Curriculum Vitae

DE MARON JACOPO

Personal Informations

Address: Via delle Borre, 15, 40131, Bologna (BO), Italia
Place and date of birth: Morbegno (SO), 19/11/1990
Nationality: Italian
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English Level: B2

General Description

I am dependable, motivated, and passionate about my work. I believe in a hands-on approach, guiding students through practical experience and encouraging their growth with the goal of help them become independent. Most of all, I like to spend time in the laboratory. I like the thrill of starting a new research line with little or no prior knowledge about the chemistry involved, or requiring the development of a prototype device, and investigate, and learn from mistakes, and eventually make it work.

Research Interests

Design and development of innovative catalysts and materials to enable new and more sustainable chemical processes in both the liquid- and gas-phase, using batch and/or continuous flow reactors, and driven by diverse energy inputs such as light, heat, and electricity.
Fundamental studies at the laboratory scale (such as the in-depth characterization of materials and the analysis of reaction kinetics and mechanism at the catalyst surface) are not only essential for deepening scientific understanding but also play a critical role in enabling the scale-up and practical implementation of new chemical technologies.

- Ketonization of 1) volatile fatty acids toward SAFs precursors; 2) long-chain fatty acids towards renewable waxes, lubricant and other oleochemical precursors; 3) diluted aqueous solutions of short-chain acids such as those obtainable via the electroreduction of CO_2, food industry waste streams (e.g., dairy) and fermentation processes.
- Selective cross-ketonization of aromatic carboxylic acids or esters toward valuable asymmetric ketone pharmaceutical intermediates (e.g., acetyl furan, propiophenone, valerophenone, deoxybenzoin), fragrance ingredients, or other specialty chemicals.
- Renewable H_2 and syngas production by thermochemical processes (e.g., gasification of biomass, hydrothermal liquefaction of waste, aqueous-phase reforming of biomass and/or waste, reforming of biogas, water splitting cycles), photochemical (photoreforming of small oxygenates or ammonia/urea in water), and (photo)electrochemical processes.
- Synthesis of renewable energy vectors (e.g., MeOH synthesis, CH_4 - Sabatier Reaction, DME, NH_3), synthetic fuels (e.g., Fischer-Tropsch) and chemicals (e.g., aromatics) from H_2 and CO_2 (power-to-X, emission-to-X).
- Upgrading of alcohols (e.g., butadiene synthesis, EtOH-to-gasoline and SAFs), or their use as eco-friendly reducing agent (e.g., levulinic acid to γ-valerolactone) or alkylating agent (one-pot methyl methacrylate synthesis)
- Synthesis and use of organic carbonates as alternative, benign, reagents for the development of innovative catalytic processes (e.g., alkylation of phenolics, synthesis of dimethyl adipate).
- Selective partial oxidations of organic molecules (both in the liquid- and the gas-phase) aimed at the

production of fine chemicals (e.g., fragrance ingredients)

- Synthesis and tuning of the catalytic, morphological and chemical-physical properties of TiO_2, ZrO_2, ceria/zirconia, layered double hydroxides, copper-ferrites, cation-exchanged V-substituted phosphomolybdic acid, and metal oxides and layered double hydroxides supported on carbonaceous materials.

Education and training

01/11/2016 – 01/04/2020
PhD in Chemistry: Alma Mater Studiorum - University of Bologna
Final Grade: excellent with honors
Research theme: *"New catalytic processes for the transformation of renewable raw materials into chemical compounds" – Gas phase synthesis of methyl methacrylate by coupling of methyl propionate with methanol over Mg/Ga bifunctional catalysts; catalytic ketonization of propionic acid to 3-pentanone.*
Thesis title: "*Catalytic upgrading of carboxylic acids and esters to biofuels and biochemicals*"
Supervisor: Prof. Fabrizio Cavani

PhD Foreign Period Experience: 3 months (May-July 2019) at the Department of Inorganic Chemistry, Crystallography and Minerology of Malaga University and, Malaga, Spain.

Project: *In-depth characterization of bifunctional catalyst for the production of methyl methacrylate by means of X-Ray Photoemission Spectroscopy (XPS) and temperature-programmed Fourier Transform Infrared Spectroscopy (FTIR) in vacuum of adsorbed reactants (methyl propionate and methanol). Temperature-programmed Powder X-Ray Diffraction (TP-PXRD) of spent La-based ketonization catalyst.*

Supervisor: Prof. Pedro Jesus Maireles Torres, Prof. Enrique Rodriguez Castellon

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23/03/2016
Master Degree in Industrial Chemistry: Alma Mater Studiorum - University of Bologna
Final Grade: 110/110 with honors
Thesis title: "*Alchilazione in fase gassosa del fenolo con reagenti green in catalisi basica eterogenea*" –
Project: *Gas phase synthesis of mono-, di- and trimethylated phenols by methylation with ethanol or diethyl carbonate.*
Supervisor: Prof. Fabrizio Cavani

19/12/2013
Bachelor Degree in Industrial Chemistry: University of Pisa
Final Grade: 110/110 with honors
Thesis title: "*Fibre naturali rigenerate come supporti per sensori biomedicali*"
Supervisor: Prof. Fabio Di Francesco

Additional Courses, Workshop and Schools

1. 13/06/2023
   Catalysis for Carbon Neutrality and Energy Transition (Genova, Italy)
   International Workshop
2. 27/07/2021 – 30/07/2021
   CIG 2021 – Catalisi in Gioco (Reggio Calabria, Italy)
   Winner of the special prize "Sustainability" for the best framing in the UN sustainable development goals of the research proposal "VALF", consisting in an invitation to publish on the MDPI Sustainable Chemistry open access journal (Sustainable Chemistry, 2022, **3**, 58-75, **DOI: https://doi.org/10.3390/suschem3010005**
3. 27/05/2019 – 07/06/2019
   Advanced Characterization Methods of Functional Solid Materials (Malaga, Spain)
   University Extension Course (3 ECTS), University of Malaga.
4. 07/01/2019 – 11/01/2019
   Innovative Catalysis and Sustainability: Scientific and Economic Aspects (Bardonecchia, Italy)

Winter School (5 ECTS)

