

FORMATO EUROPEO
PER IL CURRICULUM
VITAE



INFORMAZIONI PERSONALI

Nome **DANILO RUSSO**
Indirizzo **POZZUOLI, 80078, NA**
E-mail **danilo.russo3@unina.it**

Nazionalità Italiana
Data di nascita 19/05/1990

ESPERIENZA LAVORATIVA

09/2022 – Present **Assistant Professor / Postdoctoral Fellow (RTDb)**
Department of Chemical Engineering, Materials, and Industrial Productions of the University of Naples Federico II
SSD: ICHI-02/B (ex. ING-IND/27) Chemical Technologies
Courses: Safety of liquid and solid materials (2022 – 2024)– Emerging contaminants and advanced oxidation processes (2022 – present) – Heterogeneous Photocatalytic Processes (2022 – 2024) - Gaussian-Process-Aided Optimization of Chemical Reactions and Products (Machine Learning for product and process engineering) (2023 – present) – Risk analysis and Management in the process industry (2024 – present)

09/2023 - Present **Elected Member of the Department Council (Giunta di Dipartimento)**
Department of Chemical Engineering, Materials, and Industrial Productions of the University of Naples Federico II.

15/07/2021 – 15/12/2021 PostDoc
Department of Chemical Engineering, Materials, and Industrial Productions of the University of Naples Federico II

01/05/2018 – 30/04/2021 **Research Associate/Fellow**
Department of Chemical Engineering & Biotechnology of the University of Cambridge. Sustainable Reaction Engineering Group (Prof A. Lapkin).
EPSRC Project 1: “Combining Chemical Robotics and Statistical Methods to Discover Complex Functional Products”, a collaboration between Universities of Cambridge, Glasgow and Southampton.
EPSRC Project 2: “Developing novel routes to platform and functional molecules from waste terpenes”, led by University of Bath.

10/2020 – 06/2021 **Member of the Innovation Centre in Digital Molecular Technologies**
Yusuf Hamied Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge, England, CB2 1EW.

2019 - 2021 **Lecturer in Heterogeneous Reactors**
Department of Chemical Engineering & Biotechnology of the University of Cambridge.
The course of heterogeneous reactors is provided for undergraduate students during their third year of studies. The course provides the basic concepts about: ideal reactors design; non-dimensional analysis – fluid-particles reactions kinetics – fluid-particles reactors design – heterogeneous catalysis – packed bed catalytic reactors and fluidized reactors – adsorption – reaction on surfaces – reactions in porous solids – RTDs and non-ideal fluid patterns.

03/2018 – 09/2021 **Exam committee member (cultore della materia)**

Department of Chemical Engineering, Materials, and Industrial Productions of the University of Naples Federico II.

Subjects: Industrial Chemistry – Chemical Process Safety – Safety and Environmental Protection – Chemical Processes for Water Treatment.

01/10/2017 – 01/10/2018

Tutoring Service Teacher

Department of Chemical Engineering, Materials, and Industrial Productions of the University of Naples Federico II.

The university tutoring service offers dedicated support to students during their first year of study. This includes supplementary lectures, group exercise sessions, and orientation activities tailored to small groups of up to 35 students with specific needs.

ISTRUZIONE E FORMAZIONE

01/11/2014 – 12/01/2018

Ph.D. in Industrial Products and Processes Engineering / Doctor Europaeus

Department of Chemical Engineering, Materials, and Industrial Productions of the University of Naples Federico II.

Thesis: "Safe production of nitrated intermediates of industrial interest using traditional batch reactors and innovative microdevices".

Supervisor: Prof. R. Andreozzi, Prof. S. Guido, Prof. R. Marotta.

Final grades: excellent cum laude.

Main activities: Hazardous and exothermic reaction engineering in batch and continuous microreactors – Advanced oxidation processes for micropollutants degradation and hydrogen generation – Photomicroreactors design – kinetic modelling.

