of an 'Old' Ligand Framework: - The Salens are Comin'"



## 4. Organizational Activities

- **Organizer** of the 1<sup>st</sup> Bilateral Organic Chemistry meeting between the KNCV and RSEQ, Tarragona, November **2025**.
- **Co-organizer** of the symposium "Química Verde – Green Chemistry" at the Bienal de RSEQ in Bilbao, June 30-July 3, **2025**. Invited main speakers: Paul Anastas (Yale, US), John Warner (Warner-Babcock Institute for Green Chemistry, US), Katalin Barta (Graz, Aus).
- **Co-organizer** of the 2<sup>nd</sup> Reunió de Química Inorgànica I Organometàl·lica de la Societat Catalana de Química (SCQ) in Tarragona, February 5-7, **2025**. Invited plenaries included: Cathleen Crudden (Kingston, Ontario, Can.), Per-Ola Norrby (AstraZeneca, Swe), Eva Rentschler (Mainz, Ger).
- **Chair** of the **2019** ICIQ Summer School on "Chemical Technologies for CO<sub>2</sub> conversion" (Tarragona, Spain), 65 participants. Invited speakers: Atsushi Urakawa (TU Delft), Etsuko Fujita (Brookhaven National Laboratory, US), Jürgen Klankermayer (Aachen), Andreas Greiner (Bayreuth, Germany), Burkhard König (Regensburg), Victor de la Peña (IMDEA, Madrid), Cristina Saenz (Orchestra).
- **Chair** of the *EUCHEMS conference on Green Chemistry 2019* (Tarragona), 149 participants. Invited plenary/keynote speakers: Walter Leitner (Aachen, Germany), Paul Dyson (EPFL, Lausanne), Roger Sheldon (Delft University), Ben Buckley (Loughborough University), Michael Meier (U-Karlsruhe), Alessandra Quadrelli (Lyon), Nuria López (ICIQ, Spain), Siegfried Waldvogel (U-Mainz), David Cole-Hamilton (U-St. Andrews), Michael North (York), François Jérôme (Poitiers), Javier Pérez-Ramírez (ETH Zürich), Steve Nolan (Ghent), Ioannis Katsogiannis (Thessaloniki), Marcella Bonchio (Padova), Sophie Guillaume (Rennes).
- **Co-organizer** with Profs. Carmen Claver and Francisco José Fernández Álvarez of the symposium "Catalytic Small Molecule Activation and CO<sub>2</sub> Valorization" at the BIENAL-RSEQ in San Sebastian (Spain), **2019**. Main speakers: Antoine Buchard (Bath University, UK), Jarl-Ivar van der Vlugt (Universiteit van Amsterdam, NL), Blaž Likozar (Ljubljana, Slovenia), Marc Robert (Paris Diderot University, France).
- **Member** of the local organizing committee of *TrapCat-2* (Trans Pyrenean Meeting in Catalysis) in **2018** (October 18-19, Tarragona), around 90 participants. Main Speakers: Joost Reek (UvA, Amsterdam), Javier Pérez-Ramírez (ETH Zürich), Tibor Soos (HAS Institute, Budapest), Marc Robert (University Paris Diderot).
- **Organizer** of the symposium S49 "Catalytic Valorization of Carbon Dioxide" at the International Conference on Coordination Chemistry (43<sup>rd</sup> ICC, **2018**) in Sendai, Japan. Main speakers: Xiao-Bing Lu (Dalian, China), Tadashi Ema (Okayama, Japan), Da-Gang Yu (Chengdu, China), Tohru Yamada (Yokohama), Liang-Nian He (Nankai, Tianjin).
- **Co-organizer** of the second Spanish meeting entitled "Aportando Valor al CO<sub>2</sub>" May 9-10, **2017**, ICIQ – Tarragona. Main Speakers: Hermenegildo García (ITQ, Valencia), Carmen Claver (URV/CTQ, Tarragona), Atsushi Urakawa (ICIQ, Tarragona), José Ramón Ochoa (Tecnalia, Spain), James Leeland (Econic, Manchester), Víctor A. de la Peña O'Shea (IMDEA Energía, Madrid), Juan Ramón Morante (IREC, Spain).

- **Chair** of the *Carbon Dioxide Conversion Catalysis* CDCC-1 conference **2016** (Albufeira, Portugal). Main Speakers: Michael North (York, UK), Thomas Müller (Aachen/Covestro, Germany), Charlotte Williams (Oxford, UK), Thomas Werner (LIKAT, Rostock), Kyoko Nozaki (Tokyo), Keiichi Tomishige (Tohoku, Japan), Peter Styring (Sheffield, UK), Christophe Copéret (ETH Zürich, Switzerland), Thibault Cantat (IRAMIS, CEA, France).
- **Co-organizer** of the Retirement Symposium for Prof. Javier de Mendoza **2014**. Main speakers: Jean-Marie Lehn (Strasbourg, [Nobel Laureate](#)), Roeland Nolte (Nijmegen), Tomas Torres (Madrid), Jean-Pierre Sauvage (Strasbourg, [Nobel Laureate](#)).
- **Chair** of the organizing committee of the Van der Kerk Symposium **1999**, "*New Faces in the Dutch (In)organic Chemistry and Catalysis*", 100-120 participants. Main speaker: Ludger Wessjohann (Leibniz).
- **Co-organizer** of the Van der Kerk Symposium **1998** "*Functional Dendrimers, a Challenge in Catalysis and Materials*". Main speakers: Holger Frey (Mainz), Dieter Vogt (Aachen; now at: TU Dortmund, Germany).
- **Co-organizer** of the Van der Kerk Symposium **1997**, "*Structure and Reactivity of Organo-Copper Compounds*", 100-120 participants. Main speakers: Norbert Krause (Dortmund), Hans Bock (Frankfurt).

## 5. Editorial & Advisory Boards

- Advisory board member for *Advanced Synthesis & Catalysis* (Wiley), **2025**→
- Advisory board member for *Green Chemistry* (RSC), **2025**→
- Advisory board member for *Sustainable Chemistry for the Environment* (Elsevier), **2023**→
- Editorial board member of *Industrial Chemistry & Materials* (ICM, RSC), **2022**→
- Associate Editor for *Green Synthesis and Catalysis* (Elsevier), **2021**→
- Advisory board member for *ChemCatChem* (Wiley), **2021**→
- Advisory board member for *ACS Sustainable Chem Engin* (ACS), **2021**→
- Editorial board member for *ChemSusChem* (Wiley), **2020**→
- Associate Editor for *Organic Chemistry Frontiers* (RSC), **2019**→
- Invited Guest Editor for *Advanced Synthesis and Catalysis* (Wiley) **2019** (special issue on catalytic CO<sub>2</sub> conversion into organic compounds)
- Editorial board member for *Molecules* **2017-2020** (MDPI)
- Editorial board member for *Journal of CO<sub>2</sub> Utilization* (Elsevier) **2017**→
- Invited guest editor for *ChemSusChem* in **2017** (special issue on CO<sub>2</sub> catalysis)
- Advisory board member of *ChemSusChem* (Wiley) **2016-2019**
- Editorial board member for *Current Organic Chemistry* (Bentham), **2014-2020**
- Invited Guest Editor for *Catalysis Science & Technology* (RSC) in **2014** for a special issue concerning CO<sub>2</sub> conversion catalysis.
- Advisory board member for *Supramolecular Catalysis* (Versita Publishing), **2013-2015**
- Editorial board member for *ISRN Inorganic Chemistry* (Hindawi Publishing Corporation), **2013-2016**

## 6. Panels, Commissions of Trust & Scientific Duties

- Regular evaluator for various foreign funding schemes and panels including:
  - *Dutch VENI excellence scheme (NWO, The Netherlands)*
  - *The Engineering and Physical Sciences Research Council (EPSRC)*
  - *Hong Kong Research council (China)*
  - *ESF-COST scheme (European Union)*
  - *ACS Petroleum Research Funding scheme (USA)*
  - *Austrian Science Fund (Austria)*
  - *Agencia Nacional de Evaluación y Prospectiva (ANEP, Spain)*
  - *BOF grant scheme (Belgium)*
  - *ERC Starting grant scheme (European Union)*
  - *Estonian Research Council (ETAg)*
  - *King Fahd University of Petroleum & Minerals (KFUPM, Saudi Arabia)*
  - *Fonds de la Recherche Scientifique (Belgium)*
  - *Icelandic Research Fund (IRF)*
  - *Norwegian Research Council (NRC)*
  - *Several university funding programs (U-Namur, U-Liège, U-Leuven; Belgium)*
- Expert reviewer for all major scientific journals, around 100-130 times/year
- Management committee member of COST action CM1305 during **2014–2018**
- Seminar chairman at ICIQ in **2014**, invited speakers included: Alexander Alexakis (Genève), Herbert Mayr (Munich), Jean-Marie Lehn (Strasbourg), Kuiling Ding (Shanghai), Qi-Lin Zhou (Nankai), Matthias Beller (Rostock), Syuzanna R. Harutyunyan (Groningen), Carmen Carreño (Madrid), Géraldine Masson (Paris), Sensuke Ogoshi (Osaka), Gerhard Erker (Muenster), Kenneth G. Caulton (Indiana), Ronny Neumann (Weizmann Institute of Science), Charlotte Williams (Oxford), (35 in total).
- ICIQ Social Involvement Committee member, **2014–2017**.
- ICIQ Research Integrity and Ethics Committee member, **2018–2021**.
- ICIQ representative in the BIST working group on multidisciplinary research and strategy, **2018**–present.
- ICIQ representative for the Doctoral Academic Committee at the University Rovira i Virgili (Tarragona), **2018**-present
- External evaluator for the promotion of XXX (Bath University, UK) to Reader, **2019**.
- External evaluator for the promotion of XXX to Associate Professor (College of Science, National Chiao Tung University, Taiwan), **2019**.
- External evaluator for the promotion of XXX to Reader (Loughborough University, UK), **2019**.
- Member of the International Scientific Committee of the 9<sup>th</sup> IUPAC International Conference on Green Chemistry, Athens **2020**.
- Member of the scientific committee of the 6<sup>th</sup> Green & Sustainable Chemistry Conference **2021**.
- Member of the evaluation committee for the "XIX Edición de los Premios Lilly de Investigación" for doctoral students, **2021**.

- External evaluator for the nomination/appointment of XXX as “University Research Professor” at the MUN, Canada, **2022**
- Evaluation panel member of the Agencia Estatal de Investigación **2021** call “PROYECTOS ESTRATEGICOS ORIENTADOS A LA TRANSICIÓN ECOLÓGICA Y A LA TRASICIÓN DIGITAL”, second phase, July **2022**.
- Member of ICIQ´s Academic Commission, **2022**–
- Scientific advisory member for the IUPAC/CHAINS conference **2023**
- Evaluation panel member for the **2023** Dutch Catalysis Society (DCS) Thesis Award
- External evaluator for the candidacy of XXX for a tenure-track talent position at the University of Chinese Academy of Sciences (China), April **2023**.
- External evaluator for the promotion of XXX (University of Groningen, the Netherlands) to Full Professor, April **2023**.
- External evaluator for the nomination/appointment of XXX as “University Research Professor” at the MUN, Canada, **2023**
- Panel 11 member at the DFG for the program on the Clusters of Excellence **2023**
- Panel member for the evaluation of the “Convocatoria de Consolidación Investigadora” de Agencia Estatal de Investigación (AEI), **2023** – contact: José Manuel González Diaz.
- External evaluator for the promotion of XXX (Loughborough University, UK) to Full Professor, February **2023**.
- Part of the Selection Committee for the **2024** SCQ awards.
- Member of the external Scientific Organizing Committee of the **2025** ICCDU conference (Lisbon, Portugal)

## 7. Teaching & Supervision

- Universitat Rovira i Virgili (URV) course on “*Supramolecular Chemistry*” in the master program “*Synthesis and Catalysis*” **2009–2012** (2.0 credits/year)
- Universitat Rovira i Virgili (URV) course on “*Sustainable Catalysis*” in the master program “*Synthesis, Catalysis and Molecular Design*” **2015–present** (2.0-2.5 credits/year)

Supervised PhD Students with year/date of graduation:

1. **2029**: Yingying Wang (with CB) « start Jul ´25 »
2. **2028**: Giulio Gallorini « start Feb ´25 »
3. **2028**: Yue Ren « ongoing »
4. **2027**: Ángel Antunez « ongoing » (with MHP)
5. **2026**: Sara Faoro (D-Carbonize) « ongoing »
6. **2026**: Owais Sheikh (D-Carbonize) « ongoing »
7. **2026**: Angelo Scopano (D-Carbonize) « ongoing »
8. **2026**: Lilas Aabel (D-Carbonize) « ongoing »
9. **2026**: Natalia Kulbacka (D-Carbonize) « ongoing »
10. **2026**: Enrico Lanaro (D-Carbonize) « ongoing »
11. **2026**: Alejandro Delgado « ongoing »
12. **2026**: Chengyang Chang « ongoing »
13. **2025**: Wangyu Shi « ongoing », [scheduled for Nov ´25](#)
14. **2025**: Fengyun Gao « ongoing » [scheduled for Nov ´25](#)
15. **2024**: Qian Zeng, “Radical-Mediated Formation of Functionalized Allylic Synthons”, projected for [December 11](#)
16. **2024**: Alba Villar-Yanez, “Computational Insights of Catalytic Carbon Dioxide Valorization and Circular Recycling Processes”, [July 4](#)
17. **2023**: Jixiang Ni, “Ring-Opening of Cyclic Carbonates: From Fine Chemicals to CO<sub>2</sub>-based Polymers”, [October 24](#)
18. **2023**: Xuetong Li, “Silver-Catalyzed Cascade Conversions of CO<sub>2</sub> into Heterocycles”, [September 27](#)
19. **2023**: Alèria Garcia Roca, “Mechanistic Investigations on Transition Metal-Catalyzed Asymmetric Allylic and Propargylic Substitution Reactions”, [June 15](#)
20. **2022**: Chang Qiao, “Catalytic Formation of Heterocycles from  $\alpha$ - and  $\beta$ -Epoxy Alcohols” [June 23](#)
21. **2022**: Nicola Zanda, “Continuous Flow Catalysis for the Valorization of Carbon Dioxide”, [June 27](#)
22. **2021**: Kun Guo, “Copper and Nickel Promoted Transformations of Alkyne based Cyclic Carbonates”, [December 20](#)
23. **2021**: Sijing Xue, “Dual Transition Metal/Photoredox Catalysis for the Synthesis of Quaternary Carbon Stereocenters”, [December 10](#)
24. **2021**: Cristina Maquilón, “New and Functional Cyclic Carbonates for Polymer Applications”, [October 11](#)
25. **2021**: Àlex Cristòfol, “Stereoselective Transformations of Vinyl Cyclic Carbonates and Applications in Natural Products Synthesis”, [October 8](#)

26. **2020**: Jianing Xie, "Advancing Pd-catalyzed Stereoselective Allylic Substitution Reactions", [October 15](#)
27. **2019**: Aijie Cai, "Pd-catalyzed Allylic Substitution for the Construction of Quaternary Stereocenters", [December 12](#)
28. **2019**: José Enrique Gómez, "Stereoselective Synthesis of Sulfones and Amino Acids from Functionalized Heterocycles", [September 12](#)
29. **2018**: Sergio Sopeña de Frutos, "Organocatalytic Transformations of Carbon Dioxide and Cyclic Carbonates", [March 22](#)
30. **2017**: Víctor Laserna, "Small Molecule Activation for the Formation of Heterocyclic Compounds", [October 25](#)
31. **2017**: Jeroen Rintjema, "Aluminum-Catalyzed Coupling of Carbon Dioxide and Cyclic Ethers", [October 31](#)
32. **2017**: Leticia Peña Carrodegua, "Synthesis of Biobased Polymers derived from Terpenes", [July 4](#)
33. **2016**: Luis Martínez Rodríguez, "Molecular and Catalyst Design for Recognition and Activation of Small Molecules", [November 2](#)
34. **2013**: Daniele Anselmo, "Lewis Acidic Zn(II) Schiff Base Complexes in Homogeneous Catalysis", [April 4](#)
35. **2013**: Giovanni Salassa, "Supramolecular, Photophysical and Catalytic Properties of Zn(salphen) based Complexes and Materials", [July 12](#)
36. **2011**: Sander Johannes Wezenberg, "Exploring Metallosalen Complexes in Materials Science and Catalysis", [July 1](#)

Supervised students, origin and type:

1. Nina Carretero	Spain	summer fellow ( <b>2009</b> )
2. Danilo Misseri	Italy	summer fellow ( <b>2010</b> )
3. Leire San Felices	Spain	summer fellow ( <b>2011</b> )
4. Alessia Coletti	Italy	visiting PhD student ( <b>2012</b> )
5. Jonathan Rojas	Mexico	master intern ( <b>2012</b> )
6. Margerita Dimitrova	Bulgaria	master intern ( <b>2012</b> )
7. Victor Laserna	Spain	summer fellow ( <b>2012</b> )
8. Blerina Gjoka	Italy	visiting PhD student ( <b>2013</b> )
9. Moritz Stuck	Germany	master intern ( <b>2016</b> )
10. Àlex Cristòfol	Spain	summer fellow ( <b>2016</b> )
11. Roel Epping	Netherlands	master internship ( <b>2016</b> )
12. Claudia Micelli	Italy	visiting PhD student ( <b>2017</b> )
13. Silvia Gaspa	Italy	visiting PhD student ( <b>2017</b> )
14. Mariachiara Cozzolino	Italy	visiting PhD student ( <b>2017</b> )
15. Maeve Guilty	Ireland	summer fellow ( <b>2017</b> )
16. Vicente Dorado	Spain	visiting PhD student ( <b>2018</b> )
17. Michela Marchese	Italy	master intern ( <b>2018</b> )
18. Christian Böhmer	Germany	master intern ( <b>2018</b> )
19. Sarah Dechent	Germany	visiting PhD student ( <b>2018</b> )
20. Josefina Sprachmann	Austria	master intern ( <b>2019</b> )
21. Vatcharaporn Aomchad	Thailand	visiting PhD student ( <b>2019</b> )
22. Marta Romero Ribas	Spain	summer intern ( <b>2021</b> )
23. Iliaria Grimaldi	Italy	master intern ( <b>2022</b> )
24. Dirk Hüsstege	Netherlands	master intern ( <b>2022</b> )
25. Alannah Constable	Canada	summer fellow ( <b>2022</b> )
26. Diego Meneses	Spain	master intern ( <b>2022</b> )
27. Lorentz Dittrich	Germany	master intern ( <b>2023</b> )
28. Paolo Orlando	Italy	visiting PhD ( <b>2023</b> )
29. Rihab Ferjani	Tunisia	summer fellow ( <b>2023</b> )
30. Silvia Bravo	Spain	bachillerato student ( <b>2023</b> )
31. Yamini Nirwan	Germany	master intern ( <b>2023</b> )
32. Rodrigo Nogués	Spain	summer fellow ( <b>2024</b> )
33. Ward Vermeer	Netherlands	master intern ( <b>2024</b> )
34. Claudio Manservisi	Italy	master intern ( <b>2025</b> )



Supervised postdoctoral associates and origin (year started):

1. Belén Rodríguez Spain (**2008**)
2. Robert Haak Netherlands (**2009**)
3. Antonello Decortes Italy (**2009**)
4. Anna María Castilla Spain (**2010**)
5. Chris Whiteoak United Kingdom (**2011**)
6. Martha Escárcega Mexico (**2011**)
7. Sander Wezenberg Netherlands (**2011**)
8. Nicola Kielland Italy (**2012**)
9. Giulia Fiorani Italy (**2013**)
10. Carmen Martín Spain (**2014**)
11. Wusheng Guo China (**2015**)
12. Tharun Jose India (**2015**)
13. Rui Huang China (**2015**)
14. Nicole Kindermann Germany (**2015**)
15. Bart Limburg Netherlands (**2019**)
16. Francesco Della Monica Italy (**2019**)
17. Alexander Lücht Germany (**2019**)
18. Debasish Ghorai India (**2020**)
19. Jeroen Rintjema Netherlands (**2021**)
20. Arianna Brandolese Italy (**2021**)
21. Balász Tóth Hungary (**2022**)
22. Dimitrios Skoulas Greece (**2022**)
23. David Lamparelli Italy (**2022**)
24. Thirusangumurugan  
Senthamarai Ganapathy India (**2022**)
25. Matteo Lanzi Italy (**2022**)
26. Stephanie Amos United Kingdom (**2024**)
27. Davide Rigo Italy (**2025**)
28. Supriya Rej India (**2025**)
29. Viktor Bliksted Denmark (**2025**)

## 8. Kleij Group Alumni

1. Dr. Daniele Anselmo Customs Brokerage Agent at Manto Shipping & Consulting (Italy)
2. Dr. Belén Rodríguez CMC Regulatory Affairs Manager (Almirall, Spain)
3. Dr. Antonello Decortes Global Product Management at Clariant (Italy)
4. Dr. Chris Whiteoak Senior lecturer in chemistry (Sheffield, UK)
5. Dr. Giulia Fiorani Assistant Professor (Venice, Italy)
6. Dr. Sander Wezenberg Associate Professor (University of Leiden, The Netherlands)
7. Dr. Nicole Kindermann Evonik Industries (Germany)
8. Prof. Wusheng Guo Professor at FIST Center for Organic Chemistry (Xi'an, China)
9. Dr. Robert Haak R&D Project Manager, Beniparell (Valencia)
10. Dr. Ana Maria Castilla Lecturer (Queen Mary University of London)
11. Dr. Martha Escárcega Research Professor UNAM (Mexico City)
12. Dr. Carmen Martín Assistant professor (Universidad Complutense Madrid, Spain)
13. Dr. Victor Laserna Senior scientist (AstaZeneca, UK)
14. Dr. Luis Martínez Senior Patent Liaison Manager (Umicore)
15. Dr. Leticia Peña Postdoc with Charlotte Williams (Oxford)
16. Dr. Nicola Kielland Project Manager (University of Barcelona)
17. Dr. Jeroen Rintjema Senior TS&D Specialist at DOW (Tarragona)
18. Dr. Giovanni Salassa Marie Curie fellow at the University of Geneva
19. Dr. Rui Huang Suzhou Research Institute of LICP, Lanzhou Institute of Chemical Physics (LICP), Chinese Academy of Sciences
20. Dr. Tharun Jose Freelance Business Developer, Deo Favente Group International Co.W.L.L, Deo Favente Logistics (DFL, Germany)
21. Dr. Sergio Sopena Business Development Manager (ICIQ, Tarragona)
22. Dr. José Enrique Gómez Research scientist at Janssen (Toledo, ESP)
23. Dr. Aijie Cai Postdoc with Prof. Wei Liu, Miami University (USA)
24. Josefine Sprachmann PhD student with Oliver Dumele (HU Berlin)
25. Dr. Alexander Lucht Assistant production manager at LIPOID (Ludwigshafen, GER)
26. Dr. Jianing Xie Postdoc with Prof. Herbert Waldmann (MPI Dortmund)
27. Dr. Àlex Cristòfol Postdoc with Darren Dixon, Oxford University (UK) at Cortex Organics
28. Dr. Kun Guo Postdoc with Prof. Shoubhik Das (Antwerp)
29. Dr. Francesco Della Monica Assistant Professor at the University of Insubria (Italy)
30. Dr. Chang Qiao Postdoc at CARLA, Heidelberg University

31. Dr. Arianna Brandolese Group Leader at the University of Birmingham (UK)
32. Dr. Nicola Zanda Research Associate in SpiroChem AG (Switzerland)
33. Ilaria Grimaldi PhD position with Carmine Capacchione (Salerno, Italy)
34. Dr. Bart Limburg Lecturer at the University of Barcelona (UB) & ERC StG laureate
35. Dr. Alèria Garcia Postdoc with Matt Sigman, University of Utah (USA)
36. Diego Meneses PhD student with Prof. Romano Orru (Aachen-Maastricht Institute for Biobased Materials, AMIBM, the Netherlands)
37. Dr. Sijing Xue Xtalpi BioPharma, Shanghai (China)
38. Dr. Matteo Lanzi Tenure track Assistant Professor, University of Parma (Italy)
39. Dr. David H. Lamparelli Research Assistant at the University of Salerno (Italy)
40. Dr. Alba Villar Yanez Project coordinator at ICIQ (Spain)
41. Dr. Balázs Tóth API project manager at Richter Gedeon PI (Hungary)

