Federico d'Amore

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PhD, Assistant Professor
Department of Industrial Engineering
University of Padova, Italy

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☐ SUMMARY

Dr Federico d'Amore is an **Assistant Professor** in Chemical and Process Engineering at the Department of Industrial Engineering, University of Padova (Italy). Previously, he was a Post-Doctoral Research Associate in industrial decarbonisation at the Department of Energy, Politecnico di Milano (Italy). He obtained his PhD in Chemical Engineering in 2020 from University of Padova, including a visiting period at Imperial College London (UK). Federico was awarded his MSc Degree Summa Cum Laude in Energy and Nuclear Engineering at University of Padova in 2015. His **research interests** include:

- the design and optimisation of **low-carbon processes** for the **decarbonisation** of energy and industry. Keywords: techno-economic plant modelling; carbon dioxide capture technologies; carbon dioxide conversion routes; integrated carbon dioxide-hydrogen plants; e-Fuels;
- the design and optimisation of **integrated systems** for energy and industry. Keywords: carbon capture, utilisation, and sequestration; green and blue hydrogen chains; biomass and biofuels; supply chain optimisation; logistics; mixed integer linear programming; multi-objective optimisation; decision making under uncertainty; quantitative risk analysis.

Federico is author of **53 publications**, among which **26 articles** in peer reviewed journals (Scopus **H-index 13** with 518 citations by 411 documents). He is co-inventor of **1 patent**.

☐ EDUCATION

2019 **PhD in Chemical Engineering**
[Dottorato di Ricerca in Ingegneria Industriale – Ingegneria Chimica e Ambientale]
University of Padova, Department of Industrial Engineering, curriculum: Chemical and Environmental Engineering. Supervision: Prof Fabrizio Bezzo (Full Professor of Chemical Engineering). Dissertation: *Design and optimisation of European supply chains for carbon capture, transport, and sequestration.* `http://paduaresearch.cab.unipd.it/12109/`

2018 **Visiting PhD Student**
Imperial College London, Department of Chemical Engineering (8 months). Supervision: Prof Nilay Shah (Full Professor of Process Systems Engineering). Topic: *Optimisation under uncertainty of supply chains for CO_2 capture, transport, and sequestration.*

2015 **MSc in Energy and Nuclear Engineering**
[Laurea Magistrale in Ingegneria Energetica e Nucleare]
University of Padova, Department of Industrial Engineering, 110/110 Summa Cum Laude. Dissertation: *Bioethanol and biopower for sustainable transport: supply chain design and economic optimisation.* `http://tesi.cab.unipd.it/48886/`

2012 **BSc in Energy Engineering**
[Laurea Triennale in Ingegneria dell'Energia]
University of Padova, Department of Electric Engineering. Dissertation: *Techno-economic analysis of a biogas plant.*

2008 **Maturità scientifica**
Liceo Scientifico Leonardo da Vinci, Treviso.

□ PROFESSIONAL EXPERIENCE

▷ Current position

2023+ **Assistant Professor** [Ricercatore Tempo Determinato Tipo A]
University of Padova, Department of Industrial Engineering (selection call: 2022RUAPNRR_CN_EI_01), Chemical and Process Engineering (09/D3), Chemical Plants (ING-IND/25). PNRR Sustainable Mobility Center. Topic: *Process optimisation for biofuels and hydrogen production.*

▷ Previous positions

2021-2023 **Post-Doctoral Research Associate** [Assegnista di ricerca post-dottorato]
2 years *Politecnico di Milano*, Department of Energy (research grant: 2020_ASSEGNI_DENG_40). Supervision: Prof Matteo Romano (Full Professor of Systems for Energy and Environment). Topic: *Modelling of systems for CO_2 capture, transport, utilization and storage in the Italian context.*

2020-2021 **Post-Doctoral Research Associate** [Assegnista di ricerca post-dottorato]
1+ years *University of Padova*, Department of Industrial Engineering (research grants: 2019DII126, 2020DII053). Supervision: Prof Fabrizio Bezzo (Full Professor of Chemical Engineering). Topic: *Supply chain optimisation tools for carbon capture, utilisation and storage, including industrial emission sources.*

2019 **Post-Doctoral Research Assistant** [Borsista di ricerca post-dottorato]
3 months *University of Padova*, Department of Industrial Engineering (research grant: 2019DII100). Supervision: Prof Fabrizio Bezzo (Full Professor of Chemical Engineering). Topic: *Optimisation tools for carbon capture, utilisation and storage supply chains.*