Classes: The Entrepreneurial analysis of Research Projects – Communication and dissemination of personal research work – Vibrational spectroscopy – Designing and realizing complex experiments : a case study on SPS experiment to test crystal collimation for LHC (Geneva CERN) – Advanced oxidation processes – Scientific English – Fundamentals of Matlab - Laboratory Safety

Ph.D. School: "Chemical Engineering for sustainable production of energy and fine chemicals". 14th – 16th September 2016, Capri, Naples, Italy.

Dolomite Microfluidics Workshop: 11th October 2017, Naples, Italy.

Remarks: During his Ph.D. program, Danilo Russo coordinated collaborations among five research groups from different countries, gaining valuable experience in managing experimental campaigns and planning both experimental and theoretical work. His efforts involved close collaboration with students, researchers, and professors, demonstrating strong organizational and teamwork skills.

09/2016 – 03/2017

Visiting Ph.D. Student

Department of Chemical Engineering, Materials, and Industrial Productions of the University of Naples Federico II.

09/2012 – 10/2014

Master's Degree – Chemical Engineering

University of Naples Federico II

Thesis: "Cocaine metabolites removal from wastewater and superficial water through advanced oxidation processes in microcapillary reactors"

Final grades: 110/110 cum laude.

Best Graduated Students Award in 2014 at the Chemical Engineering Department of the University of Naples Federico II.

Main Courses: Catalysis - Combustion - Development of chemical processes theory - Biochemical Engineering - Dynamics and Control of chemical processes - Chemical Plants - Numerical Simulation of Transport Phenomena - Industrial Chemistry - Chemical Reactors - Chemical Environmental Engineering - Business Economics - Structural Engineering.

02/2014 – 08/2024

Visiting Student (Erasmus Project – Research)

Department of Chemical Engineering, University of Loughborough, UK.

09/2009 – 09/2012

Bachelor's Degree – Chemical Engineering

University of Naples Federico II

Thesis: "Navier-Stokes equation resolution under laminar flow conditions"

Final grades: 110/110 cum laude

Main Courses: Calculus - Algebra and Geometry - Industrial Design – Electrotechnics - Physics -

07/2009

Mathematical Physics - Chemistry - Materials Science and Technology - Thermodynamics - Chemical Plants - Chemical Reaction Engineering - Numerical Simulations of chemical processes - Transport phenomena - Chemical process safety - Machines - Industrial Chemistry - Sanitary & Environmental Engineering.

High School for Science – L.S.S. “Arturo Labriola”

Napoli, Italy

Final grades: 100/100.

CAPACITÀ E COMPETENZE
PERSONALI

Experimental Campaign Planning: Ability to design, execute, and analyze experimental campaigns, including hypothesis testing.

Scientific Writing: Proficient in writing and publishing scientific research articles.

Science Communication: Skilled in creating accessible and engaging science communication works.

Course Development: Expertise in designing and delivering university-level courses tailored to student needs.

Grant Writing: Competent in preparing and submitting grant applications for research funding.

Public Outreach: Actively engaged in Third Mission activities and science outreach initiatives.

International Collaboration: Experienced in managing and coordinating international research partnerships.

MADRELINGUA

ITALIANO

ALTRE LINGUE

INGLESE

ECCELLENTE

ECCELLENTE

ECCELLENTE

- Capacità di lettura
- Capacità di scrittura
- Capacità di espressione orale

CAPACITÀ E COMPETENZE
RELAZIONALI

Effective Communication: Proficient in presenting complex ideas clearly to diverse audiences, including students, peers, and industry collaborators.

Mentorship and Advising: Skilled in guiding undergraduate, graduate, and doctoral students in academic and professional development.

Team Collaboration: Experienced in working with interdisciplinary teams to advance research and academic projects.

Grant and Proposal Writing: Collaborative approach to developing successful grant applications and research proposals with co-investigators.

Public Engagement: Proficient in delivering lectures, seminars, and workshops to engage with academic and non-academic audiences.