## 9. Invited Thesis Tribunals/External Evaluations

- **2025:** Xiaoqing Shao (ICIQ, Prof. Antonio Echavarren)
- **2024:** Carles Lluna-Galán (ITQ/UPV, Drs. José Ramón Cabrero/Rosa Adam)
- **2024:** Carlos Franco (Sevilla, Prof. José María Lassaletta)
- **2024:** Ella Clark (Bath, UK, Prof. Antoine Buchard) - ONLINE
- **2023:** Wei Zhou (ICIQ, Prof. Paolo Melchiorre)
- **2023:** Mikus Purins (École Polytechnique Fédérale de Lausanne, Prof. Jerome Waser)
- **2023:** Jere Mannisto (University of Helsinki, Prof. Timo Repo)
- **2023:** Adriana Faraone (ICIQ, Prof. Paolo Melchiorre)
- **2022:** Miguel Palenzuela Cebrián (Alcalá de Henares, Spain)
- **2022:** Ferrán Esteve Franch (Castellón, Spain)
- **2022:** Jordi Sans (UPC, Barcelona, Carlos Alemán)
- **2022:** Arjen Kamphuis, University of Groningen (the Netherlands)
- **2022:** Vitor Bonamigo Moreira, Universitat Politècnica de Catalunya (Spain)
- **2021:** Andrea Guerrero, Universidad Autónoma de Madrid (Spain)
- **2021:** Eugenio Gandolfo (ICIQ, Tarragona, Spain)
- **2021:** Marc Martínez de Sarasa, Universidad de Castilla-La Mancha (Spain)
- **2021:** Roberto Calmanti, University Ca' Foscari Venezia (Italy)
- **2020:** Anastasia Tkacheva (ICIQ, Tarragona, Spain)
- **2019:** Myriam Souleymanou, Universitat Rovira i Virgili (Tarragona, Spain)
- **2019:** Juan José Corral (ICIQ, Tarragona, Spain)
- **2019:** Tanmoy Biswas (IISER-Kolkata, India)
- **2019:** Simone Cailotto, University Ca' Foscari Venezia (Italy)
- **2019:** Gregorio Bonazza, University Ca' Foscari Venezia (Italy)
- **2019:** Eszter Fazekas, University of Edinburgh (UK)
- **2018:** Jeroen Rombouts, Vrije Universiteit Amsterdam (the Netherlands)
- **2017:** María Fernández Millán, Universidad Alcalá de Henares (Spain)
- **2017:** Zhouting Rong (ICIQ, Tarragona, Spain)
- **2017:** Katalin Devaine-Pressing (MUN, Canada)
- **2017:** José Ramón Romero (ICIQ, Tarragona, Spain)
- **2017:** Claudia Miceli, University of Padova (Italy)
- **2016:** Margot Alves, University de Liège/Bordeaux (Belgium/France)
- **2016:** Sara Ranjbar (ICIQ, Tarragona, Spain)
- **2015:** Laia Cuesta Aluja, Universitat Rovira i Virgili (Tarragona, Spain)
- **2015:** Saša Korom (ICIQ, Tarragona, Spain)
- **2014:** Masoumeh Taherimehr, University of Leuven (Belgium)
- **2014:** Ana Martinez Asencio, Universitat d'Alicante (Spain)
- **2013:** Pradip Kumar Dutta, Indian Institute of Science Education and Research, Department of Chemical Sciences Kolkata (West Bengal, India)
- **2013:** José Luis Núñez Rico (ICIQ, Tarragona, Spain)
- **2013:** Oriol Martínez Ferraté (ICIQ, Tarragona, Spain)
- **2012:** Alessia Coletti, University of Rome Torre Vergata (Italy)
- **2012:** Rubén Chico Robles, Universidad de Valladolid (Spain)

## 10. Most Recent and Present Collaborations

- Prof. Mónica Pérez-Temprano, ICIQ-Tarragona (Spain); *Cobalt chemistry and mechanistic analysis*
- Prof. Sophie Guillaume, University of Rennes (France); *ring-opening polymerization of larger-ring heterocycles*
- Prof. Miquel Pericàs, ICIQ-Tarragona/Universitat Rovira i Virgili (Spain); *supported catalysis and flow reactions*
- Prof. Giulia Licini, Padova University (Italy); *bifunctional catalysts for CO<sub>2</sub> conversion*
- Prof. Carles Bo, ICIQ-Tarragona (Spain); *mechanistic work on CO<sub>2</sub> catalysis using DFT methods*
- Prof. Feliu Maseras, ICIQ-Tarragona (Spain); *computational analysis of organometallic catalysis*
- Prof. Genping Huang, Tianjin University (China); *computational analysis of asymmetric reactions*
- Prof. Christophe Detrembleur, University of Liège (Belgium); *CO<sub>2</sub> based polymers and material science applications*
- Prof. Atsushi Urakawa, Delft University (the Netherlands); *continuous flow and in situ spectroscopic analysis of catalytic intermediates*
- Prof. Geoffrey Coates, Cornell University (Itaca, US); *biobased polyester development*
- Prof. Valerio D'Elia, VISTEC (Thailand); *new catalyst development for organic carbonate synthesis*
- Prof. Gerrit Luinstra, Hamburg University (Germany); *development of biobased carbonate containing polymers*
- Prof. Weibo Yang, Chinese Academy of Science (Beijing, China); *application of vinyl cyclic carbonates in synthetic applications*
- Dr. Gustavo Zelada-Guillén, National Autonomous University of Mexico (UNAM); *carbon nanotube based conducting materials*
- Prof. Marta Ramos, University of Minho (Braga, Portugal); *computational analysis of self-assembly processes*
- Prof. Elena Fernández, Universitat Rovira i Virgili (Tarragona, Spain); *stereoselective borylation reactions*
- Prof. José Mayoral, University of Zaragoza (Spain); *stereoselective formation of fatty acid based cyclic carbonates*
- Prof. Paolo Pescarmona, University of Groningen (the Netherlands); *organic carbonate synthesis under supercritical CO<sub>2</sub> conditions*
- Prof. Carlos Alemán and Dr. Elaine Armelin, Universitat Politècnica de Catalunya (Barcelona, Spain), *adhesive and coatings from biobased epoxy compounds*
- Prof. Haritz Sardon (POLYMAT, University of the Basque Country UPV/EHU); *NIPU's based on bioderived cyclic carbonates for coating applications*
- Dr. Ignacio Funes, University of La Rioja (Logroño, Spain); *Computational analysis of Co/photoredox based transformations*
- Dr. Xiang-Wei Liu, Southwest Jiaotong University (Chengdu, China); *Pd-catalyzed Regio/stereoselective synthesis using vinyl cyclic carbonates*
- Prof. Stephen Hashmi (Heidelberg University), *catalytic recycling of biobased polycarbonates*

## 11. Scientific Outreach Activities

- Interview by Catalan Television (TV3, **2014**) to discuss the possibilities of bio-renewable polymers in relation to the use of BPA-based copolymers in various plastics. See: <http://blogs.ccma.cat/quequicom.php?itemid=53992>
- Promotion of CO<sub>2</sub> chemistry/catalysis via ICIQ's YouTube channel, see: <http://www.youtube.com/watch?v=NTLdall8TS4> (**2014**).
- Interview by Excelencia (2014), see the following link: <http://www.excelencia.org/articulo.asp?id=10053&catgrupo=26&tipocom=20>
- Interview by the Tarragona radio, program "Pa Cienca, La Nostra" discussing the use of CO<sub>2</sub> to prepare pharmaceutical intermediates, see the web link at: <http://www.paciencialanostrea.com/2017/03/programa-328-4-iii-17.html> (**2017**).
- Interview by the Austrian Public Broadcasting (radio; interviewer Juliane Nagiller; <http://oe1.orf.at>) concerning our developed bio-polymer based on lemons and CO<sub>2</sub> and the potential it has to serve as a replacement for bis-Phenol A/CO<sub>2</sub> based polycarbonates (**2017**).
- Interview by Radio Euskadi (Bask Country, Spain) concerning our developed biopolymer based on lemons and CO<sub>2</sub> and the potential it has to serve as a replacement for bis-Phenol A/CO<sub>2</sub> based polycarbonates (**2017**), see the web link at: <http://www.eitb.tv/es/radio/radio-euskadi/boulevard/4344156/5036397/nohagan-olas-23-08-2017/>
- Interview at ICIQ by a student (BSc level; Claudia Elijas), from the "L'Institut Pons d'Icart" in Tarragona) about research with a focus on changes in the climate, and the effect this may have on the future of the (global) climate (**2017**).
- Interview by Cristina Herrero (Colegio Sant Andreu de Badalona/Barcelona), Primero de Bachillerato en el ámbito científico) our developed biopolymer based on lemons and CO<sub>2</sub> and the potential it has to serve as a replacement for bis-Phenol A/CO<sub>2</sub> based polycarbonates (**2017**).
- Article on "Chemistry Today/Chimica Oggi" providing commentaries on the viability of the use of PLC in commercial products in a column prepared by Mario Pagliaro. See for the latest issue: [http://www.teknoscienze.com/tks\\_issue/vol-356/](http://www.teknoscienze.com/tks_issue/vol-356/)
- Our work on poly(limonene)carbonate was promoted in Catalunya Diari, see: <https://catalunyadiari.com/societat/desenvolupen-un-nou-metode-per-produir-plastics-a-catalunya-amb-pela-de-citrics> (**2017**).
- Interview with Andres Masa (magazine "Quo") about the use of carbon dioxide in various industrial applications and future perspectives, 26-July-**2018**.
- Involved in setting up a visit of 10 MSc students from Sheffield Hallam University (UK) to ICIQ on February 26-28 (**2019**), including a seminar on CO<sub>2</sub> valorization routes.
- External expert speaker and jury member of the Spanish Finals of the European Youth Debating Competition. Theme: "Reuse, Recycle, Rethink: What is your Vision for a Sustainable Future with Plastics and Petrochemicals?", March 26, **2019**.
- Program "Bojos por la química - crazy about chemistry", seminar on the development of alternative biobased polymers to alleviate the problems associated with plastic disposal and accumulation for 20-25 "bachillerato" level students from Tarragona, February 22, **2020**.

- Video-interview by XRE4S focusing on “Cápsula de tecnología” about our CO<sub>2</sub>-based polymer and fine-chemicals portfolio, March 8, **2021**. Details: <https://youtu.be/jfbTeeJ6pK8>
- Interview by “Chemical Today” (contact: Raghavendra Udayagiri) about “The expanding possibilities of bio-based polymers”, March **2021**.
- Radio + interview by Diari Més Tarragona **2021**, about our catalytic conversion of waste-into-polyesters process in the context of the TriPYR/POCTEFA project, [https://www.diarimes.com/noticies/tarragona/2021/11/30/investigadors\\_iciq\\_est\\_udien\\_com\\_convertir\\_brossa\\_nous\\_plastics\\_114252\\_1091.html](https://www.diarimes.com/noticies/tarragona/2021/11/30/investigadors_iciq_est_udien_com_convertir_brossa_nous_plastics_114252_1091.html).
- Opinion article in the *Diari de Tarragona* on the need for a circular chemistry to increase sustainability, March **2022**.
- Podcast on the use of biobased plastics as a remedy towards problems associated to micro-plastic and general pollution by plastic materials (framework “Blau de Prússia: Bioplàstics i Alternatives al fàstic”), Tarragona Radio 96.7 FM, April 19, **2022**
- Interview with the Diari de Tarragona about the topic of CO<sub>2</sub> capture, use and transformation, November 4, **2022**
- Interview in EuChemS Magazine around the **2023** ESCA award, March, Interviewer: Marton Kottmayer, <https://www.magazine.euchems.eu/interview-with-arjan-kleij/>.
- Presentation on “Catalytic Upgrading of Bio-Carbon: En Route to a Sustainable Future?” for Delft University of Technology students visiting ICIQ, May 29, **2023**
- Presentation on “Catalytic Upgrading of Bio-Carbon: En Route to a Sustainable Future?” for Leiden University students visiting ICIQ, July 12, **2023**
- Blau de Prússia Podcast on the “use of renewable carbon sources” in sustainable catalysis and development, July 4, **2024** (@ICIQ) – together with Enrico Lanaro (*D-Carbonize*)
- Contribution to a coverage of the value and downsides of plastics in the journal “Industria Química” in **2025**.