2015-2016 **Post-Graduate Research Assistant** [Borsista di ricerca post-laurea]
1.5 years *University of Padova*, Department of Industrial Engineering (research grants: 2015DII055, 2015DII079, 2015DII093). Supervision: Prof Fabrizio Bezzo (Full Professor of Chemical Engineering). Topic: *Optimisation tools for biofuels value chains.*

□ TEACHING EXPERIENCE

▷ MSc level courses

2023-2025 **Lecturer** [Docente responsabile del corso]
2 years *University of Padova*, MSc course *Process Technologies for Carbon-Neutral Fuels* (code: INQ1097338), modules: energy for sustainable transport, biofuels, carbon capture utilisation and storage, hydrogen technologies, industrial decarbonisation. ∼120 students in Chemical and Process Engineering, Energy Engineering, and Materials Engineering, 6 CFU, 48 hours, in English.

2022-2023 **Co-Lecturer** [Docente del corso]
University of Padova, MSc course *Process Technologies for Carbon-Neutral Fuels* (code: INQ1097338), modules: carbon capture utilisation and storage, hydrogen technologies, future scenarios. ∼100 students in Chemical and Process Engineering, Energy Engineering, and Materials Engineering, 3/6 CFU, 24/48 hours, in English.

2021-2023 **Post-Graduate Teaching Assistant** [Didattica integrativa]
2 years *Politecnico di Milano*, MSc course *Energy Systems LM* (code: 095839), modules: thermodynamics of boilers, steam cycles, gas cycles, and refrigeration cycles. ∼140 students in Mechanical Engineering, 2.25/7 CFU, 18/56 hours, in English.

2019-2020 **Post-Graduate Teaching Assistant** [Didattica integrativa]
University of Padova, MSc course *Biofuels and Sustainable Industrial Processes* (code: INP3050553), modules: carbon capture and storage, high-level optimisation. ∼30 students in Energy Engineering, and Chemical and Process Engineering, 1.25/6 CFU, 10/48 hours, in English.

▷ Other courses and seminars

2023 **Invited Lecturer** [Seminario]

Siemens Process Systems Engineering Limited, doctoral school training *Scientific publications - Journal publications.* 8 PhD students in the framework of the CO2Valorize project, 2 hours, in English. London, United Kingdom.

2022 **Invited Lecturer** [Seminario]
Politecnico di Milano, doctoral school short course *Introduction to combinatorial optimisation: theory and hands-on session.* ∼3 PhD students in Energy Engineering, 4 hours, in English.

□ SUPERVISION AND MENTORING EXPERIENCE

▷ PhD students

Co-Supervisor of 2 PhD Theses [Tesi di Dottorato]

2024-2025 Candidate: Kumcu S (Visiting PhD). Supervised by: Bezzo F, **d'Amore F**. *Optimal carbon capture utilisation and storage chains in Turkey.* Gazi University (Turkey), University of Padova.

2023-2026 Candidate: Varnier L. Supervised by: Bezzo F, **d'Amore F**. *Integrating state-of-the-art technologies for sustainable cement production.* University of Padova.

▷ MSc students (see details in *Annex: MSc theses supervision*)

2017-2024 **(Co-)Supervisor of 14 MSc Theses** [Tesi Magistrali]
University of Padova. Topics: low-carbon process design, carbon capture plants design, optimal chains of plastic packaging, optimal carbon capture and storage chains, optimal design of infrastructures including sismeic risk and public risk perception, carbon dioxide utilisation, design and optimisation of biomass supply chains.

2021-2023 **Co-Supervisor of 6 MSc Theses** [Tesi Magistrali]
Politecnico di Milano. Topics: techno-economic modelling of carbon capture from refineries and steel plants, modelling and optimisation of ship-based CO_2 transport, chain optimisation of large-scale carbon capture infrastructures, carbon capture and utilisation.

▷ BSc students

2023 **Supervisor of 1 BSc Thesis** [Tesi Triennali]
University of Padova. Topics: carbon dioxide transport costs.

□ PROJECTS

▷ Publicly funded projects assigned through competitive call

2022-2026 **CO2Valorize** (Marie Sklodowska-Curie Action of the European Commission, University of Padova): *Valorization of CO_2 for Low Carbon Cement.* Role: participant, co-supervisor.

2020 **BIRD191927** (University of Padova): *Optimising supply chains for carbon capture, transport, utilisation, and sequestration, including emission points from industrial clusters.* Topics: carbon capture and storage, chain optimisation. Role: conceptualisation, researcher.

▷ Industry and research institutes funded projects

2021-2022 **TotalEnergies** (Politecnico di Milano, Utrecht University): *Analysis of MCFC-based CO_2 capture in refineries, offshore plants, and ships.* Topics: molten carbonate fuel cell, carbon capture, steam methane reforming, blue hydrogen, low carbon ship transport. Role: researcher.