Peer Review and Editorial Work: Skilled in providing constructive feedback as a reviewer or editor for academic journals and conferences.

CAPACITÀ E COMPETENZE
ORGANIZZATIVE

Event Organization: Successful organization of academic events such as conferences, workshops, and guest lectures.

Course Design: Proficient in creating and organizing undergraduate and graduate-level courses, including syllabi, assignments, and assessments.

Classroom Management: Effective organization of class schedules, materials, and grading to ensure smooth course delivery.

Project Coordination: Experienced in managing research projects, including setting timelines, allocating resources, and ensuring milestones are met.

Laboratory Oversight: Skilled in organizing lab schedules, maintaining equipment, and ensuring compliance with safety protocols.

Committee Leadership: Efficient management of departmental and university committees, including agenda preparation and meeting coordination.

CAPACITÀ E COMPETENZE
TECNICHE

RESEARCH INTEREST

Industrial safety

Kinetic modelling

Per ulteriori informazioni:

<https://scholar.google.com/citations?user=hpDSRwcAAAAJ&hl=it>

<https://orcid.org/my-orcid?orcid=0000-0003-1809-7309>

<https://www.dicmapi.unina.it/author/danilo-russo/>

Microfluidics
Machine learning applications to chemical processes and products
Advanced oxidation processes
Water treatment
Catalysis and Photocatalysis
Hydrogen production/storage.

PATENTE O PATENTI

B

QUALIFICATIONS

Engineer Qualification – Access to the profession (Italy)
National Scientific Qualification (Italy – ASN - Associate Professor) –
Settore Concorsuale 09/D3