## 12. Patent/Applications

1. **EP 11382301**, "USE OF IRON (III) AND ALUMINUM (III) AMINE COMPLEX AS A CATALYST FOR THE PREPARATION OF CYCLIC CARBONATES AND CARBAMATES", Chris J. Whiteoak, Arjan W. Kleij; filing date September 21 (2011) – *abandoned*.
2. **EP 13382322.9**, "BIS-SALPHEN COMPOUNDS AND CARBONACEOUS MATERIAL COMPOSITES COMPRISING THEM", Gustavo-Zelada-Guillén, Martha V. Escárcega-Bobadilla, Gerhard Maier, Arjan W. Kleij, priority date August 9, 2013 – PCT phase: WO 2015018940 A1 20150212.
3. **US 62/659,556**, "SUSTAINABLE PROCESS FOR PREPARING POLY (LIMONENE) DICARBONATE HAVING HIGH GLASS TRANSITION TEMPERATURE", Nicole Kindermann, Àlex Cristòfol, Arjan W. Kleij; *filing date April 18 (2018)*.
4. **US 62/693,090** "SUSTAINABLE PROCESS FOR PREPARING POLYESTERS HAVING HIGH GLASS TRANSITION TEMPERATURE", Leticia Peña Carrodegua, Maria Carmen Martín Gandul, Arjan W. Kleij; *filing date July 2 (2018)*.
5. **EP21383139.9** "BIO-BASED EPOXY RESIN COMPOSITION FOR ADHESIVE AND COATINGS APPLICATIONS", Carles, Alemán, Elaine Armelin, Jeroen Rintjema, Fernando Bravo, Arjan W. Kleij; *filing date December 15 (2021)*. **PCT/EP2022/085791** applied on 14 December 2022.
6. **EP24382310** "PROCEDURE FOR THE FUNCTIONALIZATION OF CELLULOSE, FUNCTIONALIZED CELLULOSE THUS OBTAINED AND USE THEREOF", Dimitrios Skoulas, Arjan W. Kleij, Fernando Bravo Lara, Helmut Schlaad; *filing date March 21 (2024)*.



### 13. Network Participation

- **CO<sub>2</sub>CHEM** – an international network on carbon dioxide initiated in the UK. For more details see: <http://co2chem.co.uk/>
- **COST actions** sponsored by ESF – specific COST actions in which the Kleij group was involved: D40, CM1003, CM1205 and CM1305 (in the latter as a management committee member).
- **RedIntecat** – a Spanish excellence network devoted to facing societal challenges through collaborative research in Catalysis. The Kleij group participated in the project “Intecat”, see: [http://redintecat.iciq.es/portal/1093/proyecto\\_intecat.aspx](http://redintecat.iciq.es/portal/1093/proyecto_intecat.aspx)
- **Severo Ochoa Excellence** scheme – The Kleij group participated as one of the 10 ICIQ research groups between **2014–2018** in the institutional program on excellence in science funded by the Spanish Ministry of Science and Education (MINECO), and continued in the 2<sup>nd</sup> SO program (**2020–2024**)
- **CO<sub>2</sub> Value Europe** – Arjan Kleij has been one of the representatives for ICIQ, that joined as a founding member this newly established consortium that focuses on “*the coordination and representation of the CO<sub>2</sub> utilization community in Europe and to build up an integrated vision and action plan to develop CO<sub>2</sub> Utilization into a new industrial sector making a significant contribution to Europe’s low carbon economy*”. More details can be found here: <http://www.co2value.eu/>
- **SusChem** – a Spanish national consortium/platform that seeks to bring together academic and industrial scientists with a mindset in the area of sustainable developments. Further details: <http://www.suschem-es.org/>
- **OASIS**, Redes de Investigación de la Agencia Estatal de Investigación (AEI), “ORGANOMETALLIC CHEMISTRY FOR SUSTAINABLE SOLUTIONS”, Ref. RED2022-134074-T, **2023**–.
- **CASI**, Redes de Investigación de la Agencia Estatal de Investigación (AEI), “RED DE INVESTIGACION EN CATALISIS ASIMETRICA”, Ref. RED2022-134331-T, **2023**–. <https://netwoasis.com/>

## 14. Full List of Publications

### **244. Highly Functional Allyl-Bicyclo[1.1.1]Pentane Synthesis by Radical Initiated Three-Component Stereoselective Allylation"**

Qian Zeng, Wangyu Shi, Arjan W. Kleij\*

*JACS Au* **2025**, *5*, au-2024-01129x, *pending minor revisions*

### **243. Catalytic Transformation of Carbon Dioxide into Elusive Seven-Membered Heterocycles and Their Domino Transformation into Novel Bicyclic Oxazolidinones**

Wangyu Shi, Jordi Benet-Buchholz, Arjan W. Kleij\*

*Nat. Commun.* **2025**, *16*, NCOMMS-24-25936C, *pending formal acceptance*

### **242. Photochemical C–H Borylation in Organic Synthesis**

Supriya Rej,\* Stephanie G. E. Amos, Arjan W. Kleij\*

*ACS Catal.* **2025**, *15*, DOI: 10.1021/acscatal.4c07169, *in press*

### **241. From conventional to dual Co/photoredox mediated reductive coupling of alkynes and alkenes**

*\*Part of the "10<sup>th</sup> Anniversary of OCF" issue*

Balázs Tóth, Stephanie G. E. Amos, Arjan W. Kleij\*

*Org. Chem. Front.* **2025**, *11*, <https://pubs.rsc.org/en/content/articlelanding/2025/qo/d4qo02143f>

### **240. Controlled Synthesis of Bioderived Poly(limonene carbonate)-Oligolysine Hybrid Macromolecules**

D. Skoulas,\* A. Tolentino, A. W. Kleij,\* *ACS Macro Lett.* **2024**, *13*, 1332–1337, DOI: 10.1021/acsmacrolett.4c00461b

### **239. Pd-Catalyzed Allylic Substitution using Nucleophilic Amines: Access to Functionalized Mono- and Bis-N-Allyl Synthons**

F. Gao, D. Ghorai, J. Benet-Buchholz, A. W. Kleij,\* *Adv. Synth. Catal.* **2024**, *366*, 4709–4714, DOI: 10.1002/adsc.202400685

### **238. Cu-Catalyzed Asymmetric Synthesis of $\gamma$ -Amino Alcohols Featuring Tertiary Carbon Stereocenters**

Alejandro Delgado, Matteo Lanzi\*, Paolo Orlando, Jordi Benet-Buchholz, Daniele Passarella, Arjan W. Kleij\*

*Org. Lett.* **2024**, *26*, 7596–7600, DOI: 10.1021/acs.orglett.4c02682

### **237. Addressing Reproducibility Challenges in High-Throughput Photochemistry**

*\*Among the most accessed in July '24*

B. Pijper, L. M. Saavedra, M. Lanzi, M. Alonso, A. Fontana, M. Serrano, J. E. Gómez, A. W. Kleij, J. Alcázar, S. Cañellas\*  
*JACS Au* **2024**, 4, 2585–2595, DOI: 10.1021/jacsau.4c00312

**236. Chemo-, Regio- and Stereoselective Preparation of (Z)-2-Butene-1,4-Diol Monoesters via Pd-Catalyzed Decarboxylative Acyloxylation**

Long Cheng, Jia-Li Zhao, Xiao-Tian Zhang, Qiao-Sen Jia, Ni Dong, Yu Peng, Arjan W. Kleij and Xiang-Wei Liu\*  
*Chem. Eur. J.* **2024**, 30, e202401377, DOI: 10.1002/chem.202401377

**235. Improved Thermoset Materials derived from Biobased Terpene Macromolecules via Photo-Crosslinking**

Dimitrios Skoulas, Fernando Bravo, Arjan W. Kleij\*  
*Polym. Chem.* **2024**, 15, 2362–2369, DOI: 10.1039/D4PY00381K

**234. An Expedient Radical Approach for the Decarboxylative Synthesis of Stereodefined All-Carbon Tetrasubstituted Olefins**

*\*Part of Wiley's Hot Topics*

*\*Highlighted by Synfacts 2024; 20(07): 0707, DOI: 10.1055/s-0043-1773295*

Q. Zeng, N. Yamini, J. Benet-Buchholz, A. W. Kleij\*  
*Angew. Chem. Int. Ed.* **2024**, 63, e202403651, DOI: 10.1002/anie.202403651<sup>29</sup>

**233. Access to Functionalized Polycarbonates derived from Fatty Acid Esters via Catalytic ROCOP and their Potential in Gel Formulations**

Arianna Brandolese, David H. Lamparelli, Ilaria Grimaldi, Salvatore Impemba, Piero Baglioni, Arjan W. Kleij\*  
*Macromolecules* **2024**, 57, 3816–3823, DOI: 10.1021/acs.macromol.4c00411

**232. Mechanism of Palladium-Catalyzed Allylic Substitution of Tertiary Allylic Carbonates with Sodium Sulfinates: Unusual Bifunctional Nucleophile-Enabled Inner-Sphere Pathway and Origin of Regio- and Enantioselectivities**

Hongli Wu, Botao Wu, Arjan W. Kleij,\* Genping Huang\*  
*Catal. Sci. Technol.* **2024**, 14, 1642–1652, DOI: 10.1039/D3CY01493B

**231. Vinyl and Alkynyl Substituted Heterocycles as Privileged Scaffolds in Transition Metal-Promoted Stereoselective Synthesis**

Debasish Ghorai, Balázs Tóth, Matteo Lanzi, Arjan W. Kleij\*  
*Acc. Chem. Res.* **2024**, 57, 726–738, DOI: 10.1021/acs.accounts.3c00760

**230. Catalytic Domino Three-Component Synthesis of Functionalized Heterocycles from Carbon Dioxide**

*\*Part of Wiley's Hot Topics*

Wangyu Shi, Chang Qiao, Jordi Benet-Buchholz, Arjan W. Kleij\*  
*ChemSusChem* **2024**, 17, e202301626, DOI: 10.1002/cssc.202301626

**229. Recent Advances in the Synthesis and Polymerization of new CO<sub>2</sub>-based Cyclic Carbonates**

*\*Invited article*

Matteo Lanzi, Arjan W. Kleij\*

*Chin. J. Chem.* **2024**, *42*, 430-443, DOI: 10.1002/cjoc.202300502

**228. Bicyclic Guanidine Promoted Mechanistically Divergent Depolymerization and Recycling of a Biobased Polycarbonate**

*\*Part of Wiley's Hot Topics*

David H. Lamparelli, Alba Villar-Yanez, Lorenz Dittrich, Jeroen Rintjema, Fernando Bravo,\* Carles Bo,\* Arjan W. Kleij\*

*Angew. Chem. Int. Ed.* **2023**, *62*, e202314659, DOI: 10.1002/anie.202314659<sup>28</sup>

**227. Ni-Catalyzed Regio- and Enantioselective Homoallylic Coupling: Synthesis of Chiral Branched 1,5-Dienes Featuring a Quaternary Stereogenic Center and Mechanistic Analysis**

Debasish Ghorai, Aleria Garcia-Roca, Balázs L. Tóth, Jordi Benet-Buchholz, Arjan W. Kleij\*

*Angew. Chem. Int. Ed.* **2023**, *62*, e202314865, DOI: 10.1002/anie.202314865<sup>27</sup>

**226. Ring-Opening Polymerization of Functionalized Aliphatic Bicyclic Carbonates**

*\*Selected as Hot article*

*\*Polymer Chemistry's Most Popular 2023 Articles*

Jixiang Ni, Matteo Lanzi,\* David H. Lamparelli and Arjan W. Kleij\*

*Polym. Chem.* **2023**, *14*, 4748–4753, DOI: 10.1039/d3py00860f

**225. Supercritical CO<sub>2</sub> as an Efficient Medium for Macromolecular Carbonate Synthesis through Ring-Opening Co- and Teroligomerization**

David H. Lamparelli, Ilaria Grimaldi, Alicia Martínez-Carrión, Fernando Bravo, Arjan W. Kleij\*

*ACS Sustainable Chem. Engin.* **2023**, *11*, 8193–8198, DOI: 10.1021/acssus-chemeng.3c02002