5. 15/06/2018
   GCCS 2018 – VI Workshop Nazionale Gruppo Interdivisionale di Green Chemistry (Milano, Italy)
   National Workshop
6. 06/02/2018
   "Analisi quantitativa di fasi cristalline: metodi tradizionali e chemiometria a confronto"
   Workshop della Commissione Strumentazione e Calcolo dell'Associazione di Italiana di Cristallografia
7. 22/02/2017 – 23/02/2017
   NOVACAM – Green Catalysis by Design (Padova, Italy)
   Winter School

Academic Career

01/03/2023 – ongoing
Junior Assistant Professor (Ricercatore a Tempo Determinato, Tipo A)
Institution: "Toso Montanari" Industrial Chemistry Department, Alma Mater Studiorum – University of Bologna
Research Theme: *"Development of chemical processes and catalytic technologies for the production of hydrogen, energy carriers and for climate neutrality"*

The research is focused on the production of renewable hydrogen by several means. Thermocatalytic strategies involve the testing of undoped/doped ceria and ceria-zirconia catalysts prepared by means of microemulsion or sol-gel techniques for the chemical looping water splitting of H_2O. Photocatalytic methods involve the use of TiO_2-based photocatalysts for the UV-visible light-driven reforming of renewable glycerol at room temperature. Photoelectrochemical methods involve the development of layered double hydroxide (LDH)-based electrocatalysts supported on transparent conductors.

Project: PNRR – PE2 – NEST "Network 4 energy sustainable transition" cod. PE0000021 CUP: J33C22002890007

Supervisor: Prof. Francesco Basile

02/03/2022 – 28/02/2023
Research Fellow
Institution: "Toso Montanari" Industrial Chemistry Department, Alma Mater Studiorum – University of Bologna, in collaboration with **ENI**
Research theme: "Development and testing of materials for the production and use of hydrogen and renewable energy"

The research aimed at the development of improved catalysts for the synthesis of methanol from CO_2 and renewable H_2. Activities involved the synthesis of materials and their testing in a 10-grams of catalyst scale laboratory plant operating at 35 bars.

Supervisor: Prof. Francesco Basile

02/03/2021 - 01/03/2022
Research Fellow
Institution: "Toso Montanari" Industrial Chemistry Department, Alma Mater Studiorum – University of Bologna in collaboration with **International Flavors & Fragrances**
Research theme "Studio e sviluppo di catalizzatori per ossidazioni selettive in fase liquida"

The research aimed at developing a selective process for the liquid-phase oxidation of substituted cycloalkanes for the synthesis of valuable fragrance ingredients.

Supervisor: Prof. Fabrizio Cavani

02/03/2020 - 01/03/2021
Research Fellow
Institution: "Toso Montanari" Industrial Chemistry Department, Alma Mater Studiorum – University of Bologna in collaboration with **International Flavors & Fragrances**
Research theme "Studio e sviluppo di catalizzatori per ossidazioni selettive in fase liquida"

The research aimed at developing a selective process for the gas-phase oxidation of a mixture of

decenols for the synthesis of valuable fragrance ingredients. Results obtained with a copper-ferrite catalyst were published in here in Catalysis Science and Technology, 2023, 13 (4), 1059–1073. DOI: https://doi.org/10.1039/d2cy01836e

Supervisor: Prof. Fabrizio Cavani

02/12/2019 – 01/03/2020
Research Scholarship
Institution: "Toso Montanari" Industrial Chemistry Department, Alma Mater Studiorum – University of Bologna
Research theme "Sviluppo di catalizzatori per la trasformazione di acidi carbossilici (e rispettivi esteri) in fase vapore"
Supervisor: Prof. Fabrizio Cavani

11/04/2016 – 31/10/2016
Research Scholarship
Institution: "Toso Montanari" Industrial Chemistry Department, Alma Mater Studiorum – University of Bologna in collaboration with **ENI**
Research theme "Studio di catalizzatori per l'ossidazione selettiva di alcani ed alcoli"
Supervisor: Prof. Fabrizio Cavani

Teaching and Institutional Duties

• Lectures and laboratories

- *A.Y. 2024-2025*: **67068 - Industrial Chemistry with Laboratory – Module 2 (SSD CHEM-04/A, 43 hours)**
  Bachelor Degree in Chemistry and Technologies for the environment and materials (L-27 R, cod. 6634), "Toso Montanari" Industrial Chemistry Department, Campus of Rimini, Faenza.
- *A.Y. 2024-2025:* **98881 - Laboratory of Products, Formulations and Industrial Processes – Module 2 (SSD CHEM-04/A, 17 hours)**
  Bachelor Degree in Chemical Methodologies for Products and Processes (L-P03, cod. 6006), "Toso Montanari" Industrial Chemistry Department, Campus of Bologna, Bologna.
- *A.Y. 2023-2024*: **67068 - Industrial Chemistry with Laboratory – Module 2 (SSD CHEM-04/A, 43 hours)**
  Bachelor Degree in Chemistry and Technologies for the environment and materials (L-27 R, cod. 6634), "Toso Montanari" Industrial Chemistry Department, Campus of Rimini, Faenza.
- *A.Y. 2023-2024:* **98881 - Laboratory of Products, Formulations and Industrial Processes – Module 2 (SSD CHEM-04/A, 17 hours)**
  Bachelor Degree in Chemical Methodologies for Products and Processes (L-P03, cod. 6006), "Toso Montanari" Industrial Chemistry Department, Campus of Bologna, Bologna.
- *A.Y. 2022/2023*: **Advances in catalyst and catalytic processes design (SSD CHEM-04/A, 3 hours)**, Optional PhD course, "Toso Montanari" Industrial Chemistry Department, Campus of Bologna, Bologna.

• Laboratory Tutoring

1. 16/01/2020 – 28/02/2020
   Tutoring for Laboratory Activity (10 hours)
   Course: 88363 - Green Chemistry and Sustainable Chemical Technologies - Bachelor Degree in Low Carbon Technology and Sustainable Chemistry (cod. 9246), "Toso Montanari" Industrial Chemistry Department, University of Bologna.

2. 28/01/2019 – 01/02/2019
   Tutoring for Laboratory Activity (10 hours)
   Course: 88363 - Green Chemistry and Sustainable Chemical Technologies - Bachelor Degree in Low Carbon Technology and Sustainable Chemistry (cod. 9246), "Toso Montanari" Industrial Chemistry Department, University of Bologna.