COMPUTER AND PROGRAMMING	<p>Good knowledge of Windows and Office Softwares</p> <p>Basic knowledge of C++ programming</p>
PREMI	<p>Good knowledge and Research experience using Matlab, Fluent, Aspen, Aloha Softwares</p> <p>07/2022: GRICU Early Career Award & Invited Keynote Lecture</p> <p>05/2018: Travel Grant ISCRE25 for Young Scientists.</p> <p>02/2015: Best Graduated Students Award in 2014 at the Chemical Engineering Department of the University of Naples Federico II.</p> <p>2013: CNH Industrial Award (Scholarship). Fiat Chrysler Automobiles. Bachelor's Degree awards.</p> <p>2010: CNH Industrial Award (Scholarship). Fiat Chrysler Automobiles. High School Award.</p>
FONDI	<p>Contratto di servizi Saipem. Value: 105.000 euro.</p> <p>PI PRIN 2022 PNRR – P2022BEWCX “Ammonia-based electrified processes integrated with fuel cells for power generation”. Value: 239.000 euro.</p> <p>Project: Progetto Integrato Tecnologie dell'Idrogeno (CUP I53C22003020001), Piano Triennale di Realizzazione della Ricerca di Sistema Elettrico, Leded by ENEA</p>
TERZA MISSIONE	<p>- October 2024, UniExpo, Università di Napoli Federico II.</p> <p>- 6th-8th February 2024. Porte Aperte, Scuola Politecnica delle Scienze di Base, Federico II, Napoli.</p> <p>- Referente di Corso nell'ambito del progetto PNRR “Orizzonti” di Orientamento. Anni 2022/2023, 2023/2024</p> <p>- 15th-17th February 2023. Porte Aperte, Scuola Politecnica delle Scienze di Base, Federico II, Napoli.</p> <p>- 30th September 2022. La notte dei ricercatori. Largo San Marcellino, Napoli.</p> <p>- 25th – 27th November 2022. Futuro Remoto. Città della Scienza, Napoli.</p>
INVITED TALKS	<p>- Machine Learning for the Chemical Industry: Examples in Formulations, in Federchimica, Confindustria, GRICU, Online Course, 26 January 2023.</p> <p>- “Technologies for Hydrogen Storage” in “New Energy Sources for Aviation”, Organized by AIDAA, EUROAVIA, Aeropolis, Dipartimento di Ingegneria Industriale Federico II Napoli, at Scuola Politecnica e delle Scienze di Base, Università degli Studi di Napoli Federico II, Napoli, 7 June 2022, Italy.</p> <p>- Keynote Lecture: “Automation and Machine Learning in Chemical Engineering”, at GRICU 2022, Ischia, 3-6 July 2022.</p>
ORGANIZZAZIONE DI CONFERENZE E CHAIRING	<p>Danilo Russo has been a member of the Organising Committee of the following conferences:</p> <p>- Chairperson at the Session “Human Factors, Safety Culture and Safety 4.0” in the 11th International Conference on Safety and Environment in Process & Power Industry (CISAP 11), Naples, Italy, 15 – 18 September 2024.</p> <p>- ISHPMIE2024, 15th International Symposium on Hazards, Prevention and Mitigation of Industrial Explosions, Naples, Italy, 10 – 14 June, 2024.</p> <p>- Chairperson at the Session “AI & databasing applied to explosions” in the 15th International Symposium on Hazards, Prevention and Mitigation of Industrial Explosions (ISHPMIE), Naples, Italy, 10 – 14 June, 2024.</p> <p>- Chairperson at the Session “New Recovery Processes” in the 16th International Conference on Chemical and Process Engineering ICHEAP16, Naples 21-24 May 2023.</p> <p>- 3rd Machine learning and AI in (bio)chemical engineering, Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge, UK, 08-09 July 2021. - Machine learning and AI in (bio)chemical engineering, Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge, UK, 08-09 July 2020.</p> <p>- 2nd Machine learning and AI in (bio)chemical engineering, Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge, UK, 08-09 July 2019. https://www.ceb.cam.ac.uk/news/events/machine-learning-chemical-engineering</p> <p>- CEB Research Conference, Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge, UK, 25-26 June 2019.</p>
ATTIVITÀ EDITORIALE	<p>- Review Editor In Frontiers in Environmental Catalysis .</p> <p>- Topics Board Editor of Catalysts, (ISSN 2073-4344; CODEN: CATAJ), MDPI.</p> <p>- Editorial Board member of Photochem, (ISSN: 2076-3417; CODEN: ASPCC7), MDPI.</p> <p>- Topic Editors of the Topic Special Issue “Advances in Spectroscopic and Chromatographic Techniques”, MDPI. https://www.mdpi.com/topics/3DU220KS7Z</p>

- Guest Editor of the special issue “Advanced Oxidation Processes for Wastewater Treatment in Chemistry, Engineering, and Environmental Sciences”, in Applied Sciences, (ISSN: 2076-3417; CODEN: ASPCC7), MDPI.
- Guest Editor of the special issue “New trends in photocatalysis: photocatalytic materials and applications”, in Catalysts, (ISSN 2073-4344; CODEN: CATAJ), MDPI.
- Reviewer editorial board member of the International Journal “Applied Sciences” (ISSN: 2076-3417; CODEN: ASPCC7), MDPI.
- Reviewer editorial board member of the International Journal “Chemical Engineering Transactions” (ISSN: 2283-9216), a publication of AIDIC, the Italian Association of Chemical Engineering.

PEER REVIEWEING

Chemical Papers (Springer), Environmental Science and Technology (ACS Publications), Science of the Total Environment (Elsevier), Journal of Hazardous Materials (Elsevier), Chemical Engineering Journal (Elsevier), Journal of the Taiwan Institute of Chemical Engineers, (Elsevier), Journal of Cleaner Production (Elsevier), Open Chemical Engineering Journal (Bentham Open), Catalysts (MDPI), Industrial & Engineering Chemistry Research (ACS Publications), Water Research (Elsevier), Organic Process Research & Development (ACS Publications), Molecules (MPDI), Waters (MDPI), Applied Sciences (MDPI), Processes (MDPI), Chemosphere (Elsevier), Applied Catalysis B: Environmental (Elsevier), Renewable and Sustainable Energy Reviews (Elsevier).