**224. Stereoselective Three-Component Allylic Alkylation enabled by Dual Photoredox/Ni Catalysis**

Qian Zeng, Fengyun Gao, Jordi Benet-Buchholz, Arjan W. Kleij\*

*ACS Catal.* **2023**, *13*, 7514–7522, DOI: 10.1021/acscatal.3c01686

**223. Synthesis of Biorenewable Terpene Monomers Using Enzymatic Epoxidation under Heterogeneous Batch and Continuous Flow Conditions**

Arianna Brandolese,\* David H. Lamparelli, Miquel A. Pericàs, Arjan W. Kleij\*

*ACS Sustainable Chem. Engin.* **2023**, *11*, 4885–4893, DOI: 10.1021/acssus-chemeng.3c00370

**222. A Comprehensive Mechanistic Scenario for the Cu-Mediated Asymmetric Propargylic Sulfonylation forging Tertiary Carbon Stereocenters**

Aleria Garcia-Roca, Raúl Pérez-Soto, Georgiana Stoica, Jordi Benet-Buchholz, Feliu Maseras,\* Arjan W. Kleij\*

*J. Am. Chem. Soc.* **2023**, *145*, 6442–6452, DOI: 10.1021/jacs.3c00188

**221. Silver-Mediated Cascade Synthesis of Functionalized 1,4-dihydro-2H-Benzo-1,3-Oxazin-2-Ones from Carbon Dioxide** <sup>26</sup>

Xuetong Li, Jordi Benet-Buchholz, Eduardo C. Escudero-Adán, Arjan W. Kleij\*

*Angew. Chem. Int. Ed.* **2023**, *62*, e202217803, DOI: 10.1002/anie.202217803

**220. Organocatalytic N-formylation of amines by CO<sub>2</sub> in batch and continuous flow**

Nicola Zanda, Ludovica Primitivo, Moreshwar Chaudhari, Arjan W. Kleij\* and Miquel À. Pericàs\*

*Org. Chem. Front.* **2023**, *9*, 375–381, DOI: 10.1039/d2qo01711c

**219. Unusual DBU-Catalyzed Decarboxylative Formation of Allylic Thioethers from Vinyl Cyclic Carbonates and Thiols**

*\*Selected as a Hot Article*

Jixiang Ni, Matteo Lanzi and Arjan W. Kleij\*

*Org. Chem. Front.* **2022**, *9*, 6780–6785, DOI: 10.1039/d2qo01511k

**218. Renewable Beta-Element based Cyclic Carbonates for the Preparation of Oligo(hydroxyurethane)s**

Cristina Maquilón, Arianna Brandolese, Christian Alter, Claas H. Hövelmann, Francesco Della Monica\* and A. W. Kleij\*

*ChemSusChem* **2022**, *15*, e202201123, DOI: 10.1002/cssc.202201123

**217. Simple Halogen-Free, Biobased Organic Salts Convert Glycidol to Glycerol Carbonate under Atmospheric CO<sub>2</sub> Pressure**

J. Poolwong, V. Aomchad, S. Del Gobbo, A. W. Kleij\* and V. D'Elia\*

*ChemSusChem* **2022**, *15*, e202200765, DOI: 10.1002/cssc.202200765

**216. Functional CO<sub>2</sub> based Heterocycles as Precursors in Organic Synthesis**

Arjan W. Kleij\*

*Adv. Catal.* **2022**, *70*, 1–28, DOI: 10.1016/bs.acat.2022.06.001

**215. Continuous Organocatalytic Flow Synthesis of 2-Substituted Oxazolidinones using Carbon Dioxide**

N. Zanda, L. Zhou, E. Alza, A. W. Kleij\* and M. À. Pericàs\*

*Green Chem.* **2022**, *24*, 4628–4633, DOI: 10.1039/D2GC00503D

**214. Catalyst Engineering Empowers the Creation of Biomass-Derived Polyesters and Polycarbonates**

Arianna Brandolese, Arjan W. Kleij\*

*Acc. Chem. Res.* **2022**, *55*, 1634–1645, DOI: 10.1021/acs.accounts.2c00204

**213. Decoding Key Transient Inter-Catalyst Interactions in a Reductive Metallaphotoredox-Catalyzed Allylation Reaction**

Bart Limburg,\* Àlex Cristòfol, Arjan W. Kleij\*

*J. Am. Chem. Soc.* **2022**, *144*, 10912–10920, DOI: 10.1021/jacs.2c03692

**212. A Novel Catalytic Route to Polymerizable Bicyclic Cyclic Carbonate Monomers from Carbon Dioxide** <sup>25</sup>

Chang Qiao, Wangyu Shi, Arianna Brandolese, Jordi Benet-Buchholz, Eduardo C. Escudero-Adán, Arjan W. Kleij\*

*Angew. Chem. Int. Ed.* **2022**, *61*, e202205053, DOI: 10.1002/anie.202205053

**211. Domino Synthesis of Bicyclic 3,5-Anhydro Furanose Mimics using a Binary Al(III) Complex/Halide Catalyst**

*\*Featured in Org. Chem. Highlights*

<https://www.organic-chemistry.org/Highlights/2023/09January.shtm>

Chang Qiao, Alba Villar-Yanez, Diego Garay-Ruiz, Jordi Benet-Buchholz, Carles Bo, Arjan W. Kleij\*

*ACS Catal.* **2022**, *12*, 5464–5469, DOI: 10.1021/acscatal.2c00925

**210. Catalytic Ring-Opening Copolymerization of Fatty Acid Epoxides: Access to Functional Biopolyesters**

*\*Among the most read in April '22*

Arianna Brandolese, Francesco Della Monica, Miquel À. Pericàs, Arjan W. Kleij\*

*Macromolecules* **2022**, *55*, 2566–2573, DOI: 10.1021/acs.macromol.2c00321

**209. Dual Cobalt/Organophotoredox Catalysis for Diastereo- and Regioselective 1,2-Difunctionalization of 1,3-Diene Surrogates Creating Quaternary Carbon Centers**

Sijing Xue, Alex Cristofol, Bart Limburg, Qian Zeng and Arjan W. Kleij\*

*ACS Catal.* **2022**, *12*, 3651–3659, DOI: 10.1021/acscatal.2c00660

**208. A Biosourced Epoxy Resin for Adhesive Thermoset Applications**

Vitor B. Moreira, Carlos Alemán, Jeroen Rintjema, Fernando Bravo, Arjan W. Kleij\* and Elaine Armelin\*

*ChemSusChem* **2022**, *15*, e202102624, DOI: 10.1002/cssc.202102624

**207. Novel Biobased Epoxy Thermosets and Coatings from Poly(limonene carbonate) Oxide and Synthetic Hardeners**

Vitor Bonamigo Moreira, Jeroen Rintjema, Fernando Bravo, Arjan W. Kleij, Lourdes Franco, Jordi Puiggali, Carlos Alemán and Elaine Armelin\*

ACS Sustainable Chem. Engin. **2022**, 10, 2708-2719, DOI: 10.1021/acssuschemeng.1c07665

**206. Cascade Transformation of Carbon Dioxide and Alkyne-1,*n*-diols into Densely Substituted Cyclic Carbonates**

Xuetong Li, Alba Villar Yanez, Charlene Ngassam Tounzoua, Bruno Grignard, Jordi Benet-Buchholz, Carles Bo,\* Christophe Detrembleur,\* Arjan W. Kleij\*  
ACS Catal. **2022**, 12, 2854-2860, DOI: 10.1021/acscatal.1c05773

**205. Surface Science Approach to the Heterogeneous Cycloaddition of CO<sub>2</sub> to Epoxides Catalyzed by Site-Isolated Metal Complexes and Single Atoms: a Review**

*\* Selected as Outstanding Paper in 2023 by the editorial board*

Valerio D'Elia,\* Arjan W. Kleij\*  
Green Chem. Engin. **2022**, 3, 210-227, DOI: 10.1016/j.gce.2022.01.005

**204. Cyclization Reactions with CO<sub>2</sub>**

*\*Book chapter*

Arjan W. Kleij\*

In: "The Chemical Transformations of C1 Compounds", Eds. Xiao-Feng Wu, Buxing Han, Kuiling Ding and Zhongmin Liu, Wiley-VCH, Weinheim **2022**, chapter 22, ISBN-13: 978-3-527-34895-4.

Access via: <https://onlinelibrary.wiley.com/doi/10.1002/9783527831883.ch22>

**203. Ni-Catalyzed Decarboxylative Silylation of Alkynyl Carbonates: Access to Chiral Allenes via Enantiospecific Conversions**

Kun Guo, Qian Zeng, Alba Villar-Yanez, Carles Bo and Arjan W. Kleij\*  
Org. Lett. **2022**, 24, 637-641, DOI: 10.1021/acs.orglett.1c04086

**202. Biobased Terpene Derivatives: Stiff and Biocompatible Compounds to Tune Biodegradability and Properties of Poly(butylene succinate)**

Reza Zeinali, Luis J. del Valle \*, Lourdes Franco, Ibraheem Yousef, Jeroen Rintjema, Carlos Alemán, Fernando Bravo, Arjan W. Kleij and Jordi Puiggali\*  
Polymers **2022**, 14, 161, DOI: 10.3390/polym14010161

**201. Nickel-Catalyzed Allylic Substitution Reactions: An Evolving Alternative**

*\*Among the Most Accessed during 01/2022 to 12/2022*

*\*Invited review, 2020 RSEQ Prize Winners*

Debasish Ghorai,\* Alex Cristofol and Arjan W. Kleij\*  
Eur. J. Inorg. Chem. **2022**, e202100820, DOI: 10.1002/ejic.202100820



**200. Can CO<sub>2</sub> and Renewable Carbon be Primary Resources for Sustainable Fuels and Chemicals?**

\* *Editorial, among the most read in October 2021*

M. M. Faruque Hasan, Liane M. Rossi, Damien P. Debecker, Kevin C. Leonard, Zhenxing Li, Banothile C. E. Makhubela, Chuan Zhao, Arjan W. Kleij

*ACS Sustainable Chem. Engin.* **2021**, *9*, 12427-12430

DOI: 10.1021/acssuschemeng.1c06008

**199. Photocatalytic Synthesis of Novel Cyclic Carbonate Monomers for Ring-Opening Polymerization**

\* *Selected as VIP article*

Cristina Maquilón, Francesco Della Monica, Bart Limburg\* and Arjan W. Kleij\*

*Adv. Synth. Catal.* **2021**, *363*, 4033-4040, DOI 10.1002/adsc.202100654

**198. Formation of Beta-Cyano-Ketones through Cyanide-Promoted Ring-Opening of Cyclic Organic Carbonates**

Jixiang Ni, Àlex Cristòfol and Arjan W. Kleij\*

*Org. Chem. Front.* **2021**, *8*, 4520-4526, DOI: 10.1039/D1QO00770J

**197. Asymmetric Synthesis of Homoallylic Alcohols featuring Vicinal Tetrasubstituted Carbon Centers via Dual Pd/Photoredox Catalysis**

Sijing Xue, Bart Limburg\*, Debasish Ghorai, Jordi Benet-Buchholz, Arjan W. Kleij\*

*Org. Lett.* **2021**, *23*, 4447-4451, DOI: 10.1021/acs.orglett.1c01380

**196. Pd/Cu Dual Catalyzed Asymmetric Synthesis of Highly Functional All-Carbon Quaternary Stereocenters from Vinyl Carbonates**

\* *Hot paper*

Sijing Xue, Alexander Lücht, Jordi Benet-Buchholz and Arjan W. Kleij\*

*Chem. Eur. J.* **2021**, *27*, 10107-10114, DOI: 10.1002/chem.202100677

**195. Expedient Dual Co/Organophotoredox Catalyzed Stereoselective Synthesis of All-Carbon Quaternary Centers <sup>24</sup>**

Àlex Cristòfol, Bart Limburg\* and Arjan W. Kleij\*

*Angew. Chem. Int. Ed.* **2021**, *60*, 15266-15270, DOI: 10.1002/anie.202103479

**194. Organocatalytic and Halide-Free Synthesis of Glycerol Carbonate under Continuous Flow**

Nicola Zanda, Anna Sobolewska, Esther Alza, Arjan W. Kleij\* and Miquel A. Pericàs\*

*ACS Sustainable Chem. Engin.* **2021**, *9*, 4391-4397, DOI: 10.1021/acssuschemeng.1c01060



**193. Synthesis and Characterization of Biobased Polyesters with Tunable  $T_g$  by ROCOP of Beta-Element Oxides and Phthalic Anhydride**