3. 24/09/2018 – 30/09/2019

Tutoring Contract for Laboratory Activity (40 hours)
Course: 66693 - Fundamentals of Industrial Chemistry with Laboratory - Bachelor Degree in Industrial Chemistry (cod. 8513), "Toso Montanari" Industrial Chemistry Department, University of Bologna.

• Supervision of visiting foreign PhD Students

1. **Adrian Lago Cambeiro**: 3rd year PhD student

   Aim of the stay: *Catalytic ketonization of hexanoic acid (model compound and crude product of a fermentation process developed by the Civil, Chemical, Environmental and Materials Engineering Department) towards high added value products. Testing of heterogeneous zeolitic catalysts synthesized at IMDEA Energy in gas-phase rigs located in the research facilities of UNIBO. Characterization of heterogeneous catalyst after reaction.* **Article submitted.**

   Home Institution: IMDEA Energy Institute, Madrid (ES)
   Supervisor: Dr. Ines Moreno Garcia

   Host Insitution: "Toso Montanari" Industrial Chemistry Department, Bologna (IT)
   Supervisor: Dr. Jacopo De Maron

• Supervisor of PhD Thesis

1. **Emanuele Bosetti** (XL Cycle) Ph.D Student in Chemistry (CHIM/04 03/C2)
   Research project: "Materiali innovativi per un sistema di accumulo ibrido power to X" a valere su fondi del Progetto MITE Piano triennale 2019-2021 della ricerca del sistema elettrico nazionale "CSEAA_00014 MIAMI Materiali Innovativi per Sistemi di Accumulo ibrido".

• Co-Supervisor of PhD Thesis

1. **Alessandro Manna**: (XXXVIII Cycle) PNNR PhD Student in Chemistry (CHIM/04 03/C2).
   Research project: "New catalytic processes for a more sustainable industrial chemistry", in collaboration with **International Flavors & Fragrances.** Supervisor: Prof. Fabrizio Cavani.
2. **Davide Allkanjari** (XXXVIII Cycle) PhD Student in Chemistry (CHIM/04 03/C2)
   Research project: *"Processi innovativi per il disegno di bioraffinerie con produzioni di frazioni idonee pro-Lube e pro-Bitumi",* in collaboration with **ENI.** Supervisor: Prof. Fabrizio Cavani.
3. **Elisabetta Orfei** (XXXVIII Cycle) PhD student in Chemistry (CHIM/04 03/C2)
   Research Project: "*Produzione sostenibile e sicura di H_2*", in collaboration with **ENI**. Supervisor: Prof. Francesco Basile.
4. **Vittoria Saraceni** (XXXIX Cycle) PhD student in Industrial Chemistry (CHIM/04 03/C2)
   Research project: "Utilizzo, modifica, upgrading e caratterizzazioni di materiali catalitici per la purificazione e il condizionamento di correnti di syngas da gassificazione di biomasse e frazioni biogeniche". Supervisor: Prof. Francesco Basile.

• Supervisor of Master Thesis

1. **Gaetano Maria D'onofrio** (A.A. 2023-2024) Master Degree in Industrial Chemistry (LM-71) *"Sintesi selettiva di chetoni asimmetrici mediante chetonizzazione incrociata in fase vapore"*.

• Co-supervisor of Master Thesis

1. **Aytan Safarova** (A.Y. 2023-2024) Master Degree in Advanced Spectroscopy in Chemistry (LM-71) *"Investigation of the ketonization of acetic acid in the presence of water"* supervisor: Prof. Francesco Basile.
2. **Elisa Valzano** (A.Y. 2022-2023) Master Degree in Industrial Chemistry (LM-71) *"Valorizzazione di acido esanoico mediante processi catalitici di chetonizzazione in fase vapore"* supervisor: Prof. Tommaso Tabanelli.
3. **Davide Cesari** (A.Y. 2021-2022), Master Degree in Industrial Chemistry (LM-71) *"Studio della sintesi del 2-acetilfurano mediante chetonizzazione in fase vapore"* supervisor: Prof. Tommaso Tabanelli.

4. **Sabra Banu Rameesdeen** (A.Y. 2020-2021) Master Degree in Industrial Chemistry (LM-71) "*Investigation of the ketonization reaction of renewable acids and esters*" supervisor: Prof. Fabrizio Cavani.
5. **Martina Eberle** (A.Y. 2018-2019) Master Degree in Industrial Chemistry (LM-71) "*Sintesi del metil metacrilato mediante reazione tra metil propionato e metanolo in fase vapore*" supervisor: Prof. Tommaso Tabanelli.
6. **Luca Bellotti** (A.Y. 2016-2017) "*Studio della reazione di chetonizzazione di acidi carbossilici in fase* gas", Master Degree in Industrial Chemistry (LM-71) supervisor: Prof. Fabrizio Cavani.

- **Supervisor of Bachelor Thesis**

1. **Caterina Castellani** (A.Y. 2023-2024) Bachelor Degree in Industrial Chemistry (L-27) "*Sintesi e caratterizzazione di layered double hydroxides a base di rame, zinco ed alluminio supportate su carbone attivo*"
2. **Pietro Zagano** (A.Y. 2023-2024) Bachelor Degree in Industrial Chemistry (L-27) "*studio di sintesi alternative di TiO_2 come supporto per fotocatalizzatori di reforming del glicerolo*"
3. **Michela Bartoli** (A.Y. 2024-2025) Bachelor Degree in Industrial Chemistry (L-27) Chemistry and Technologies for the Environment and Materials (L-27) "*Studio della produzione di una superficie SAFE Cerdomus*"
4. **Giulia Toro** (ongoing internship): glycerol photoreforming
5. **Federica Tomassini** (ongoing internship): gas-phase ketonization

- **Co-Supervisor of Bachelor Thesis**

1. **Elisa Valzano** (A.Y. 2020-2021) Bachelor Degree in Industrial Chemistry (L-27) "*Studio della sintesi dell'idrocalcone mediante chetonizzazione in fase vapore*" supervisor: Prof. Tommaso Tabanelli.
2. **Alessio Baldelli** (A.Y. 2020-2021) Bachelor Degree in Industrial Chemistry (L-27) "*Studio della reazione di chetonizzazione dell'acido propionico in fase vapore con catalizzatori contenenti zirconio*" supervisor: Prof. Tommaso Tabanelli.
3. **Laura Piovani** (A.Y. 2017-2018) Bachelor Degree in Industrial Chemistry (L-27) "*Chetonizzazione del metil propionato catalizzata da ossidi metallici*" supervisor: Prof. Fabrizio Cavani.
4. **Giulia Mengotti** (A.Y. 2015-2016) Bachelor Degree in Industrial Chemistry (L-27) "*Alchilazione in fase gassosa del fenolo con dietilcarbonato in catalisi basica eterogenea*" supervisor: Prof. Fabrizio Cavani.