PUBBLICAZIONI

Publications (*corresponding author, †equal contibution)

Di Nardo, A., Landi, G., Luciani, G., Portarapillo, M., Ruoppolo, G., Russo, D., Zarrelli, A., Di Benedetto, A., (2024). Unlocking glycerol potential: novel pathway for hydrogen production and value-added chemicals. *Chemical Engineering Journal*, accepted.

Russo, D., (2024). Nuove frontiere per lo stoccaggio sicuro di idrogeno in soluzione acquosa. *La Chimica e L'industria*, Anno VIII, N° 3, Maggio/Giugno 2024, 89 – 93.

Russo*, D, Andreozzi, R., Calabrese, M., Marotta, R., Di Benedetto, A., (2024). Quantitative risk assessment of aqueous formate for hydrogen storage. *International Journal of Hydrogen Energy*, 65, 421 – 427.

Di Nardo, A., Portarapillo, M., Russo, D., Di Benedetto, A., (2024). Hydrogen production via steam reforming of different fuels: thermodynamic comparison. *International Journal of Hydrogen Energy*, 55, 1143-1160.

Di Nardo, A., Portarapillo, M., Russo, D., Luciani, G., Landi, G., Ruoppolo, G., Pezzella, A., Di Benedetto*, A., (2024). Cyan Hydrogen Process: a new route for simultaneous hydrogen production and carbon valorisation. *ACS Omega*, 9, 7793 - 7805.

Russo*, D., De Martino, M., Di Benedetto, A., Portarapillo, M., Turco, M., (2023). Oxidative methanol reforming for hydrogen-fed HT-PEMFC: applications in the naval sector. *Chemical Engineering Transactions*, 99, 367-371.

Portarapillo*, M., Di Benedetto, A., Russo, D., Turco, M., (2023). Preliminary risk evaluation of methanol/water stogae in fuel cell integrated systems for onboard applications. *Chemical Engineering Transactions*, 99, 133-138.

Russo, D., Portarapillo*, M., Di Benedetto, A., (2023). Flash point of biodiesel/glycerol/alcohol mixtures for safe processing and storage. *Journal of Loss Prevention in the Process Industries*, 83, 105077.

Calabrese, M., Russo*, D., Di Benedetto, A., Marotta, R., Andreozzi, R., (2023). Formate/bicarbonate interconversion for safe hydrogen storage: a review. *Renewable and Sustainable Energy Reviews*, 173, 113102.

Cao, L., Russo, D., Matthews, E., Lapkin*, A.A., Woods*, D., (2023). Computer-aided Design of Formulated Products: a Bridge Design of Experiments for Ingredient Selection. *Computers & Chemical Engineering*, 169, 108083.

Russo*, D., Calabrese, M., Marotta, R., Andreozzi, R., Di Benedetto, A., (2022). Thermodynamics of the cyclic formate/bicarbonate interconversion for hydrogen storage. *International Journal of Hydrogen Energy*, 47(73), 31370 – 31380.

Duenas Santana*, J.A., Cuba Arana, Y., Gonzalez Gomez, O., Furka, D., Furka, S., Orozco, J.L., Di Benedetto, A., Russo, D., Portarapillo, M., Serrano Febles, J., (2022). Fire and Explosion Economic Losses (FEEL) Index: a new approach for quantifying economic damages due to accidents in hydrocarbon storage sites. *Process Safety and Environmental Protection*, 165, 77-92.

Portarapillo, M., Russo*, D., Landi, G., Luciani, G., Di Benedetto, A., (2021). K-doped CeO₂-ZrO₂ for CO₂ thermochemical catalytic splitting. *RSC Advances*, 11, 39420-39427.

Russo*, D., Jorayev, P., Tibbetts, J.D., Schweidtmann, A.M., Deutsch, P., Bull, S.D., Lapkin, A.A., (2022). Multi-objective Bayesian optimisation of a two-step synthesis of p-cymene from crude sulphate turpentine, *Chemical Engineering Science*, 247, 116938.