*\* Among the most read in March/April '21*

Francesco Della Monica\* and Arjan W. Kleij\*

*ACS Sustainable Chem. Engin.* **2021**, *9*, 2619-2625, DOI: 10.1021/acssuschemeng.0c09189

**192. Recent progress in the catalytic transformation of carbon dioxide into biosourced organic carbonates**

Vatcharaporn Aomchad, Àlex Cristòfol, Francesco Della Monica, Bart Limburg, Valerio D'Elia\* and Arjan Kleij\*

*Green Chem.* **2021**, *23*, 1077-1113, DOI: 10.1039/D0GC03824E

**191. Cu-mediated Dichotomic Borylation of Alkyne Carbonates: Stereoselective Access to (*E*)-1,2-Diborylated 1,3-Dienes versus Traceless Monoborylation affording  $\alpha$ -Hydroxyallenes <sup>23</sup>**

Kun Guo, Arjan W. Kleij\*

*Angew. Chem. Int. Ed.* **2021**, *60*, 4901-4906, DOI: 10.1002/anie.202014310

**190. Unlocking the Potential of Substrate-Directed CO<sub>2</sub> Activation and Conversion: Pushing the Boundaries of Catalytic Cyclic Carbonate and Carbamate Formation**

*\* Part of the special issue "Green Carbon Science – CO<sub>2</sub> Capture and Conversion"*

*\* Selected as VIP article*

*\* Highlighted by ChemistryViews*

Bart Limburg, Àlex Cristòfol, Francesco Della Monica, Arjan W. Kleij\*

*ChemSusChem* **2020**, *13*, 6056-6065, DOI: 10.1002/cssc.202002246

**189. Pd-Catalyzed Stereoselective Tandem Ring-opening Amination/Cyclization of Vinyl  $\gamma$ -Lactones: Access to Caprolactam Diversity**

Jianing Xie, Xuetong Li, Arjan W. Kleij\*

*Chem. Sci.* **2020**, *11*, 8839-8845, DOI: 10.1039/D0SC03647A

**188. From terpenes to sustainable and functional polymers**

*\* Invited article for the 2020 Polymer Chemistry Pioneering Investigators Issue*

Francesco Della Monica,\* Arjan W. Kleij\*

*Polym. Chem.* **2020**, *11*, 5109-5127, DOI: 10.1039/D0PY00817F

**187. Organocatalytic Trapping of Elusive Carbon Dioxide based Heterocycles through a Kinetically Controlled Cascade Process <sup>22</sup>**

*\* Part of the Hot Topic collections "Carbon Dioxide" and "Organocatalysis"*

*\* Highlighted by ChemViews magazine/press room ACIE*

Chang Qiao, Alba Villar-Yanez, Josefine Sprachmann, Bart Limburg, Carles Bo, Arjan W. Kleij\*  
*Angew. Chem. Int. Ed.* **2020**, *59*, 18446–18451, DOI: 10.1002/anie.202007350

### **186. Photochemical and Substrate-Driven CO<sub>2</sub> Conversion**

\* *Book chapter*

Bart Limburg, Cristina Maquilón and Arjan W. Kleij\*  
In: "CO<sub>2</sub> as Building Block in Organic Synthesis", Ed. Shoubhik Das, Wiley-VCH, Weinheim **2020**, ISBN: 978-3-527-34613-4

### **185. Interview with Arjan W. Kleij**

Arjan W. Kleij\*

*ChemCatChem* **2020**, *12*, 3830, DOI: 10.1002/cctc.202000727

### **184. Mechanistic Guidelines in Nonreductive Conversion of CO<sub>2</sub>: the Case of Cyclic Carbonates**

\* *Invited Perspective*

Francesco Della Monica, Arjan W. Kleij\*  
*Catal. Sci. Technol.* **2020**, *10*, 3483-3501, DOI: 10.1039/D0CY00544D

### **183. Cu-Catalyzed Synthesis of Tetrasubstituted 2,3-Allenols through Decarboxylative Silylation of Alkyne-Substituted Cyclic Carbonates**

Kun Guo, Arjan W. Kleij\*

*Org. Lett.* **2020**, *22* (10), 3942-3945, DOI: 10.1021/acs.orglett.0c01222

### **182. Advancing Halide-Free Catalytic Synthesis of CO<sub>2</sub> based Heterocycles**

\* *Invited Article*

Arjan W. Kleij\*

*Curr. Opin. Green Sust. Chem.* **2020**, *24*, 72–81  
DOI: 10.1016/j.cogsc.2020.04.002

### **181. Across the Board: Electrosynthesis for Regioselective Carboxylation of Aromatic Alkenes**

\* *Invited Article*

A. W. Kleij\*

*ChemSusChem* **2020**, *13*, 2098-2100, DOI: 10.1002/cssc.202000491

### **180. Effect of an Al(III) Complex on the Regio- and Stereoisomeric Formation of Bicyclic Organic Carbonates**

C. Maquilón, B. Limburg, V. Laserna, D. Garay-Ruiz, J. González-Fabra, C. Bo, M. Martínez-Belmonte, E. C. Escudero-Adán and A. W. Kleij\*

*Organometallics* **2020**, *39*, 1642-1651, DOI: 10.1021/acs.organomet.9b00773

**179. Interview with Arjan W. Kleij**

Arjan W. Kleij\*

*Org. Chem. Front.* **2020**, *7*, 723-725, DOI: 10.1039/C9QO90110H

**178. Fully bio-derived CO<sub>2</sub> polymers for non-isocyanate based polyurethane synthesis**

Sarah-Elisabeth Dechent, Arjan W. Kleij\* and Gerrit A. Luinstra\*

*Green Chem.* **2020**, *22*, 969-978, DOI: 10.1039/C9GC03488A

**177. Formal Synthesis of Indolizidine and Quinolizidine Alkaloids from Vinyl Cyclic Carbonates**

Àlex Cristòfol, Christian Böhmer, Arjan W. Kleij\*

*Chem. Eur. J.* **2019**, *25*, 15055-15058, DOI: 10.1002/chem.201904223

**176. Entropic Corrections for the Evaluation of the Catalytic Activity in the Al(III) Catalysed Formation of Cyclic Carbonates from CO<sub>2</sub> and Epoxides**

Joan González-Fabra, Fernando Castro-Gómez, W.M.C. Sameera, Gunnar Nyman, Arjan W. Kleij and Carles Bo\*

*Catal. Sci. Technol.* **2019**, *9*, 5433-5440, DOI: 10.1039/C9CY01285K

**175. Regio- and Enantioselective Preparation of Chiral Allylic Sulfones Featuring Elusive Quaternary Stereocenters <sup>21</sup>**

\* *Highlighted in Synfacts* **2019**, *15*(12), 1396, DOI: 10.1055/s-0039-1691113

Aijie Cai, Arjan W. Kleij\*

*Angew. Chem. Int. Ed.* **2019**, *58*, 14944-14949, DOI: 10.1002/anie.201908318

**174. A Mechanistic Analysis of the Pd-Catalyzed Formation of Branched Allylic Amines reveals the Origin of the Regio- and Enantioselectivity through a Unique Inner-Sphere Pathway <sup>20</sup>**

Lingfei Hu, Aijie Cai, Zhenzhen Wu, Arjan W. Kleij\* and Genping Huang\*

*Angew. Chem. Int. Ed.* **2019**, *58*, 14694-14702, DOI: 10.1002/anie.201907375

**173. Advances in the Use of CO<sub>2</sub> as a Renewable Feedstock for the Synthesis of Polymers**

Bruno Grignard, Sandro Gennen, Christine Jérôme, Arjan W. Kleij,\* and Christophe Detrembleur\*

*Chem. Soc. Rev.* **2019**, *48*, 4466-4514, DOI: 10.1039/c9cs00047j

**172. Pd-Catalyzed Stereodivergent Allylic Amination of  $\alpha$ -Tertiary Allylic Alcohols towards  $\alpha,\beta$ -Unsaturated  $\gamma$ -Amino Acids**

\* *Invited contribution for a special issue on "Sustainable Organic Synthesis"*

\* *Selected as VIP article*

*\* Editor's choice - Spotlights*

Jianing Xie, Chang Qiao, Marta Martínez Belmonte, Eduardo C. Escudero-Adán, Arjan W. Kleij\*  
*ChemSusChem* **2019**, *12*, 3152-3158, DOI: 10.1002/cssc.201900433

**171. Catalytic Nonreductive Valorization of Carbon Dioxide into Fine Chemicals**

*\* Invited review*

José Enrique Gómez, Arjan W. Kleij\*  
*Adv. Organomet. Chem.* **2019**, *71*, 175-226, DOI: 10.1016/bs.adomc.2019.02.002

**170. Copper-Catalyzed Enantioselective Construction of Tertiary Propargylic Sulfones**

*\* Within the top 10% downloaded articles between Jan '18-Dec '19*

José Enrique Gómez, Alex Cristofol, Arjan W. Kleij\*  
*Angew. Chem. Int. Ed.* **2019**, *58*, 3903-3907, DOI: 10.1002/anie.201814242

**169. Deciphering Key Intermediates in the Transformation of Carbon Dioxide into Heterocyclic Products**

Rui Huang, Jeroen Rintjema, Joan González Fabra, Eddy Martín, Eduardo C. Escudero-Adán, Carles Bo,\* Atsushi Urakawa,\* and Arjan W. Kleij\*  
*Nature Catal.* **2019**, *2*, 62-70, DOI: 10.1038/s41929-018-0189-z

**168. CO<sub>2</sub> Catalysis: Mature and Multifaceted**

*\* Invited editorial*

Arjan W. Kleij  
*Adv. Synth. Catal.* **2019**, *361*, 221-222, DOI: 10.1002/adsc.201801658

**167. Sustainable Feedstock for Conversion of CO<sub>2</sub> to Cyclic and Polycarbonates**

*\* Invited Book Chapter*

Antonello Pizzolante, Sarah Dechent, Arjan W. Kleij\* and Christopher M. Kozak\*  
In: "Carbon Dioxide Utilization", Eds. Michael North & Peter Styring, De Gruyter, **2019**, p. 302-326, DOI: 10.1515/9783110665147-016, ISBN 978-3-11-066503-1

**166. Nonreductive Reactions of CO<sub>2</sub> Mediated by Cobalt Catalysts: Cyclic and Polycarbonates**

*\* Invited Book Chapter*

Thomas A. Zevaco,\* Arjan W. Kleij\*  
In: "Non-Noble Metal Catalysis: Molecular Approaches and Reactions", Ed. Robert J. M. Klein Gebbink and Marc-Etienne Moret, Wiley-VCH, **2019** (ISBN: 978-3-527-34061-3), p. 529-548

**165. Domino Synthesis of Unsaturated Lactams via Stereoselective Amination of Tertiary Allylic Alcohols**

*\* Highlighted in Synfacts* **2019**, *15(02)*, 0167, DOI: 10.1055/s-0037-1611987

Jianing Xie, Sijing Xue, Eduardo C. Escudero-Adán, Arjan W. Kleij\*  
*Angew. Chem. Int. Ed.* **2018**, *57*, 16727-16731, DOI: 10.1002/anie.201810160

**164. Diversity-Orientated Stereoselective Synthesis through Pd-Catalyzed Switchable Decarboxylative C–N/C–S Bond Formation in Allylic Surrogates**

*\* Within the top 10% downloaded articles between Jan '18-Dec '19*

Lei Deng, Arjan W. Kleij,\* Weibo Yang\*

*Chem. Eur. J.* **2018**, *24*, 19156-19161, DOI: 10.1002/chem.201805295

**163. Palladium-Catalyzed (Z)-Selective Allylation of Nitroalkanes: Access to Highly Functionalized Homoallylic Scaffolds**

À. Cristòfol, E. C. Escudero-Adán, A. W. Kleij\*

*J. Org. Chem.* **2018**, *83*, 9978-9990, DOI: 10.1021/acs.joc.8b01372

**162. Across the Board: Arjan W. Kleij**

*\* Invited Article*

A. W. Kleij\*

*ChemSusChem* **2018**, *11*, 2842–2844, DOI: 10.1002/cssc.201801648

**161. Catalytic Transformations of Functional Cyclic Organic Carbonates**

W. Guo,\* J. E. Gómez, À. Cristòfol, J. Xie, A. W. Kleij\*

*Angew. Chem. Int. Ed.* **2018**, *57*, 13735-13747, DOI: 10.1002/anie.201805009

**160. Organocatalyzed Domino [3+2] Cycloaddition/Payne-Type Rearrangement using Carbon Dioxide and Epoxy Alcohols**

*\* Highlighted on the Back Cover*

S. Sopeña, M. Cozzolino, C. Maquilón, M. Martínez Belmonte, E. C. Escudero-Adán, A. W. Kleij\*

*Angew. Chem. Int. Ed.* **2018**, *57*, 11203-11207, DOI:

10.1002/anie.201803967

**159. Catalysis: An Integrated Textbook for Students**

*\* Invited Book Review*

A. W. Kleij\*

*Angew. Chem. Int. Ed.* **2018**, *57*, 7564-7565, DOI: 10.1002/anie.201804203

**158. Cooperative Multi-metal Catalysis Enabling an Asymmetric Cascade toward  $\alpha$ -Quaternary Aldehydes**

*\* Invited Preview*

A. W. Kleij\*

*CHEM* **2018**, *4* (5), 931-933, DOI: 10.1016/j.chempr.2018.04.010.