- **Commissions**

- *A.Y. 2024-2025*: **admission board for the Bachelor Degree in Chemical Methodologies for Products and Processes (L-P03, cod. 6006),** substitute member.
- *A.Y. 2024-2025:* **admission board for the Industrial Chemistry PhD Course (CHEM-04/A) NRRP Grants,** substitute member.
- *A.Y. 2024-2025*: **examining board (Commissione di Dottorato) for PhD dissertation (XXXVII Cycle)**, substitute member.
- *A.Y. 2023-2024*: **examining board (Commissione di Laurea) for the Bachelor Degree in Industrial Chemistry.**

Participation to Funded Projects

1. **PNRR Project PE2–NEST, "Network 4 energy sustainable transition"** (Project funded under the National Recovery and Resilience Plan (NRRP), Mission 4, Component 2, Investment 1.3 - Call for tender No. 1561 of 11.10.2022 of Ministero dell'Università e della Ricerca (MUR), cod. PE0000021, CUP: J33C22002890007). Assigned with a RTDA contract to the Spoke 4 "Clean Hydrogen and Final

Uses".

Also, member of the research group of the following projects:

1. European project **GeniusFuels (Gasification and Electrolysis Novel Integration Used for Sustainable Fuels)** CETP-2023-00295
2. National project **PRIN2022 - CO_2 CORE AT LAST (CO_2 Conversion to Renewable fuels by dynamic Adsorption and Transformation on Layered Structured based catalysts)**
3. Regional project POR-FESR Emilia Romagna **H_2-Synergy (Green hydrogen and syngas from circular economy obtained by high temperature electrolysis in synergy with gasification of biomass and plastic residues)**
4. Collaboration and synergies with the National Project **iENTRANCE@ENL (Infrastructure for Energy TRAnsition aNd Circular Economy @ Euro Nano Lab)**
5. Project with ENI: **Sustainable and safe production of H_2**
6. Project with ENI: **CO_2 utilization in synergy with hydrogen transformation**
7. Project with ENI: **Development of hybrid and membrane systems for the separation of CO_2**
8. Project with SNAM: **Plastolyzer**
9. Project with SNAM: **Phoenix**
10. **ACTI (Advanced CO_2 Transformation and Integration via high TRL technologies)**
11. **MIAMI (Materiali Innovativi per Sistemi di Accumulo Ibrido)**
12. **e-KEROMETH (Co-elettrolisi di CO_2 ed H_2O per la produzione di e-fuels rinnovabili)**

International Collaborations

1. Prof. Pedro Jesús Maireles Torres and Prof. Enrique Rodríguez Castellón, Departamento de Química Inorgánica, Cristalografía y Mineralogía (Unidad Asociada al ICP-CSIC), Universidad de Málaga (ES). **Published article: ACS Sustainable Chemistry & Engineering, 2021, 9, 1790-1803.**
2. Carlos Lopez Cruz, Technical Team Leader for Chemical Process Improvement and Innovation at International Flavors & Fragrances (IFF) Benicarló S.L. (ES): **Published article: Catalysis Science and Technology, 2023, 13 (4), 1059–1073.**
3. Jose Manuel Lopez Nieto, Universitat Politecnica de Valencia - Consejo Superior de Investigaciones Científicas (ES). **Published article: Applied Catalysis A: General, 2019, 582, 117102.**
4. Aisha Matayeva, Department of Biological and Chemical Engineering, Aarhus University (DK). **Published article: Fuel, 2023, 335, 126981.**
5. Dr. Ines Moreno Garcia (Senior Assistant Associate Researcher at IMDEA Energy Institute) and Dr. Adrian Lago Cambeiro(PhD student), Madrid (ES). **Article submitted**.
6. **GeniusFuels European Project Consortium:**
   - Dr. Pavel Lestinski and Dr. Eng. Amer Inayat, Institute of Environmental Technology, CEET, VSB - Technical University of Ostrava (CZ). **Article in preparation**.
   - Prof. Anne Cécile Roger and Prof. Sébastien Thomas, CNRS-ICPEES Strasbourg (FR).
   - Prof. Christian Hulteberg, Senior Lecturer at the Department of Chemical Engineering of Lund University and head of the company Hulteberg Chemistry & Engineering AB (SE).

National Collaborations

1. Prof. Carlo Lucarelli and Dr. Nicola Schiaroli, University of Insubria. **Published aticle: Sustainable Chemistry, 2022, 3, 58-75.**
2. Dr. Raffaele Cucciniello, University of Salerno **Published article: ACS Sustainable Chemistry & Engineering, 2022, 10, 10922–10933.**