Muscetta, M., Russo*, D., (2021). Photocatalytic applications in wastewater and air treatment: a patent review (2010 – 2020). *Catalysts*, 11(7), 834.

Tibbetts, J.D., Russo, D., Lapkin, A.A., Bull*, S.D., (2021). Efficient syntheses of biobased terephthalic acid, p-toluic acid, and p-methylacetophenone via one-pot catalytic aerobic oxidation of monoterpene derived bio-p-cymene. *ACS Sustainable Chemistry & Engineering*, 9, 25, 8642-8652.

Russo, D., Cao, L., Lapkin*, A.A., (2021). Automated robotic platforms in design and development of formulations. *AIChE Journal*, 67(5), e17248. (Top Downloaded Article among work published in an issue between 1 January 2021 – 31 December 2021).

Russo*, D., (2021). Kinetic modelling of advanced oxidation processes using microreactors: challenges and opportunities for scale-up. *Applied Sciences*, 11(3), 1042.

Cao, L., Russo, D., Felton, K., Salley, D., Sharma, A., Keenan, G., Mauer, W., Gao, H.H., Cronin, L., Lapkin*, A.A., (2021). Optimisation of formulations using robotic experiments driven by machine learning DoE. *Cell Reports Physical Science*, 2(1), 100295.

Cao, L., Russo, D., Mauer, W., Gao, H.H., Lapkin*, A.A., (2020). Machine Learning-aided process design for formulated products. *Computer Aided Chemical Engineering* 48, 1789 – 1794.

Slavchov*, R.I., Salamanca, M., Russo, D., Salama, I., Mosbach, S., Clarke, S.M., Kraft, M., Lapkin, A.A., Filip, S.V., (2020). The role of NO₂ and NO in the mechanism of hydrocarbon degradation leading to carbonaceous deposits in engines. *Fuel* 267, 117218.

Neumann, P., Cao, L., Russo, D., Vassiliadis, V.S., Lapkin*, A.A., (2020). A new formulation for symbolic regression to identify physico-chemical laws from experimental data. *Chemical Engineering Journal* 387, 123412.

Russo*, D., Cochran, K.H., Westerman, D., Li Puma, G., Marotta, R., Andreozzi, R., Richardson*, S.D., (2020). Ultrafast photodegradation of isoxazole and isothiazolinones by UV254 and UV254/H₂O₂ photolysis in a microcapillary reactor. *Water Research* 169, 115203.

Russo*, D., Muscetta, M., Clarizia*, L., Di Somma, I., Garlisi, C., Marotta, R., Palmisano, G., Andreozzi, R., (2020). Photoactivated Fe(III)/Fe(II)/WO₃-Pd fuel cell for electricity generation using synthetic and real effluents under visible light. *Renewable Energy* 147, 1070-1081.

Siciliano, A., Russo*, D., Spasiano, D., Marotta, R., Race, M., Fabbricino, M., Galdiero, E., Guida, M., (2019). Chronic toxicity of treated and untreated aqueous solutions containing imidazole-based ionic liquids and their oxidized by-products. *Ecotoxicology and Environmental Safety* 180, 466-472.

Russo*, D., Tammaro, M., Salluzzo, A., Andreozzi, R., Marotta*, R., (2019). Modeling and validation of a modular multi-lamp photo-reactor for cetylpyridium chloride degradation by UV and UV/H₂O₂ processes. *Chemical Engineering Journal*, 376, 120380.

Russo, D., Tomaiuolo, G., Andreozzi, R., Guido, S., Lapkin, A., Di Somma*, I., (2019). Heterogeneous benzaldehyde nitration in batch and continuous flow microreactor. *Chemical*

Russo, D., Siciliano, A., Guida, M., Andreozzi, R., Reis, N.M., Li Puma*, G., Marotta*, R., (2018). Removal of antiretroviral drugs stavudine and zidovudine in water under UV254 and UV254/H₂O₂ processes: quantum yields, kinetics and ecotoxicology assessment. *Journal of Hazardous Materials* 349, 195-204.