2021-2022 **Innovhub** (Politecnico di Milano): *Techno-economic analysis of e-Fuels production processes.* Topics: synthetic fuels, carbon capture and utilisation, green hydrogen, methanol, Fischer-Tropsch. Role: researcher.

□ ACADEMIC TASKS

▷ **Qualifications**

2024 **National Scientific qualification** [Abilitazione Scientifica Nazionale - ASN] as associate professor [seconda fascia] in the Italian higher education system, in the call 2023/2025 (Ministerial Decree n. 1796/2023) for the disciplinary field of 09/D3 - Chemical plants and technologies. Academic Recruitment Field 09/D - Chemical and materials engineering, according to the national classification. The validity of the qualification is eleven years, starting from the 28/06/2024 and will expire on the 28/06/2035. https://asn23.cineca.it/pubblico/miur/esito-abilitato/09%252FD3/2/1

2023 **Teaching certification**, Teaching4Learning (T4L) new faculty, modules: course on innovative teaching, active learning, and digital learning. 30 hours, Monteortone, Italy.

▷ **Responsibilities**

2024-2025 **Adjunct member** of the examination board for the **State exams** [membro aggregato della commissione giudicatrice degli esami di Stato] for qualification to practice the profession of industrial engineer and junior industrial engineer, for the degrees LM-20, LM-21, LM-22, LM-26, LM-28, LM-30, L-9.

2024+ **Member of the committee** for **business relations** (Energy Engineering). Department of Industrial Engineering, University of Padova, Italy.

2023+ **Member of the board** of the **MSc degrees** in Chemical and Process Engineering, Energy Engineering, and Materials Engineering, University of Padova, Italy.

2023+ **Co-chair** of the Computer-Aided Process Engineering Laboratory (**CAPE-Lab**) research group, University of Padova, Italy. https://research.dii.unipd.it/capelab/

□ SCIENTIFIC ACHIEVEMENTS

▷ **Publications** (see details in *Annex: Publications*)

Articles Author of 26 full-length journal articles, 11 peer-reviewed international conference proceedings, 8 peer-reviewed international conference abstracts, 7 other contributions in conferences and workshops.

Patents Co-inventor of **1 patent** on a carbon capture system.

Metrics **Scopus** database bibliometric indicators: number of documents 35, number of citations 518 from 411 documents, H-index: 13.

▷ **Editorial roles and review activities**

Editor **International journals editor**: Frontiers in Chemical Engineering (Review Editor), PLOS Climate (Academic Editor).

Reviewer **International journals reviewer**: Carbon Capture Science & Technology (2), Chemical Engineering Journal (1), Chemical Engineering Transactions (6), Discover Energy (1), Energy Conversion and Management (2), Environmental Science and Pollution Research (1), Frontiers in Marine Science (1), International Journal of Greenhouse Gas Control (5), Journal of Cleaner Production (3), Journal of CO_2 utilization (3).

International conferences reviewer: E_2DT2022-2023-2025, ESCAPE33-34, PSE24.

▷ **Personal awards and funding**

2018 **Funding**. Recipient of scholarship *Ing A Gini* for study abroad, 5900 €.

2016 **Award**. MSc Dissertation award *Premio di studio Prof Ing Klaus Fischer*, 2016 edition, first prize for Management and Leadership: innovative models and methods for modern companies, 3000 €.

2016 **Award**. MSc Dissertation award *Ing Federico Amato*, I edition, first prize for 'renewable energy'-related topics, 1500 €.

2016-2019 **Funding**. Recipient of PhD scholarship *Fondazione CARIPARO*, ∼40000 €.

□ CONFERENCES AND TRAINING

▷ **Conference committee**

2025 **E_2DT2025**, Member of the scientific committee, Palermo, Italy.
2024 **ESCAPE34-PSE24**, Session chair on modelling and simulation, Florence, Italy.