**157. Bifunctional Aminotriphenolate Complexes as One-Component Catalysts for the ROCOP of Cyclic Anhydrides and Epoxides**

*\* Invited Article for a Special Issue Dedicated to ICIQ*

C. Martín, A. Pizzolante, E. Escudero-Adán, A. W. Kleij\*

*Eur. J. Inorg. Chem.* **2018**, 1921-1927, DOI: 10.1002/ejic.201800142.

**156. A Domino Process towards Functionally Dense Quaternary Carbons through Pd-Catalyzed Decarboxylative Csp<sup>3</sup>-Csp<sup>3</sup> Bond Formation**

\* *Highlighted in JACS Spotlights (J. Am. Chem. Soc. 2018, 140, 3809)*

\* *Highlighted on the Front Cover*

W. Guo, R. Kuniyil, J. E. Gómez, F. Maseras,\* A.W. Kleij\*  
*J. Am. Chem. Soc.* **2018**, *140*, 3981-3987, DOI: 10.1021/jacs.7b12608

**155. Enhanced Conductivity for Carbon Nanotube based Materials through Supramolecular Hierarchical Self-Assembly**

G. A. Zelada-Guillén,\* M. V. Escárcega-Bobadilla,\* M. Wegrzyn, E. Giménez, G. Maier, A. W. Kleij\*  
*Adv. Mater. Interfaces* **2018**, *5*, 1701585, DOI: 10.1002/admi.201701585

**154. Self-Assembly of Bis-Salphen Compounds: From Semiflexible Chains to Webs of Nanorings**

\* *Highlighted in Chemistry World*

S. V. Pyrlin,\* N. D. M. Hine, A. W. Kleij, M. M. D. Ramos\*  
*Soft Matter* **2018**, *14*, 1181-1194, DOI: 10.1039/C7SM02371E

**153. Author Profile in ACIE**

A.W. Kleij\*

*Angew. Chem. Int. Ed.* **2018**, *57*, 4832, DOI: 10.1002/anie.201711677

**152. Pd-Catalyzed Enantio- and Regioselective Formation of Allylic Aryl Ethers**

\* *Highlighted in Synfacts 2018, 14(02), 0150*

J. Xie, W. Guo, A. Cai, E. C. Escudero-Adán, A. W. Kleij\*  
*Org. Lett.* **2017**, *19*, 6388-6391, DOI: 10.1021/acs.orglett.7b03247

**151. Copper-Mediated S<sub>N</sub>2' Allyl-Alkyl and Allyl-Boryl Couplings of Vinyl Cyclic Carbonates**

\* *Highlighted in Synfacts 2018, 14(01), 0076*

N. Miralles, J.E. Gómez, A. W. Kleij,\* E. Fernández\*  
*Org. Lett.* **2017**, *19*, 6096-6099, DOI: 10.1021/acs.orglett.7b02947

**150. Polystyrene-supported bifunctional resorcinarenes as cheap, metal-free and recyclable catalysts for epoxide/CO<sub>2</sub> coupling reactions**

\* *Highlighted in Synfacts 2018, 14(02), 0209*

T. Jose, S. Cañellas, M. A. Pericàs,\* A. W. Kleij\*  
*Green Chem.* **2017**, *19*, 5488-5493, DOI: 10.1039/C7GC02856C

**149. Copper-Catalyzed Synthesis of gamma-Amino Acids Featuring Quaternary Stereocenters**

\* *Highlighted in Synfacts 2018, 14(01), 0043*

J. E. Gómez, W. Guo, S. Gaspa, A. W. Kleij\*  
*Angew. Chem. Int. Ed.* **2017**, *56*, 15035-15038, DOI: 10.1002/anie.201709511

**148. Asymmetric Synthesis of alfa,alfa-Disubstituted Allylic Amines via Pd-Catalyzed Allylic Substitution**

\* *Highlighted in Chemistry Views*

*\* Highlighted in Synfacts* **2017**, *13* (12), 1276

W. Guo,\* A. Cai, J. Xie, A. W. Kleij\*

*Angew. Chem. Int. Ed.* **2017**, *56*, 11797-11801, DOI: 10.1002/anie.201705825

**147. Semiaromatic Polyesters Derived from Renewable Terpene Oxides with High Glass Transitions**

L. Peña-Carrodeguas, C. Martín, A. W. Kleij\*

*Macromolecules* **2017**, *50*, 5337-5345, DOI: 10.1021/acs.macromol.7b00862

**146. Substrate Triggered Stereoselective Preparation of Highly Substituted Organic Carbonates**

V. Laserna, E. Martín, E. C. Escudero-Adán, A. W. Kleij\*

*ACS Catal.* **2017**, *7*, 5478-5482, DOI: 10.1021/acscatal.7b01748

**145. Fatty Acid Based Biocarbonates: Al-Mediated Stereoselective Preparation of Mono-, Di- and Tricarbonates under Mild and Solvent-less Conditions**

*\* Highlighted on the Front Cover*

*\* Selected as Hot Article*

L. Peña-Carrodeguas, A. Cristòfol, J. M. Fraile, J. A. Mayoral, V. Dorado-Horrillo, C. I. Herrerías,\* A. W. Kleij\*

*Green Chem.* **2017**, *19*, 3535-3541, DOI: 10.1039/C7GC01206C

**144. Access to Biorenewable Polycarbonates with Unusual Glass-Transition Temperature ( $T_g$ ) Modulation**

*\* Highlighted in Chemistry Today (April 2018)*

*\* Highlighted in El Periódico de Catalunya*

*\* Highlighted by The India Times*

*\* Highlighted by Bioplastics Magazine*

*\* Highlighted by Panama National Radio*

*\* Highlighted by La Vanguardia*

*\* Highlighted by Radio Euskadi*

*\* Highlighted by the Austrian Public Broadcasting Radio*

N. Kindermann, A. Cristòfol, A.W. Kleij\*

*ACS Catal.* **2017**, *7*, 3860-3863, DOI: 10.1021/acscatal.7b00770

**143. Pushing the Limits with Squaramide-based Organocatalysts in Cyclic Carbonate Synthesis**

S. Sopeña, E. Martín, E. C. Escudero-Adán, A.W. Kleij\*

*ACS Catal.* **2017**, *7*, 3532-3539, DOI: 10.1021/acscatal.7b00475

**141. Metal-Free Synthesis of N-Aryl Amides using Organocatalytic Ring-Opening Aminolysis of Lactones**

W. Guo, J. Enrique Gómez, L. Martínez-Rodríguez, N. A. G. Bandeira, C. Bo, A. W. Kleij\*

*ChemSusChem* **2017**, *10*, 1969-1975, DOI: 10.1002/cssc.201700415

**140. CO<sub>2</sub> Catalysis – Editorial**



\* Among the most cited articles during 2017-2018

\* Highlighted on the Front Cover

8 Highly cited article (>100 times)

A. W. Kleij,\* M. North,\* A. Urakawa\*

*ChemSusChem* **2017**, *10*, 1036-1038, DOI: 10.1002/cssc.201700218

**139. Vanadium(V) Catalysts with High Activity for the Coupling of Epoxides and CO<sub>2</sub>: Characterization of a putative Catalytic Intermediate**

C. Miceli, J. Rintjema, E. Martin, E.C. Escudero-Adán, C. Zonta, G. Licini,\* A. W. Kleij\*

*ACS Catal.* **2017**, *7*, 2367-2373, DOI: 10.1021/acscatal.7b00109

**138. Synthesis of Carbonates from Alcohols and CO<sub>2</sub>**

\* Invited review article

N. Kindermann, T. Jose, A. W. Kleij\*

*Top. Curr. Chem.* **2017**, *375* (15), 61-88, DOI: 10.1007/s41061-016-0101-8

**137. Mechanistic Insights into the Carbon Dioxide-Cyclohexene Oxide Copolymerization reaction: Is one Metal Center enough?**

J. González-Fabra, F. Castro-Gómez, A. W. Kleij, C. Bo\*

*ChemSusChem* **2017**, *10*, 1233-1240, DOI: 10.1002/cssc.201601520

**136. Aluminum-Mediated Formation of Cyclic Carbonates: Benchmarking Catalytic Performance Metrics**

J. Rintjema, A. W. Kleij\*

*ChemSusChem* **2017**, *10*, 1274-1282, DOI: 10.1002/cssc.201601712

**135. Recent Progress in Stereoselective Synthesis of Cyclic Organic Carbonates and Beyond**

\* Invited review article

J. E. Gómez, A. W. Kleij\*

*Curr. Opin. Green Sust. Chem.* **2017**, *3*, 55-60

DOI: 10.1016/j.cogsc.2016.11.005

**134. Palladium-Catalyzed Stereoselective Formation of Substituted Allylic Thioethers and Sulfones**

José Enrique Gómez, Wusheng Guo, Arjan W. Kleij\*

*Org. Lett.* **2016**, *18*, 6042-6045. DOI: 10.1021/acs.orglett.6b02981

**133. Palladium-Catalyzed Regio- and Enantio-Selective Synthesis of Allylic Amines Featuring Tetrasubstituted Tertiary Carbons**

\* Among the most accessed papers in November

\* Highlighted in *Synfacts* **2017**, *13* (1), 0043

8 Highly cited article (>100 times)

A. Cai, W. Guo, L. Martínez-Rodríguez, A. W. Kleij\*

*J. Am. Chem. Soc.* **2016**, *138*, 14194-14197, DOI: 10.1021/jacs.6b08841



**132. Aluminum Catalyzed formation of Functional 1,3,2-Dioxathiolane 2-Oxides from Sulfur Dioxide: An Easy Entry towards N-Substituted Aziridines**

V. Laserna, E. Martin, E. C. Escudero-Adán, A. W. Kleij\*  
*Adv. Synth. Catal.* **2016**, *358*, 3832-3839. DOI: 10.1002/adsc.201600831

**131. Terpolymers derived from Limonene Oxide and Carbon Dioxide: Access to Cross-Linked Polycarbonates with Improved Thermal Properties**

C. Martín, A. W. Kleij\*  
*Macromolecules* **2016**, *49*, 6285-6295, DOI: 10.1021/acs.macromol.6b01449

**130. Stereoselective and Versatile Preparation of Tri- and Tetra-Substituted Allylic Amine Scaffolds under Mild Conditions**

W. Guo, L. Martínez-Rodríguez, R. Kuniyil, E. Martin, E. C. Escudero-Adán, F. Maseras,\* Arjan W. Kleij\*  
*J. Am. Chem. Soc.* **2016**, *138*, 11970-11978, DOI: 10.1021/jacs.6b07382

**129. Alternating Copolymerization of Propylene Oxide and Cyclohexene Oxide with Tricyclic Anhydrides: Access to Partially Renewable Aliphatic Polyesters with High Glass Transition Temperatures**

M. J. Sanford, L. Peña Carrodeaguas, N. J. Van Zee, A. W. Kleij,\* G. W. Coates\*  
*Macromolecules* **2016**, *49*, 6394-6400, DOI: 10.1021/acs.macromol.6b01425