Russo*, D., Marotta, R., Commodo, M., Andreozzi, R., Di Somma, I., (2018). Ternary HNO₃-H₂SO₄-H₂O mixtures: a simplified approach for the calculation of the equilibrium composition. *Industrial & Engineering Chemistry Research* 57(5), 1696-1704.

Clarizia, L., Russo*, D., Di Somma, I., Andreozzi, R., Marotta*, R., (2017). Hydrogen generation through solar photocatalytic processes: a review of the configuration and the properties of effective metal-based semiconductor nanomaterials. *Energies* 10(10), 1624.

Russo, D., Siciliano, A., Guida, M., Galdiero, E., Amoresano, A., Andreozzi, R., Reis, N.M., Li Puma*, G., Marotta*, R., (2017). Photodegradation and ecotoxicology of acyclovir in water under UV254 and UV254/H₂O₂ processes. *Water Research* 122, 591-602.

Clarizia*, L., Russo*, D., Di Somma, I., Marotta, R., Andreozzi, R., (2017). Homogeneous photo-Fenton processes at near neutral pH: a review. *Applied Catalysis B: Environmental* 209, 358-371.

Russo*, D., Di Somma, I., Marotta, R., Tomaiuolo, G., Andreozzi, R., Guido, S., Lapkin*, A.A., (2017). Intensification of nitrobenzaldehydes synthesis from benzyl alcohol in a microreactor. *Organic Process Research & Development* 21(3), 357-364.

Lucchetti, R., Siciliano, A., Clarizia, L., Russo, D., Di Somma, I., Di Natale, F., Guida*, M., Andreozzi, R., Marotta*, R., (2017). Sacrificial Photocatalysis: removal of nitrate and hydrogen production by nano-copperloaded P25 titania. A kinetic and ecotoxicological assessment. *Environmental Science and Pollution Research* 24(6), 5898-5907.

Di Somma, I., Russo*, D., Andreozzi, R., Marotta, R., Guido, S., (2017). Kinetic modelling of benzyl alcohol selective oxidation in aqueous mixtures of nitric and sulfuric acids. *Chemical Engineering Journal* 308, 738-744.

Russo., D., Onotri, L., Marotta, R., Andreozzi, R., Di Somma*, I., (2017). Benzaldehyde nitration by mixed acid under homogeneous condition: a kinetic modeling. *Chemical Engineering Journal* 307, 1076-1083.

Spasiano*, D., Russo, D., Vaccaro, M., Siciliano, A., Marotta, R., Guida, M., Reis, N.M., Li Puma*, G., Andreozzi, R., (2016). Removal of benzoyllecgonine from water matrices through UV254/H₂O₂ process: reaction kinetic modeling, ecotoxicity and genotoxicity assessment. *Journal of Hazardous Materials* 318, 515-525.

Russo*, D., Spasiano, D., Vaccaro, M., Cochran, K.H., Richardson, S.D., Andreozzi, R., Li Puma*, G., Reis, N.M., Marotta, R., (2016). Investigation on the removal of the major cocaine metabolite (benzoyllecgonine) in water matrices by UV254/H₂O₂ process by using a flow microcapillary film array photoreactor as an efficient experimental tool. *Water Research* 89, 375-383.

Russo, D., Spasiano, D., Vaccaro., M., Andreozzi., R., Li Puma, G., Reis*, N.M., Marotta*, R., (2016). Direct photolysis of benzoyllecgonine under UV irradiation at 254 nm in a continuous flow microcapillary array photoreactor. *Chemical Engineering Journal* 283, 243-250.