▷ **Conference presentations**

2025 **AIChE Meeting 2025**, Oral presentation, Boston, United States.
2025 **E_2DT2025**, Oral presentation, Palermo, Italy.
2025 **GRICU2025**, Oral presentation, Ischia, Italy.
2024 **ESCAPE34-PSE24**, Oral presentation, Florence, Italy.
2023 **AIChE Meeting 2023**, Delegate, Orlando, United States.
2023 **E_2DT2023**, Oral presentation, Palermo, Italy.
2023 **ECCE14-ECAB7**, Oral presentation, Berlin, Germany.
2023 **ESCAPE33**, Oral (1) and poster (1) presentations, Athens, Greece.
2022 **E_2DT2022**, Oral presentations (2), Milan, Italy.
2021 **ADCHEM2021**, Oral presentation, Venice, Italy.
2020 **ESCAPE30**, Poster presentation, Milan, Italy.
2019 **ESCAPE29**, Oral presentation, Eindhoven, The Netherlands.
2019 **GRCCCUS**, Poster presentation, Les Diablerets, Switzerland.
2018 **PSE2018**, Oral presentation, San Diego, United States
2017 **ESCAPE27**, Poster presentation, Barcelona, Spain.
2016 **μCHP16**, Delegate, Bolzano, Italy.
2016 **ESCAPE26**, Poster presentation, Portoroz, Slovenia.
2016 **CAPE FORUM2016**, Poster presentation, Sion, Switzerland.
2015 **Sesta Conferenza Nazionale su Chimica e Energia**, Delegate, Milano, Italy.
2015 **WE A-RE in Reggio Emilia for EXPO 2015**, Delegate, Reggio Emilia, Italy.

▷ **Courses and training**

2023 **T4L**, Teaching4Learning new faculty, modules: Basic course on innovative teaching, active learning, and digital learning. 30 hours, Monteortone, Italy.
2019 **GRICU**, National PhD school in Chemical Engineering, Palermo, Italy.
2018 **CPSE**, Summer school in optimisation under uncertainty, Imperial College London, United Kingdom.
2018 **CPSE**, Advanced optimisation course, Imperial College London, United Kingdom.
2018 **CPSE**, Introduction to optimisation course, Imperial College London, United Kingdom.
2017 **GRICU**, National PhD school in Chemical Engineering, Palermo, Italy.

□ SERVICE AND OTHER ACTIVITIES

▷ **Memberships and community**

2024+ AIDIC Member (Italian association of chemical engineers).
2023+ GRICU Member (Italian university association of chemical engineering).
2023+ AIChE Member (American Institute of Chemical Engineers).
2017-2018 Member of the Departmental post-graduate and PhD students representative board of Industrial Engineering, University of Padova, Italy.

▷ **Languages**

Italian (native speaker)
English (professional proficiency)

I hereby authorise the use of my personal details in relation to the Italian D. Lgs. 196/2003 and EU 2016/679, and subsequent updates.

Padova, 21/05/2025

□ ANNEX: PUBLICATIONS

▷ **Patents**

1	Inventors: Pereira LM, Lacroix M, Gazzani M, Romano MC, **d'Amore F**, Campanari S. Applicants: TotalEnergies OneTech, Politecnico di Milano, Universiteit Utrecht Holding BV. Title: *Carbon Capture System*. Publication number: WO2023144076. World Intellectual Property Organization (WIPO). Patent Cooperation Treaty (PCT). International Publication Date: 03 August 2023. https://register.epo.org/application?number=EP23701699

▷ **Full-length peer-reviewed international journal articles** (*=corresponding author)