3. Dr. Alberto De Angelis (Knowledge owner Acid Gas Treatment Technologies), Dr. Roberto Milllini (Vice President, R&D Program Energy Transition - CO_2 Capture and Utilization) and Dr. Giacomo Filippini (R&D Process Engineer) ENI, Milano. Ongoing collaboration on the topic of carbon dioxide utilization in combination with green hydrogen for the synthesis of methanol. **Patent in preparation.**
4. Dr. Daniele Bianchi (direzione ricerca ed innovazione tecnologica -Energia da biomasse), ENI-IEOC. **Published article: Fuel, 2023, 335, 126981.**
5. Dr. Gloria Gottardi, Senior Research at Center for Sustainable Energy, Bruno Kessler Foundation, Trento. **Published article: Carbon, 2025, 238, 120203.**
6. **GeniusFuels European Project Consortium**
   - Dr. Alessandra Sanson, Dr. Angela Gondolini, and Dr. Elena Mercadelli, CNR-ISSMC, Faenza, via both the GeniusFuels and H_2-Synergy consortium. **Published articles: Separation and Purification Technology, 2025, 372, 133436** and **Journal of Membrane Science, 2024, 712, 123196.**
7. **PE2-NEST Consortium:**
   - Prof. Gabriella Garbarino and Dr. Elena Spennati, University of Genova. **Published article: ChemSusChem, 2024, 17, e20240099.**
   - Prof. Paolo De Filippis, University of Rome "La Sapienza".
   - Prof. Gianpaolo Suranna and Dr. Chiara Lo Porto, Polytechnic University of Bari.
   - Dr. Daniele Sassone, Italian Institute of Technology, University of Turin.
   - Dr. Carmelo Lo Vecchio, CNR-ITAE, Messina.
   - Dr. Chiara Negri e Dr. Isabella Nova, Polytechnic University of Milan.

Scientific Society Membership

Member of the **Industrial Chemistry Division** of the **Italian Chemical Society**, and of the **Catalysis** and **Green Chemistry Interdivisional Groups.**

Prizes

Winner of the 2023 edition of the "Robert K. Grasselli award for the successful work in the field of gas-phase catalysis" awarded by the Interdivisional Group of Catalysis of the Italian Chemical Society.

Organization of Scientific Events

- Scientific and Organizing Committee of the 1st Advanced iENTRANCE@ENL advanced School held from 20 to 22 February 2024 at the Faculty of Civil and Industrial Engineering of Sapienza University of Rome.
- Member of the Staff at "Europacat 2017 – European Congress on Catalysis" held in Florence on the 27-31 August 2017.

Reviewer Activity

Reviewer activity for the Journal **Green Chemistry, Journal of Catalysis, ChemSusChem, Catalysis Science and Technology, Minerals.**

List of Publications in Peer Reviewed Journals

1. *A. Bartoletti, E. Mercadelli, A. Gondolini, V. Saraceni, A. Fasolini, J. De Maron, F. Basile and A. Sanson, Nanostructured ceramic membranes for hydrogen separation, Separation and Purification Technology, 2025, 3721, 133436. DOI: https://doi.org/10.1016/j.seppur.2025.133436*
2. *A. Bartoletti, E. Mercadelli, V. Saraceni, A. Sangiorgi, A. Gondolini, C. Melandri, P. Pinasco, P. Gramazio, A. Fasolini, J. De Maron, F. Basile and A. Sanson, Journal of Membrane Science, 2025, 733, 124311. DOI: https://doi.org/10.1016/j.memsci.2025.124311.*
3. *F. Loprete, E. Tosi Brandi, F. Calcagno, J. De Maron, A. Fasolini, R. Tarroni, F. Basile and I. Rivalta, Advancing*

CO_2 Conversion with Cu-LDHs: A Review of Computational and Experimental Studies, Chemical Record, 2025, e202500014. DOI: https://doi.org/10.1002/tcr.202500014

4. *G. Galletti, D. Allkanjari, A. Manna, E. Valzano, L. Monti, N. Dimitratos, J. De Maron, F. Cavani and T. Tabanelli, Zinc-based oxides as alternative cheap and stable catalysts for the production of adipates from cyclopentanone and dimethyl carbonate, Sustainable Chemistry and Pharmacy, 2025, 45, 102018. DOI: https://doi.org/10.1016/j.scp.2025.102018*

5. *J. De Maron, A. Safarova, C. Ursu, G.M. D'Onofrio, E. Tosi Brandi, A. Fasolini, G. Gottardi, F. Basile, F. Cavani and T. Tabanelli, Promoting zirconia with carbon: Enhanced hybrid ZrO_2/C catalyst for the ketonization of diluted aqueous acetic acid, Carbon, 2025, 238, 120203. DOI: https://doi.org/10.1016/j.carbon.2025.120203*

6. *A. Gagliardi, G. Balestra, J. De Maron, R. Mazzoni, T. Tabanelli and F. Cavani, Ethanol to gasoline and sustainable aviation fuel precursors: an innovative cascade strategy over Zr-based multifunctional catalysts in the gas phase, Applied Catalysis B: Environmental, 2024, 349, 123865. DOI: https://doi.org/10.1016/j.apcatb.2024.123865*

7. *A. Fasolini, G. Martelli, A. Piazzi, M. Curcio, J. De Maron, F. Basile and R. Mazzoni, Advances in the Homogeneously Catalyzed Hydrogen Production from Biomass Derived Feedstocks: A Review, ChemCatChem, 2024, 16 (17), e202400393. DOI: https://doi.org/10.1002/cctc.202400393*

8. *P. Gramazio, A. Bartoletti, A. Gondolini, E. Mercadelli, J. De Maron, E. Tosi Brandi, V. Saraceni, A. Fasolini, A. Sanson and F. Basile, High-temperature planar asymmetric ceramic membranes: Effect of the Pt amount and dispersion on the H_2 separation performance, Journal of Membrane Science, 2024, 712, 123196. DOI: https://doi.org/10.1016/j.memsci.2024.123196*

9. *S. Ebrahim Atakoohi, P. Riani, E. Spennati, L. Savio, L. Vattuone, J. De Maron and G. Garbarino, Graphene-Based Material Supports for Ni− and Ru− Catalysts in CO_2 Hydrogenation: Ruling out Performances and Impurity Role, ChemSusChem, 2024, 17 (23), e202400993. DOI: https://doi.org/10.1002/cssc.202400993*

10. *J. De Maron, R. Mafessanti, P. Gramazio, E. Orfei, A. Fasolini and F. Basile, H_2 Production by Methane Oxy-Reforming: Effect of Catalyst Pretreatment on the Properties and Activity of Rh-$Ce_{0.5}Zr_{0.5}O_2$ Synthetized by Microemulsion, Nanomaterials, 2023, 13 (1), 53. DOI: https://doi.org/10.3390/nano13010053*