Clarizia, L., Russo, D., Di Somma, I., Andreozzi, R., Marotta, R. Metal-based semiconductor nanomaterials for photocatalysis. In *Multi-Functional Photocatalytic Materials for Energy*. Elsevier. 2018. pp 187-213

CONTRIBUTI CONVEGNI

Communications to Conferences (speaker)

Russo, D., Andreozzi, R., Calabrese, M., Marotta, R., Di Benedetto, A., Safety of Alternative Hydrogen Storage in Aqueous Salt Solutions, 2024 AIChE Annual Meeting, San Diego, USA, 27 – 31 October, 2024.

Russo, D., Bellucci Sessa, A., Portarapillo, M., Di Benedetto, A., Ammonia-Based Electrified Processes Integrated with Fuel Cell, 2024 AIChE Annual Meeting, San Diego, USA, 27 – 31 October, 2024.

Russo, D., Calabrese, M., Andreozzi, R., Marotta, R., Di Benedetto, A., Safety of hydrogen storage in aqueous formate solution, 11th International Conference on Safety and Environment in Process & Power Industry, Naples, Italy, 15 – 18 September, 2024.

Calabrese, M., Russo, D., Capone, G., Andreozzi, R., Marotta, R., Di Benedetto, A., Quantitative risk assessment of aqueous formate for hydrogen storage: scale-up, 15th International Symposium on Hazards, Prevention and Mitigation of Industrial Explosions, Naples, Italy, 10 – 14 June, 2024.

Bellucci Sessa, A., Portarapillo, M., Di Benedetto, A., Russo, D., Ammonia as a hydrogen carrier: energetic assessment of processes integrated with fuel cells for power generation, Second Italian Workshop on Ammonia Energy, Bari, 5-6 June, 2024. Politecnico di Bari, Campus Universitario "Ernesto Quagliariello", Italy,

Russo, D., Calabrese, M., Andreozzi, R., Di Benedetto, A., Marotta, R., Aqueous Formate-Bicarbonate for Hydrogen Storage, AIChE Meeting 2023, 5-10 November 2023, Orlando, Florida, USA.

Russo, D., Di Benedetto, A., Machine Learning for complex chemical system optimization: an overview of recent applications of Gaussian Processes surrogates, CCS/Italy 2023, Napoli, 9 -11 October 2023.

Portarapillo, M., Di Benedetto, A., Russo, D., Turco, M., Preliminary risk evaluation of methanol/water storage in fuel cell integrated systems for onboard applications, The 16th International Conference on Chemical and Process Engineering ICHEAP 16, May 21 -24, 2023, Naples, Italy.

Cao, L., Russo, D., Mauer, W., Gao, H.H., Lapkin, A.A., Optimisation of Formulations Using Robotic Experiments Driven By Machine Learning, 2020 AIChE Annual Meeting, November 15-20, 2020, San Francisco, California, USA. (held virtually during the COVID-19 pandemic).

Russo, D., Jorayev, P., Schweidtmann, A.M., Lapkin, A., Bayesian optimization of crude sulphate turpentine conversion to p-cymene, 2020 AIChE Annual Meeting, November 15-20, 2020, San Francisco, California, USA. (held virtually during the COVID-19 pandemic).

Cao, L., Russo, D., Lapkin, A., Machine Learning for formulations design. 3rd International Conference on Machine Learning and AI in (bio)Chemical Engineering, 8-9 July 2020, Cambridge, UK (held virtually during the COVID-19 pandemic).

Cao, L., Russo, D., Lapkin, A., Machine learning-aided process design for formulated products. In Proceedings of the 30th European Symposium on Computer Aided Process Engineering (ESCAPE30), Aug 30 – Sep 2, 2020, Milano, Italy (held virtually during the COVID-19 pandemic).

Cao, L., Neumann, P., Russo, D., Vassiliadis, V.S., Lapkin, A.A., Symbolic regression for automated physical model identification in reaction engineering. In AIChE Annual Meeting, Conference Proceedings, Volume 2019 – November 2019. 2019 AIChE Annual Meeting; 10 – 15 November 2019, Orlando, USA.

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**INDICI BIBLIOMETRICI (SCOPUS
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