	Varnier L, Rubinaccio D, Bezzo F, **d'Amore F***, 2025. Techno-economic analysis of cryogenic carbon capture for cement decarbonisation. *Chemical Engineering Transactions Journal*. Accepted.
26	Cristiu D, **d'Amore F**, Bezzo F*, 2025. Optimal design of sustainable supply chains for critical raw materials recycling in renewable energy technologies. *Resources Conservation and Recycling*, 218, 108250. https://doi.org/10.1016/j.resconrec.2025.108250
25	Cristiu D, You F, **d'Amore F***, Bezzo F*, 2025. Strategic design and multi-period optimisation under uncertainties of solid sorbent direct air capture supply chains in Europe. *Industrial & Engineering Chemistry Research*, 64, 5493-5510. https://doi.org/10.1021/acs.iecr.4c04040
24	Varnier L, **d'Amore F***, de Groot B, Melitos G, Bezzo F*, 2025. Combined electrification and carbon capture for low-carbon cement: techno-economic assessment of different designs. *Journal of Cleaner Production*, 498, 145029. https://doi.org/10.1016/j.jclepro.2025.145029
23	Zaryab SA, **d'Amore F**, Colbertaldo P, Romano MC*, 2024. Utilization or sequestration for captured CO_2 from industrial plants? *Industrial & Engineering Chemistry Research*, 63, 20287–20303. https://doi.org/10.1021/acs.iecr.4c02268
22	Visonà M, Bezzo F, **d'Amore F***, 2024. Techno-economic analysis of onboard CO_2 capture for ultra-large container ships. *Chemical Engineering Journal*, 485, 149982. https://doi.org/10.1016/j.cej.2024.149982
21	**d'Amore F***, Natalucci L, Romano MC, 2024. Optimisation of ship-based CO_2 transport chains from Southern Europe to the North Sea. *Carbon Capture Science & Technology*, 10, 100172. https://doi.org/10.1016/j.ccst.2023.100172
20	Cristiu D, **d'Amore F**, Bezzo F*, 2024. Economic and environmental optimisation of mixed plastic waste supply chains in Northern Italy comparing incineration and pyrolysis technologies. *Computers and Chemical Engineering*, 180, 108503. https://doi.org/10.1016/j.compchemeng.2023.108503
19	**d'Amore F***, Colbertaldo P, Romano MC, 2023. A mathematical tool for optimising carbon capture, utilisation and sequestration plants for e-MeOH production. *Chemical Engineering Transactions Journal*, 105, 175-180. https://doi.org/10.3303/CET23105030
18	Cristiu D, **d'Amore F**, Mocellin P, Bezzo F*, 2023. Multi-Objective optimization of a Carbon Capture and Sequestration supply chain under seismic risk constraints. A case study considering industrial emissions in Italy. *International Journal of Greenhouse Gas Control*, 129, 103993. https://doi.org/10.1016/j.ijggc.2023.103993
17	**d'Amore F***, Pereira LM, Campanari S, Gazzani M, Romano MC*, 2023. A novel process for CO_2 capture from Steam Methane Reformer with Molten Carbonate Fuel Cell. *International Journal of Hydrogen Energy*, 48, 37366-37384. https://doi.org/10.1016/j.ijhydene.2023.06.137
16	**d'Amore F***, Nava A, Colbertaldo P, Visconti CG, Romano MC, 2023. Turning CO_2 from fuel combustion into e-Fuel? Consider alternative pathways. *Energy Conversion and Management*, 289, 117170. https://doi.org/10.1016/j.enconman.2023.117170
15	Del Manso F*, Casadei S, Faedo D, Lunghi A, Migliavacca G, **d'Amore F**, Romano MC, Perego D, 2022. Feasibility study for the construction of a demonstration plant for the production of e-Fuels. *Chemical Engineering Transactions Journal*, 96, 355-360. https://doi.org/10.3303/CET2296060

14	Cristiu D, **d'Amore F**, Mocellin P, Bezzo F*, 2022. Optimizing carbon capture and sequestration chains from industrial sources under seismic risk constraints. *Chemical Engineering Transactions Journal*, 96, 85-90. https://doi.org/10.3303/CET2296015
13	**d'Amore F***, Nava A, Colbertaldo P, Visconti CG, Romano MC, 2022. Techno-economic modelling of carbon dioxide utilisation pathways at refineries for the production of methanol. *Chemical Engineering Transactions Journal*, 96, 91-96. https://doi.org/10.3303/CET2296016
12	Poluzzi A, Guandalini G, **d'Amore F**, Romano MC*, 2021. The potential of power and biomass-to-X systems in the decarbonization challenge: a critical review. *Current Sustainable/Renewable Energy Reports*. https://doi.org/10.1007/s40518-021-00191-7
11	**d'Amore F**, Romano MC, Bezzo F*, 2021. Optimal design of European supply chains for carbon capture and storage from industrial emission sources including pipe and ship transport. *International Journal of Greenhouse Gas Control*, 109, 103372. https://doi.org/10.1016/j.ijggc.2021.103372
10	**d'Amore F**, Romano MC, Bezzo F*, 2021. Carbon capture and storage for energy and industry: a Europe-wide supply chain optimisation. *Journal of Cleaner Production*, 290, 125202. https://doi.org/10.1016/j.jclepro.2020.125202
9	**d'Amore F**, Bezzo F*, 2020. Optimising the design of supply chains for carbon capture, utilisation and sequestration in Europe: a preliminary study. *Frontiers in Energy Research*, 8, 190. https://doi.org/10.3389/fenrg.2020.00190
8	**d'Amore F**, Lovisotto L, Bezzo F*, 2020. Introducing social acceptance into the design of CCS supply chains: a case study at a European level. *Journal of Cleaner Production*, 249, 119337. https://doi.org/10.1016/j.jclepro.2019.119337
7	**d'Amore F**, Bezzo F*, 2020. Optimal design of European cooperative supply chains for carbon capture, transport and sequestration with costs share policies. *AIChE Journal*, 66, e16872. https://doi.org/10.1002/aic.16872
6	**d'Amore F**, Sunny N, Iruretagoyena D, Bezzo F*, Shah N, 2019. European supply chains for carbon capture, transport and sequestration, with uncertainties in geological storage capacity: insights from economic optimisation. *Computers and Chemical Engineering*, 129, 106521. https://doi.org/10.1016/j.compchemeng.2019.106521
5	**d'Amore F**, Mocellin P, Vianello C, Maschio G, Bezzo F*, 2018. Economic optimisation of European supply chains for CO_2 capture, transport and sequestration, including societal risk analysis and risk mitigation measures. *Applied Energy*, 223, 401-415. https://doi.org/10.1016/j.apenergy.2018.04.043
4	Ascenso L, **d'Amore F**, Carvalho A, Bezzo F*, 2018. Assessing multiple biomass-feedstock in the optimization of power and fuel supply chains for sustainable mobility. *Chemical Engineering Research and Design*, 131, 127-143. https://doi.org/10.1016/j.cherd.2017.12.023
3	**d'Amore F**, Bezzo F*, 2017. Economic optimisation of European supply chains for CO_2 capture, transport and sequestration. *International Journal of Greenhouse Gas Control*, 65, 99-116. https://doi.org/10.1016/j.ijggc.2017.08.015
2	**d'Amore F**, Bezzo F*, 2017. Managing technology performance risk in the strategic design of biomass-based supply chains for energy in the transport sector. *Energy*, 138, 563-574. https://doi.org/10.1016/j.energy.2017.07.074
1	**d'Amore F**, Bezzo F*, 2016. Strategic optimisation of biomass-based energy supply chains for sustainable mobility. *Computers and Chemical Engineering*, 87, 68-81. https://doi.org/10.1016/j.compchemeng.2016.01.003