11. *A. Adeoye, F. Passarini, J. De Maron, T. Tabanelli, F. Cavani and D. Cespi, Methyl Methacrylate Production Processes: A Comparative Analysis of Alternatives Using the Life Cycle Assessment Methodology, ACS Sustainable Chemistry and Engineering, 2023, 11 (49), 17355–17370. DOI: https://doi.org/10.1021/acssuschemeng.3c04896*

12. *J. De Maron, T. Tabanelli, F. Ospitali, C. Lopez Cruz, P. Righi and F. Cavani, Gas-phase oxidative dehydrogenation of long chain alkenols for the production of key fragrance ingredients: from Rosalva isomers to Costenal analogues, Catalysis Science and Technology, 2023, 13 (4), 1059–1073. DOI: https://doi.org/10.1039/d2cy01836e*

13. *A. Messori, G. Martelli, A. Piazzi, F. Basile, J. De Maron, A. Fasolini and R. Mazzoni, Molecular Ruthenium Cyclopentadienone Bifunctional Catalysts for the Conversion of Sugar Platforms to Hydrogen, ChemPlusChem, 2023, 88 (9), e202300357. DOI: https://doi.org/10.1002/cplu.202300357*

14. *G. Balestra, J. De Maron, T. Tabanelli, F. Cavani and J.M.L. Nieto, The selective ethanol Guerbet condensation over alkali metal-doped sepiolite, Catalysis Today, 2023, 423, 114013. DOI: https://doi.org/10.1016/j.cattod.2023.01.020*

15. *R. Bacchiocchi, J. De Maron, T. Tabanelli, D. Bianchi and F. Cavani, Supported rhenium catalysts for the hydrogenation of levulinic acid derivatives: limits and potential, Sustainable Energy and Fuels, 2023, 7 (3), 671–681. DOI: https://doi.org/10.1039/d2se01583h*

16. *A. Matayeva, A. Fasolini, D. Bianchi, S. Chiaberge, J. De Maron and F. Basile, Production of biocrude from organic waste: Influence of feedstock composition on hydrodenitrogenation reactivity in biocrude upgrading, Fuel, 2023, 335, 126981. DOI: https://doi.org/10.1016/j.fuel.2022.126981*

17. *F. Puzzo, N. Capece, L. Setti, G. Pavarelli, J. De Maron, T. Tabanelli and F. Cavani, 1-Butanol dehydration and oxidation over vanadium phosphate catalysts, Applied Catalysis A: General, 2023, 661, 119243. DOI: https://doi.org/10.1016/j.apcata.2023.119243*

18. *A. Fasolini, R. Mafessanti, S. Abate, P. Gramazio, J. De Maron, G. Centi and F. Basile, Integration of catalytic methane oxy-reforming and water gas shift membrane reactor for intensified pure hydrogen production and methanation suppression over $Ce_{0.5}Zr_{0.5}O_2$ based catalysts, Catalysis Today, 2023, 418, 114047. DOI: https://doi.org/10.1016/j.cattod.2023.114047*

19. *J. De Maron, D. Cesari, S. Banu Rameesdeen, T. Tabanelli, A. Fasolini, F. Basile and F. Cavani, An innovative catalytic pathway for the synthesis of acyl furans: the cross-ketonization of methyl 2-furoate with carboxylic acids, Green Chemistry, 2023, 25 (18), 7381–7392. DOI: https://doi.org/10.1039/d3gc01992f*

20. *G. Galletti, P. Prete, S. Vanzini, R. Cucciniello, A. Fasolini, J. De Maron, F. Cavani and T. Tabanelli, Glycerol Carbonate as a Versatile Alkylating Agent for the Synthesis of β-Aryloxy Alcohols, ACS Sustainable Chemistry and Engineering, 2022, 10 (33), 10922–10933. DOI: https://doi.org/10.1021/acssuschemeng.2c02795*

21. *J. De Maron, L. Bellotti, A. Baldelli, A. Fasolini, N. Schiaroli, C. Lucarelli, F. Cavani and T. Tabanelli, Evaluation of the Catalytic Activity of Metal Phosphates and Related Oxides in the Ketonization of Propionic Acid, Sustainable Chemistry, 2022, 3 (1), 58–75. DOI: https://doi.org/10.3390/suschem3010005*

22. *J. De Maron, M. Eberle, F. Cavani, F. Basile, N. Dimitratos, P.J. Maireles-Torres, E. Rodriguez-Castellón and T. Tabanelli, Continuous-Flow Methyl Methacrylate Synthesis over Gallium-Based Bifunctional Catalysts, ACS Sustainable Chemistry and Engineering, 2021, 9 (4), 1790–1803. DOI: https://doi.org/10.1021/acssuschemeng.0c07932*

23. *C. Bandinelli, B. Lambiase, T. Tabanelli, J. De Maron, N. Dimitratos, F. Basile, P. Concepcion, J.M.L. Nieto and F. Cavani, A study of the oxidehydration of 1,2-propanediol to propanoic acid with bifunctional catalysts, Applied Catalysis A: General, 2019, 582, 117102. DOI: https://doi.org/10.1016/j.apcata.2019.05.036*

Bibliometric Indexes

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Scopus
Author Identifier: 57209451478.
Citations (Scopus): 159.
H-index (Scopus): 8.

Web of Science/Publons
Author Identifier: AGF-0952-2022.
Citations (WoS): 144.
H-index (WoS): 7.

Contributions to International and National Conferences (as presenting author)

1. 02/06/2025 – 05/06/2025
   ICEC 2025 - International Conference on Environmental Catalysis (Isola delle Femmine, Italy)
   - ORAL COMMUNICATION: "*Promoting zirconia with carbon: enhanced hybrid ZrO2/C ketonization catalyst for the valorization of e-acetic acid*"
   Authors: J. De Maron, A. Safarova, C. Ursu, E. Tosi Brandi, A. Fasolini, T. Tabanelli, G. Gottardi, F. Basile and F. Cavani.

   - POSTER COMMUNICATION: "*Asymmetric ketones intermediates by cross-ketonization*".
   Authors: J. De Maron, G.M. D'Onofrio, T. Tabanelli, A. Fasolini, F. Basile and F. Cavani

2. 14/07/2024 – 19/07/2024
ICC 2024 – 18th International Congress on Catalysis (Lyon, France)
- ORAL COMMUNICATION: "*Synthesis of asymmetric ketones intermediates by cross-ketonization"*.
Authors: J. De Maron, T. Tabanelli, A. Fasolini, F. Basile and F. Cavani.