**128. Substrate-Assisted Carbon Dioxide Activation as a Versatile Approach for Heterocyclic Synthesis**

\* *Invited Review*

J. Rintjema, A. W. Kleij\*  
*Synthesis* **2016**, *48*, 3863-3878, DOI: 10.1055/s-0035-156

**127. Highly Efficient Catalytic Formation of (Z)-1,4-But-2-ene Diols using Water as a Nucleophile**

W. Guo, L. Martínez-Rodríguez, E. Martín, E. C. Escudero-Adán, A. W. Kleij\*  
*Angew. Chem. Int. Ed.* **2016**, *55*, 11037-11040, DOI: 10.1002/anie.201603638

**126. Catalytic Coupling of Carbon Dioxide with Terpene Scaffolds: Access to Challenging Bio-Based Organic Carbonates**

G. Fiorani,\* M. Stuck, C. Martín, M. Martínez-Belmonte, E. Martin, E. C. Escudero-Adán, A. W. Kleij\*  
*ChemSusChem* **2016**, *9*, 1304-1311, DOI: 10.1002/cssc.201600238

**125. Regioselective Organocatalytic Formation of Carbamates from Substituted Cyclic Carbonates**

\* *Highlighted on the Front Cover*

\* *Selected as Very Important Paper*

S. Sopeña, V. Laserna, W. Guo, E. Martin, E. C. Escudero-Adán, A. W. Kleij\*  
*Adv. Synth. Catal.* **2016**, *358*, 2172-2178, DOI: 10.1002/adsc.201600290

**124. Substrate Controlled Product Divergence in CO<sub>2</sub> Conversion to Heterocyclic Products**

J. Rintjema, R. Epping, G. Fiorani, E. Martín, E. C. Escudero-Adán, A. W. Kleij\*  
*Angew. Chem. Int. Ed.* **2016**, *55*, 3972-3976, DOI: 10.1002/anie.201511521

**123. Cavitand based Polyphenols as Highly Reactive Organocatalysts for the Coupling of Carbon Dioxide and Oxiranes**

L. Martínez-Rodríguez, J. Otalora Garmilla, A. W. Kleij\*  
*ChemSusChem* **2016**, *9*, 749-755, DOI: 10.1002/cssc.201501463

**122. Stereodivergent Carbamate Synthesis by Selective in Situ Trapping of Organic Carbonate Intermediates**

W. Guo, V. Laserna, E. Martín, E. C. Escudero-Adán, A. W. Kleij\*  
*Chem. Eur. J.* **2016**, *22*, 1722-1727, DOI: 10.1002/chem.201504510

**121. Catalytic One-Pot Oxetane to Carbamate Conversions: Formal Synthesis of Drug Relevant Molecules**

\* *Selected as Very Important Paper*

\* *Highlighted on the Front Cover*

W. Guo, V. Laserna, J. Rintjema, A. W. Kleij\*  
*Adv. Synth. Catal.* **2016**, *358*, 1602-1607, DOI: 10.1002/adsc.201500895

**120. Iron Complex Based catalysts**

\* *Invited Book Chapter*

A. W. Kleij,\* L. Martínez-Rodríguez, G. Fiorani, C. Martín  
In: "*Sustainable Catalysis: Volume 1: Catalysis by Non-Endangered Metals*", Ed. Michael North, Royal Society of Chemistry, 2016, 13, 373-406, (ISBN: 9781782620563)

**119. Metal Complexes Catalyzed Cyclization with CO<sub>2</sub>**

\* *Invited Book Chapter*

J. Rintjema, L. Peña Carrodeguas, V. Laserna, S. Sopeña, A. W. Kleij\*  
In: "*Topics in Organometallic Chemistry*, 53", Ed. Xiao-Bing Lu, Springer, 2016, 2, 39-71, (ISBN: 1436-6002)

**118. Meet Our Editorial Board Member**

A. W. Kleij\*  
*Curr. Org. Chem.* **2015**, *19*, 2321, DOI : 10.2174/138527281924151013160134

**117. Copolymerization of CO<sub>2</sub> and Cyclohexene Oxide Mediated by Yb(salen)-Based Complexes**

A. Decortes, R. M. Haak, C. Martín, M. Martínez Belmonte, E. Martín, J. Benet-Buchholz, A. W. Kleij\*  
*Macromolecules* **2015**, *48*, 8197-8207, DOI: 10.1021/acs.macromol.5b01880

**116. Highly Efficient Organocatalyzed Conversion of Oxiranes and CO<sub>2</sub> into Organic Carbonates**

\* *Highlighted on the Front Cover*

\* *Highlighted in Angewandte Spotlights*

\* *Highlighted in a Cover Profile article in ChemSusChem*

S. Sopeña, G. Fiorani, C. Martín, A. W. Kleij\*

*ChemSusChem* **2015**, *8*, 3248-3254, DOI: 10.1002/cssc.201500710

**115. Aluminium-Catalysed Oxazolidinone Synthesis and their Conversion into Functional Non-Symmetrical Ureas**

\* *Highlighted on the Front Cover*

\* *Selected as Very Important Paper*

V. Laserna, W. Guo, A. W. Kleij\*

*Adv. Synth. Catal.* **2015**, *357*, 2849-2854, DOI: 10.1002/adsc.201500635

**114. A Metal-free Synthesis of N-Aryl Carbamates under Ambient Conditions**

W. Guo, J. González-Fabra, N. A. G. Bandeira, C. Bo, A. W. Kleij\*

*Angew. Chem. Int. Ed.* **2015**, *54*, 11686-11690, DOI: 10.1002/anie.201504956

**113. Highly Chemo-Selective Catalytic Coupling of Substituted Oxetanes and Carbon Dioxide**

J. Rintjema, W. Guo, E. Martin, E. C. Escudero-Adán, A. W. Kleij\*

*Chem. Eur. J.* **2015**, *21*, 10754-10762, DOI: 10.1002/chem.201501576

**112. Highly Efficient Chirality Transfer from Diamines Encapsulated within a Self-Assembled Calixarene-Salen Host**

L. Martínez-Rodríguez, N. A. G. Bandeira, C. Bo, A. W. Kleij\*

*Chem. Eur. J.* **2015**, *21*, 7144-7150, DOI: 10.1002/chem.201500333

**111. Al(III)-Catalysed Formation of Poly(limonene)carbonate: DFT Analysis of the Origin of Stereoregularity**

L. Peña Carrodeguas, J. González-Fabra, F. Castro-Gómez, C. Bo,\* A. W. Kleij\*

*Chem. Eur. J.* **2015**, *21*, 6115-6122, DOI: 10.1002/chem.201406334

**110. New Iron Pyridylamino-Bis(Phenolate) Catalyst for Converting CO<sub>2</sub> into Cyclic Carbonates and Cross-Linked Polycarbonates**

M. Taherimehr, J. P. Cardoso Costa Serta, A. W. Kleij, C. J. Whiteoak, P. P. Pescarmona

*ChemSusChem* **2015**, *8*, 1034-1042, DOI: 10.1002/cssc.201403323

**109. Sustainable Conversion of Carbon Dioxide: the Advent of Organocatalysis**

\* *Invited Review*

\* *Among the most cited articles in 2015*

‡ *Highly cited article (>100 times)*

G. Fiorani, W. Guo, A. W. Kleij\*

*Green Chem.* **2015**, *17*, 1375-1389, DOI: 10.1039/C4GC01959H

**108. Recent Advances in the Catalytic Preparation of Cyclic Organic Carbonates**

\* *Invited Review*

‡ *Highly cited article (>100 times)*

C. Martín, G. Fiorani, A. W. Kleij\*

*ACS Catal.* **2015**, *5*, 1353-1370, DOI: 10.1021/cs5018997

### **107. Diastereo- and Enantioselective Valorization of Cyclic Organic Carbonates**

\* *Highlight Article*

A. W. Kleij, C. J. Whiteoak\*

*ChemCatChem* **2015**, *7*, 51-53, DOI: 10.1002/cctc.201402801

### **106. Green Catalytic Synthesis of Heterocyclic Structures using Carbon Dioxide and Related Motifs**

\* *Invited Book Chapter*

A. W. Kleij\*

In: "*Green Synthetic Approaches for Biologically Relevant Heterocycles*", Ed. Goutam Brahmachari, Elsevier, Oxford/Amsterdam, 2014, 141-158, (ISBN: 978-0-12-80007-0)

### **105. Synthesis and Structural Features of Co(II) and Co(III) Complexes Supported by Aminotrisphenolate Ligand Scaffolds**

C. Martín, C. J. Whiteoak, E. Martín, E. C. Escudero-Adán, J. R. Galán-Mascarós, A. W. Kleij\*

*Inorg. Chem.* **2014**, *53*, 11675-11681, DOI: 10.1021/ic501883z

### **104. Exploring the Building-Block Potential of Readily Accessible Chiral Zn(salen) Complexes**

E. Martín, M. Martínez-Belmonte, E. C. Escudero-Adán, A. W. Kleij\*

*Eur. J. Inorg. Chem.* **2014**, 4632-4641, DOI: 10.1002/ejic.201402101

### **103. Comparing Kinetic Profiles between Bifunctional and Binary type of Zn(salen)-based Catalysts for Organic Carbonate Formation**

\* *Invited Article*

C. Martín, A. W. Kleij\*

*Beilstein J. Org. Chem.* **2014**, *10*, 1817-1825, DOI: 10.3762/bjoc.10.191

### **102. Carbon Dioxide as a Protecting Group: Highly Efficient and Selective Catalytic Access to Cyclic cis-Diol Scaffolds**

\* *Selected as Hot Article*

‡ *Highly cited article (>100 times)*

V. Laserna, G. Fiorani, C. J. Whiteoak,\* E. Martín, E. Escudero-Adán, A. W. Kleij\*

*Angew. Chem. Int. Ed.* **2014**, *53*, 10416-10419, DOI: 10.1002/anie.201406645

### **101. Preparation of CO<sub>2</sub>/Diene Copolymers: Advancing Carbon Dioxide Based Materials**

\* *Highlight Article*

G. Fiorani, A. W. Kleij\*

*Angew. Chem. Int. Ed.* **2014**, *53*, 7402-7404, DOI: 10.1002/anie.201403969

**100. Catalytic Conversion and Use of Carbon Dioxide – Editorial**

A. W. Kleij\*

*Catal. Sci. Technol.* **2014**, *4*, 1481-1481, DOI: 10.1039/C4CY90014F

**99. Easily accessible bifunctional Zn(salpyr) catalysts for the formation of organic carbonates**

C. Martín, C. J. Whiteoak, E. Martín, M. Martínez Belmonte, E. C. Escudero-Adán, A. W. Kleij\*

*Catal. Sci. Technol.* **2014**, *4*, 1615-1621, DOI: 10.1039/C3CY01043K

**98. Highly Active Aluminium Catalysts for the Formation of Organic Carbonates from CO<sub>2</sub> and Oxiranes**

\* *Among the most cited articles of 2014/2015*

\* *Highlighted by Organic Process and Research Development (ACS)*

‡ *Highly cited article (>100 times)*

C. J. Whiteoak, N. Kielland, V. Laserna, F. Castro-Gómez, E. Martín, E. C. Escudero-Adán, C. Bo, A. W. Kleij\*

*Chem. Eur. J.* **2014**, *20*, 2264-2275, DOI: 10.1002/chem.201302536

**97. Conversion of Oxiranes and CO<sub>2</sub> to Organic Cyclic Carbonates using a Recyclable, Bifunctional Polystyrene-Supported Organocatalyst**

C. J. Whiteoak, A. H. Henseler, C. Ayats, A. W. Kleij,\* M. A. Pericàs\*

*Green Chem.* **2014**, *16*, 1552-1559, DOI: 10.1039/C3GC41919C

**96. Spectroscopic Properties of Zn(salphenazine) Complexes and their Application in Small Molecule Organic Solar Cells**

G. Salassa, J. W. Ryan, E. C. Escudero-Adán, A. W. Kleij\*

*Dalton Trans.* **2014**, *43*, 210-221, DOI: 10.1039/C3DT52034J

**95. High Activity and Switchable Selectivity in the Synthesis of Cyclic and Polymeric Cyclohexene Carbonates with Iron Amino Triphenolate Catalysts**

‡ *Highly cited article (>100 times)*

M. Taherimehr, S. M. Al-Amsyar, C. J. Whiteoak, A. W. Kleij,\* P. P. Pescarmona\*

*Green Chem.* **2013**, *15*, 3083-3090, DOI: 10.1039/C3GC41303A

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\* *Invited Book Chapter*

A. W. Kleij\*

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