▷ **Peer-reviewed international conference proceedings** (*=presenting author)

11	Kumcu S*, Özyörük B, Bezzo F, **d'Amore F**, 2025. Optimization of carbon capture and sequestration networks: a case study on hard-to-abate industry in Türkiye. EEPES2025.
10	Varnier L*, **d'Amore F**, Clausen K, Bezzo F, 2024. Assessment of Different Carbon Capture and Electrification Configurations for Low-Carbon Cement. *SSRN Electronic Journal*, 17th Greenhouse Gas Control Technologies Conference (GHGT-17), 5058552. https://doi.org/10.2139/ssrn.5058552

9	Cieno F, Cristiu D, **d'Amore F***, Bezzo F, 2023. Economic optimization of the Northern Italian supply chain for residual plastic packaging waste treatment. *Computer Aided Chemical Engineering*, 52, 2125-2130. https://doi.org/10.1016/B978-0-443-15274-0.50338-3
8	**d'Amore F***, Romano MC, 2023. Optimal ship-based CO_2 transport chains from Mediterranean emission points to the North Sea. *Computer Aided Chemical Engineering*, 52, 2741-2746. https://doi.org/10.1016/B978-0-443-15274-0.50436-4
7	**d'Amore F**, Marcato G, Mocellin P*, Bezzo F, 2022. A framework for economic optimization of carbon capture and sequestration from italian industrial sources under seismic risk constraints. *Computer Aided Chemical Engineering*, 51, 1567-1572. https://doi.org/10.1016/B978-0-323-95879-0.50262-9
6	**d'Amore F***, Romano MC, Bezzo F, 2021. Optimising Carbon Capture and Storage Supply Chains for the European Industry. *IFAC-PapersOnLine*, 54, 609-614. https://doi.org/10.1016/j.ifacol.2021.08.309
5	**d'Amore F***, Lovisotto L, Bezzo F, 2020. A European optimisation tool for carbon capture and storage, accounting for delays in public procurement. *Computer Aided Chemical Engineering*, 48, 1327-1332. https://doi.org/10.1016/B978-0-12-823377-1.50222-6
4	**d'Amore F***, Sunny N, Iruretagoyena D, Bezzo F, Shah N, 2019. Optimising European supply chains for carbon capture, transport and sequestration, including uncertainty on geological storage availability. *Computer Aided Chemical Engineering*, 46, 199-204. https://doi.org/10.1016/B978-0-12-818634-3.50034-5
3	**d'Amore F***, Mocellin P, Vianello C, Maschio G, Bezzo F, 2018. Towards the economic optimisation of European supply chains for CO_2 capture, transport and sequestration, including societal risk analysis. *Computer Aided Chemical Engineering*, 44, 2305-2310. https://doi.org/10.1016/B978-0-444-64241-7.50379-7
2	**d'Amore F***, Bezzo F, 2017. Assessing Technological Options in Biomass-Based Energy Supply Chains through a Quantitative Methodology for Risk and Regret Evaluation. *Computer Aided Chemical Engineering*, 40, 2491-2496. https://doi.org/10.1016/B978-0-444-63965-3.50417-7
1	**d'Amore F***, Bezzo F, 2016. Optimising biomass-based energy supply chains for sustainable mobility. *Computer Aided Chemical Engineering*, 38, 145-150. https://doi.org/10.1016/B978-0-444-63428-3.50029-1