- POSTER COMMUNICATION: *"Photocatalytic reforming of glycerol to hydrogen and small oxygenates"*.
Authors: V. Maslova, A. Fasolini, M. Offidani, J. De Maron, F. Basile.
Winner of the young Researcher IACS award that covered the participation fees and the "Young Talent" label of excellence.

3. 24/06/2024 - 26/06/2024

Carbocat10 - International Symposium on Carbon for Catalysis (Florence, Italy)
ORAL COMMUNICATION: *"Valorization of diluted aqueous solutions of acetic acid obtainable via PtL strategy by gas-phase ketonization over hybrid ZrO_2/C catalyst"*.
Author: J. De Maron

4. 27/08/2023 – 01/09/2023
Europacat 2023 – 15th European Congress on Catalysis (Prague, Czech Republic)
POSTER COMMUNICATION: *"An innovative catalytic pathway for the synthesis of acyl furans: the cross ketonization of methyl 2-furoate with carboxylic acids"*.
Authors: J. De Maron, D. Cesari, S. Banu Rameesdeen, T. Tabanelli, A. Fasolini, F. Basile and F. Cavani.

5. 14/06/2023-16/06/2023
GIC2023 - XXIII National Congress on Catalysis (Genova, Italy)
ORAL COMMUNICATION: *"Gas-phase partial oxidation of fatty alcohols over CuO_x/γ-Fe_2O_3: a noble-metal free catalyst for the synthesis of perfume ingredients"*.
Author: J. De Maron
GRASSELLI AWARD WINNER for contributions of particular scientific, innovative or applicative importance in the field of heterogeneous gas-phase catalysis.

6. 11/09/2022 – 14/09/2022
GIC 2022 – XXII National Congress on Catalysis (Riccione, Italy)
ORAL COMMUNICATION: *"Oxidative dehydrogenation of long chain alkenols: an alternative route to key fragrances' ingredients"*.
Authors: J. De Maron, T. Tabanelli, C. L. Cruz, P. Righi and F. Cavani.

7. 28/08/2019 – 30/08/2019
CIS 2019 – Chemistry meets Industry and Society (Salerno, Italy)
ORAL COMMUNICATION: *"Innovative bifunctional catalytic system for methyl methacrylate synthesis: the peculiar role of gallium"*.
Authors: J. De Maron, M. Eberle, T. Tabanelli, N. Dimitratos and F. Cavani.

8. 27/08/2019
XXI Congresso Nazionale della Divisione di Chimica Industriale (Salerno, Italy)
POSTER COMMUNICATION: *"Innovative bifunctional catalytic system for methyl methacrylate synthesis: the peculiar role of gallium"*.
Authors: J. De Maron, M. Eberle, T. Tabanelli, N. Dimitratos and F. Cavani.

9. 18/08/2019 – 23/08/2019
EuropaCat 2019 – 14th European Congress on Catalysis (Aachen, Germany)
ORAL COMMUNICATION: *"Innovative bifunctional catalytic system for methyl methacrylate synthesis: the peculiar role of gallium"*.
Authors: J. De Maron, M. Eberle, T. Tabanelli, N. Dimitratos, P.J. Maireles Torres, E. Rodriguez Castellon and F. Cavani.

10. 13/05/2019 – 17/05/2019
ISGC 2019 – International Symposium on Green Chemistry (La Rochelle, France)
ORAL COMMUNICATION: *"Innovative bifunctional catalytic system for methyl methacrylate synthesis: the peculiar role of gallium"*.

Authors: J. De Maron, M. Eberle, T. Tabanelli, N. Dimitratos and F. Cavani.

11. 07/01/2019 – 11/01/2019
    ICS 2019 – International Winter School on Innovative Catalysis and Sustainability – Scientific and Socio-Economic aspects (Bardonecchia, Italy)
    POSTER COMMUNICATION: "*Alkyl carbonates as non-toxic reagents for the selective gas phase alkylation of phenolics*".
    Authors: J. De Maron, T. Tabanelli, L. Ganzerla, C. Lucarelli and F. Cavani.

12. 19/11/2018 – 21/11/2018
    MEYCS 2018 – Merck and Elsevier Young Chemists Symposium (Rimini, Italy)
    ORAL COMMUNICATION: "*Alkyl carbonates as non-toxic reagents for the selective gas phase alkylation of phenolics*".
    Authors: J. De Maron, T. Tabanelli, L. Ganzerla, C. Lucarelli and F. Cavani.

13. 02/09/2018 – 05/09/2018
    GIC-DiChIn 2018 – XX Congresso Nazionale della Divisione di Chimica Industriale (Milano, Italy)
    Winner of a scholarship offered by the Industrial Chemistry Division and the Interdivisional Group of Catalysis of the Italian Chemical Society, covering congress registration fees.
    ORAL COMMUNICATION: "*Alkyl carbonates as non-toxic reagents for the selective gas phase alkylation of phenolics*".
    Authors: J. De Maron, T. Tabanelli, L. Ganzerla, C. Lucarelli and F. Cavani.

14. 13/05/2018 – 16/05/2018
    3rd Green & Sustainable Chemistry Conference 2018 (Berlino, Germany)
    POSTER COMMUNICATION: "*Alkyl carbonates as non-toxic reagents for the selective gas phase alkylation of phenolics*".
    Authors: J. De Maron, T. Tabanelli, L. Ganzerla, C. Lucarelli and F. Cavani.

15. 13/11/2017 – 15/11/2017
    MYCS 2017 – Merck Young Chemists Symposium (Milano Marittima, Italy)
    FLASH COMMUNICATION + POSTER COMMUNICATION: "*Alkyl carbonates as non-toxic reagents for the selective gas phase alkylation of phenolics*".
    Authors: J. De Maron, T. Tabanelli, L. Ganzerla, C. Lucarelli and F. Cavani.

16. 10/09/2017 – 14/09/2017
    SCI 2017 – XXVI Congresso Nazionale della Società Chimica Italiana (Paestum, Italy)
    Winner of a scholarship offered by the Industrial Chemistry Division and the Interdivisional Group of Catalysis of the Italian Chemical Society, covering congress registration fees and registration to the Italian Chemical Society.
    POSTER COMMUNICATION: "*The reactivity of metal phosphate catalysts in the synthesis of methyl methacrylate from bio-based propionic acid and methanol*"
    Authors: J. De Maron, C. Bandinelli, F. Basile and F. Cavani.

17. 27/08/2017 – 31/12/2017
    Europacat 2017 – 13th European Congress on Catalysis (Florence, Italy)
    POSTER COMMUNICATION: "*Alkyl carbonates as non-toxic reagents for the selective gas phase alkylation of phenolics*".
    Authors: J. De Maron, T. Tabanelli, L. Ganzerla, C. Lucarelli and F. Cavani.

Congresses Contributions (given by a Co-Author)

1. 08/2024

   ISGC 2025: XXVIII National Congress
   ORAL COMMUNICATION: *"Continuous-flow ketonization of bio-based hexanoic acid for the synthesis of 6-undecanone: the effect of water and impurities on catalysts lifetime"*
   Authors: D. Allkanjari, J. De Maron, E. Valzano, L. Bertin, G.A. Martinez, R. Cucciniello, F. Cavani, and T. Tabanelli.

2. 08/2024

   SCI 2024: XXVIII National Congress
   POSTER COMMUNICATION: *"Ketonization of bio-based hexanoic acid for the synthesis of 6-undecanone: a possible alternative route to produce sustainable aviation fuels (SAFs)"*
   Authors: D. Allkanjari, E. Valzano, J. De Maron, L. Bertin, G.A. Martinez, F. Cavani, and T. Tabanelli.

3. 06/10/2023

   X Workshop Gruppo Interdivisionale Green Chemistry – Chimica Sostenibile 1a Giornata Congiunta con la Divisione di Chimica Industriale (Florence, Italy)
   ORAL COMMUNICATION: *"An innovative catalytic pathway for the synthesis of acyl furans: the cross-ketonization of methyl 2-furoate with carboxylic acids"*
   Authors: D. Allkanjari, J. De Maron, D. Cesari, T. Tabanelli, A. Fasolini, F. Basile and F. Cavani.

4. 06/2023
   GIC 2023: XXIII National Catalysis Congress (Genova, Italy)
   POSTER COMMUNICATION: *"An innovative catalytic pathway for the synthesis of acyl furans: the cross-ketonization of methyl 2-furoate with carboxylic acids"*
   Authors: D. Allkanjari, J. De Maron, D. Cesari, T. Tabanelli, A. Fasolini, F. Basile and F. Cavani.

5. 04/09/2022 – 08/09/2022
   WCOC 2022: 9th World Congress on Oxidation Catalysis (Cardiff, United Kingdom)
   ORAL COMMUNICATION: *"Continuous-flow methyl methacrylate synthesis over Gallium-based bifunctional catalysts"*
   Authors: T. Tabanelli, J. De Maron, C. L. Cruz, P. Righi and F. Cavani.

6. 22/11/2021 – 24/11/2021
   Merck Young Chemists' Symposium 2021 (Rimini, Italy)
   ORAL COMMUNICATION: *"Continuous-flow methyl methacrylate synthesis over Gallium-based bifunctional catalysts"*
   Authors: T. Tabanelli, J. De Maron, F. Basile, N. Dimitratos, P. J. Maireles-Torres, E. Rodriguez-Castellón and F. Cavani.

Job Related Skills

1. Analytical techniques: solid background (both practical and theoretical) in **gas chromatography** coupled with **FID**, **TCD** and **MS** detectors, obtained during years of routinary use for the analysis of reaction mixtures obtained from lab-scale plants in both offline/online fashion. Such preparation extends to **troubleshooting and ordinary/extraordinary maintenance** (e.g., injector parts care, columns installation, detectors cleaning, Swagelock lines and fittings inspection for leaks). Good knowledge of **HPLC** instruments coupled with **RID** and **UV** detectors.
2. Inorganic Materials Synthesis: solid background in the preparation of inorganic materials by means of precipitation, co-precipitation, impregnation (wet and incipient wetness), deposition-precipitation, sol-gel combustion, sol-polymerization (e.g., Pechini method), hydrothermal methods, microemulsion synthesis.
3. Inorganic Materials Characterization: expertise in the routinary use of **XRD**, **N_2 Porosimetry**, **TGA** and **Temperature Programmed Desorption/Reduction/Oxidation/Pulse Chemisorption;** good practical and theoretical knowledge of **FTIR**, **high-vacuum FTIR**, **ATR**, **DRIFTS** and **Raman** spectroscopic techniques, as well as **MP-AES**; rutinary interpretation of data obtained from **SEM-EDX**, High resolution **TEM**, **XRF** and **XPS** characterizations.
4. Digital Competence: good knowledge of Microsoft Windows and Linux Ubuntu operative systems; Microsoft Office suite, Chemdraw, Agilent ChemStation, X'Pert HighScore Plus, Origin, OPUS, TA universal Analysis, Multipak, Fityk, Reaxys, SciFinder, BelMaster7, Visio, Vesta.
5. Language skills: English (B2+ level), Italian (Mother tongue).

In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.

Bologna, 15/06/2025

In Fede,
Jacopo De Maron
Bologna,
15/06/2025
Firmato digitalmente

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(articoli 46 e 47 del d.P.R. 28 dicembre 2000 n. 445)

Il sottoscritto Jacopo De Maron
C.F. DMRJCP90S19F712J
nato a Morbegno (SO)
il 19/11/1990
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consapevole che chiunque rilasci dichiarazioni mendaci è punito ai sensi del codice penale e delle leggi speciali in materia, ai sensi e per gli effetti degli articoli 46 e 47 del d.P.R. n. 445/2000 presa visione dell'avviso di selezione Rif. 2628 - Bando per 1 posto da ricercatore a tempo determinato tipo RTT - CHIMIND - SSD CHIM/04

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Autorizzo il trattamento dei miei dati personali ai sensi del decreto legislativo 30 giugno 2003, n. 196 e del GDPR (regolamento UE 2016/679)

In Fede,
Dr. Jacopo De Maron
Bologna, 15/06/2025
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