▷ **Peer-reviewed international conference abstracts** (*=presenting author)

8	Cristiu D, Fengqi Y, Bezzo F, **d'Amore F***, 2025. Optimisation under uncertainty of direct air capture chains in Europe. AIChE Meeting 2025, Boston, United States.
7	**d'Amore F***, Bezzo F, 2025. Challenging students with open multidisciplinary problems: A case study concerning sustainable technologies. GRICU2025, Ischia, Italy.
6	**d'Amore F***, Pereira LM, Campanari S, Gazzani M, Romano MC, 2024. A novel process for blue hydrogen production with molten carbonate fuel cell CO_2 capture. ESCAPE34-PSE24, Florence, Italy. https://dx.doi.org/10.3303/BOA2401
5	Cristiu D*, **d'Amore F**, Bezzo F, 2023. Waste-to-Energy and Chemical Recycling of Mixed Plastic Waste. Economic and Environmental Optimisation of the Northern Italian Supply Chain. AIChE Annual Meeting 2023, Orlando, The United States.
4	**d'Amore F***, Nava A, Colbertaldo P, Visconti CG, Romano MC, 2023. Techno-economic modelling of carbon dioxide utilisation routes for the production of methanol: e-Fuels vs. er-Fuels. ECCE14-ECAB7, Berlin, Germany.
3	**d'Amore F**, Bezzo F*, 2019. Optimal design of supply chains for carbon capture, storage, and utilisation. ECCE12-ECAB5, Florence, Italy. Selected as keynote talk.
2	**d'Amore F**, Baldo V, Bezzo F*, 2019. The contribution of CO_2 utilisation to GHG emission reduction: some results based on a European supply chain optimisation. ECCE12-ECAB5, Florence, Italy.
1	Iruretagoyena D*, Hedberg S, Puhan D, Zhang D, Sunny N, **d'Amore F**, Costantini T, Shaffer M, Mac Dowell N, Shah N, 2019. Novel hierarchical neworks as support for hydrotalcites for pre-combustion CO_2 capture. FOA2019, Cairns, Australia.

▷ **Other presentations** (*=presenting author)

7	Varnier L*, **d'Amore F**, de Groot B, Bezzo F, 2025. Techno-economic analysis of an energy-optimised cryogenic carbon capture process for decarbonisation of cement production. PCCC-8, Marseille, France.
6	Varnier L*, **d'Amore F**, Clausen K, Bezzo F, 2024. Optimal integration of carbon capture and electrification for cement plants decarbonisation. GHGT17, Calgary, Canada.
5	**d'Amore F**, Colbertaldo P*, Romano MC, 2022. Economic optimization of integrated H_2 and CO_2 chains for CO_2 emission mitigation in a highly industrialized region. GHGT16, Lyon, France.
4	Cristiu D*, **d'Amore F**, Mocellin P, Bezzo F, 2022. Multi-objective optimization of a carbon capture and sequestration chain under seismic risk constraints. GRICU2022, Palermo, Italy.
3	**d'Amore F***, Sunny N, Iruretagoyena D, Shah N, Bezzo F, 2019. Ottimizzazione di filiere europee per la cattura, stoccaggio e trasporto della CO_2, con incertezza nelle capacità dei bacini geologici. GRICU2019, Palermo, Italy.
2	**d'Amore F***, Lovisotto L, Bezzo F, 2019. Can we include acceptance effects in the optimal design of CCS supply chains? A European case study. GRCCCUS, Les Diablerets, Switzerland.
1	**d'Amore F***, Bezzo F, 2016. Multi-objective optimisation of biomass based supply chains in Italy. CAPE-Forum2016, CAPE at EPFL Valais Wallis, Sion, Switzerland.

□ ANNEX: MSc THESES SUPERVISION

20	Pecchielan A, 2024. *Biogas to methanol: techno-economic assessment of an alternative process configuration.* Supervised by: Bezzo F, **d'Amore F**. University of Padova. https://hdl.handle.net/20.500.12608/78085
19	Rubinaccio D, 2024. *Techno-economic analysis of a Cryogenic Carbon Capture plant applied to cement production.* Supervised by: Bezzo F, **d'Amore F**. University of Padova. https://hdl.handle.net/20.500.12608/74513
18	Bizzo S, 2024. *Techno-economic analysis of mixed plastic waste-to-chemical plants.* Supervised by: **d'Amore F**, Bezzo F. University of Padova. https://hdl.handle.net/20.500.12608/74508
17	Mazzucato G, 2024. *Technical performance analysis of a CO_2 based cooling cycle with work recovery through expander.* Supervised by: **d'Amore F**. University of Padova. https://hdl.handle.net/20.500.12608/66066
16	Dal Pont F, 2024. *Recycling of critical materials for the renewable energy sectors: technology analysis and supply chain modelling.* Supervised by: Bezzo F, **d'Amore F**. University of Padova. https://hdl.handle.net/20.500.12608/64455
15	Cristini M, 2024. *Optimisation of a multi-modal Carbon Capture and Storage network for mediterranean CO_2 emission points.* Supervised by: **d'Amore F**. University of Padova. https://hdl.handle.net/20.500.12608/64445
14	Volpato O, 2024. *Design of an Integrated Energy System using a cascade high temperature heat pump with zeotropic refrigerants.* Supervised by: **d'Amore F**, Eikevik TM. University of Padova, Norwegian Institute of Science and Technology. https://hdl.handle.net/20.500.12608/62307
13	Visonà M, 2023. *Techno-economic evaluation of an on-board carbon capture plant for container ships.* Supervised by: **d'Amore F**, Bezzo F. University of Padova. https://hdl.handle.net/20.500.12608/55918
12	Bruno G, Ceglia M, 2023. *Economic optimisation of European and Mediterranean infrastructures for carbon dioxide capture, transport, and geological storage.* Supervised by: Romano MC, **d'Amore F**. Politecnico di Milano.
11	Azehaf H, 2022. *Carbon capture and sequestration (CCS) from cement, iron and steel plants and oil refineries in the region of Turkey, Egypt, Libya, Tunisia, Algeria and Morocco.* Supervised by: Romano MC, **d'Amore F**. Politecnico di Milano.
10	Cieno F, 2021. *Economic optimization of the Northern Italian supply chain for the treatment of residual plastic packaging waste considering waste-to-energy and chemical recycling technologies.* Supervised by: Bezzo F, Modesti M, **d'Amore F**. University of Padova. http://hdl.handle.net/20.500.12608/6648
9	Natalucci L, 2021. *Liquified CO_2 transport by Ship: Economic model and optimization of the transport chain from the Mediterranean to the North Sea.* Supervised by: Romano MC, **d'Amore F**. Politecnico di Milano. http://hdl.handle.net/10589/183419
8	Piantanida S, 2021. *Post-combustion carbon capture in integrated steel mills: the effect of CO_2 capture rate on the Cost of CO_2 avoided.* Supervised by: Romano MC, **d'Amore F**. Politecnico di Milano. http://hdl.handle.net/10589/183258
7	Rovati G, 2021. *Post-combustion carbon capture in integrated oil refineries: the effect of CO_2 capture rate on the cost of CO_2 avoided.* Supervised by: Romano MC, **d'Amore F**. Politecnico di Milano. http://hdl.handle.net/10589/183183
6	Rizzi S, 2021. *Economic optimization of integrated H_2 and CCS chains for CO_2 emission mitigation: the case study of the Puglia region.* Supervised by: Romano MC, Colbertaldo P, **d'Amore F**. Politecnico di Milano. http://hdl.handle.net/10589/183544
5	Marcato G, 2021. *Economic optimisation of carbon capture and sequestration from Italian industrial sources under seismic risk constraints.* Supervised by: Bezzo F, **d'Amore F**. University of Padova.
4	Crosato S, 2020. *Optimization of the carbon capture and sequestration supply chain for the italian cement industry.* Supervised by: Bezzo F, **d'Amore F**. University of Padova. http://hdl.handle.net/20.500.12608/22669

3	Lovisotto S, 2019. *Strategic optimisation of a European CCS supply chain including countries' risk perception towards new technologies.* Supervised by: Bezzo F, **d'Amore F**. University of Padova. http://hdl.handle.net/20.500.12608/27459
2	Baldo V, 2018. *Economic optimisation of a European supply chain for CO_2 utilisation and sequestration.* Supervised by: Bezzo F, **d'Amore F**. University of Padova. http://hdl.handle.net/20.500.12608/27015
1	Ascenso L, 2017. *Sustainable biomass supply chain optimization: Bioethanol and bioelectricity production.* Supervised by: Carvalho A, Bezzo F, **d'Amore F**. Instituto Politécnico de Lisboa, University of Padova. https://fenix.tecnico.ulisboa.pt/downloadFile/1970719973966310/Luis_Ascenso_67824_extended_abstract.pdf