

PERSONAL INFORMATION



ERNESTO SALZANO

📍 Department of Civil, Chemical, Environmental, and Materials Engineering – DICAM
Via U. Terracini 28, 40131 Bologna
☎ +39 0512090255 📠 +39 3336295339

✉ ernesto.salzano@unibo.it
🌐 www.unibo.it/sitoweb/ernesto.salzano

Male | Date of birth 15/05/1965 | Italian

<https://orcid.org/0000-0002-3238-2491>
<https://scholar.google.it/citations?user=iR2wO6gAAAAJ&hl=it&oi=ao>
<https://www.scopus.com/authid/detail.uri?authorid=57192974862>

WORK EXPERIENCE

From 12/2022 to present

Full Professor

Director of the Bachelor's Degree in Chemical and Biochemical Engineering
Director of the Master's Degree in Chemical and Process Engineering

Department of Civil, Chemical, Environmental, and Materials Engineering (DICAM), University of Bologna, Via Zamboni 33 - 40126 Bologna (IT)

- Industrial Chemistry; Chemical Plant Design; Scientific Research

Education, University

From 11/2015 to 11/2022

Associate Professor

Director of the Bachelor's Degree in Chemical and Biochemical Engineering
Director of the Master's Degree in Chemical and Process Engineering

Department of Civil, Chemical, Environmental, and Materials Engineering (DICAM), University of Bologna, Via Zamboni 33 - 40126 Bologna (IT)

- Industrial Chemistry; Chemical Plant Design; Scientific Research

Education, University

From 01/1996 to 11/2015

Researcher

Institute of Research on Combustion, Italian National Research Council (CNR), P.le Tecchio 80, 80125 Napoli (IT)

- Project Leader, In charge of experimental lab on gas and dust explosion, Industrial safety, Explosion and Fire science, Natural hazards, Civil Protection (Seveso directive)

Public Research Institute

From 01/1994 to 12/1995

Chemical and General Plant Responsible

INCHEM Srl, Napoli (IT)

- In charge of the chemical staff and safety for a chemical engineering firm working in the field of consultancy for chemical and power plants in Italy and Abroad (Jordan, Venezuela, Egypt, Argentina)

Chemical Engineering consultancy and design

EDUCATION AND TRAINING

From 06/1996 to 03/1999

art. Ex 23 CNR (three years post-degree) - ISCED level 6

Italian National Research Council of Italy

- Industrial Safety, Natural-Technological risks

From 01/1985 – 21/07/1991

Master's degree: Industrial Chemistry (5 years, Faculty of Science)

University of Napoli "Federico II"

- Industrial Chemistry, Chemistry, Plant design

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s) English

Job-related skills Organisational skills and competences

National Academic Qualification as Full Professor (2014), renewed in 24/06/2020.

National Prize for scientific excellence of National Research Council (CNT) of Italy (2005)

National Research Council - Senior Researcher Qualification (2010)

Italian Delegate to the EFCE (European Federation of Chemical Engineering) Working Party on Static Electricity in Industry.

Member of the academic board for the Ph.D. in Future Earth, Climate Change and Societal Challenge, University of Bologna

Member of the academic board for the Ph.D. programme of the Department of Civil, Chemical, Environmental, and Materials Engineering (DICAM) - University of Bologna (2015-2016)

Deputy for the Guidance and tutoring for the Department of Civil, Chemical, Environmental and Materials Engineering Department (DICAM) - University of Bologna

Det Norske Veritas (DNV) Inspector for Environmental Management System Certification. Certification of some of the most important refineries in Italy.

Lead Coordinator of National Steering Committee of Gruppo Interdivisionale per la Sicurezza in Ambienti Chimici (GISAC) of the National Society of Chemists.

V, VI, and VII FP Expert member of European Commission, General research, NMP, SME, Industrial research, Security.

Associate editor of the Journal of Loss Prevention in the Process Industry", Elsevier.

Associate editor of the Frontiers in Chemical Engineering - Chemical Reaction Engineering

Associate editor of Energies, MDPI, Switzerland.

Scientific Committee of CISAP (International Conference on Safety and Environment in the Process Industry) of AIDIC (Associazione Italiana di Ingegneria Chimica).

Visiting researcher at Baker Engineering and Risk Consultants, Inc., Texas (USA), 2005.

Member of the Italian Electrotechnical Committee (CEI) for the new guideline CEI 64-2 - CEI 64-2 "Electrical installations in locations with explosion hazard - Particular requirements due to the presence of ignitable dusts and explosives".

Coordinator of the WG of the Ministry of the Interior, Central Directorate for Prevention and Technical Safety, Industrial Risks Area, for the development of guidelines for the preparation and examination of the Safety Report of establishments that hold explosive substances.

Most important research Project as project leader

Adrion, Adriatic-Ionian Programme INTERREG V-B Transnational 2014-2020, Project: SuperLNG Sustainability PERFORMANCE of LNG-based maritime mobility, 2017-2019 (extended to 2022).

Eurokin consortium, VDI. Runaways In Catalytic And Thermal Gas-Phase Reaction Systems, 2019.

KT-Kinetics Technology S.p.A., Definition of explosive parameter for the H₂S/Oxygen mixture, Project: Selective Oxidation of H₂S to Sulphur", 2015-2017.

ENI spa. Security of industrial refinery – Open contract n. 2500016536, 2015-2016.

ENI SpA, Development of methodologies for Vulnerability Security Assessment for oil&gas facilities in Italy, open contract, starting, 2014-2016.

SAIPEM, D'Appolonia: "NC414 CENTRAL B OFFSHORE PLATFORM", Western Lybia Gas Project, AGIPGAS BV, Libyan Branch – TECHNIP. Evaluation of consequences of explosion by small variation of layout starting from CFD results.

Digital skills Computational Fluid Dynamics, Advanced Programming (C, C+, VBA, Fortran)

Other skills Member of professional bodies

Member of Italian and World Combustion Institute
Italian Society of Chemists: Member of Interdivisional Group of Industrial Chemistry
Italian Association of Chemical Engineering (AIDIC)
European Federation of Chemical Engineering (EFCE)

ADDITIONAL INFORMATION

Selected Journal papers of the last 3 years published on international JCR – ISI journals, with doi and SSBN

The results achieved in the scientific activity are documented by more than 250 publications in scientific journals, conference proceedings and books, indexed by SciVerse ® or ISI-Web ®, with ISBN/ISSN and DOI number. Orcid: 0000-0002-3238-2491; ScopusID: 6701344457.

The H-Index (Scopus) is: 39 (Dicember 2022).

A complete list of publications can be found on Scopus (or Google Scholar

<https://www2.scopus.com/authid/detail.uri?authorId=57192974862>)

<https://scholar.google.it/citations?hl=it&user=iR2wO6gAAAAJ>)

1. Pio, G., Dong, X., Salzano, E., Green, W.H. Automatically generated model for light alkene combustion (2022) *Combustion and Flame*, 241, 112080. DOI: 10.1016/j.combustflame.2022.112080
2. Carboni, M., Pio, G., Mocellin, P., Pilo, F., Vianello, C., Russo, P., Maschio, G., Salzano, E. Experimental and numerical characterization of hydrogen jet fires (2022) *International Journal of Hydrogen Energy*, 47 (51), 21883-21896. DOI: 10.1016/j.ijhydene.2022.05.010
3. Carboni, M., Pio, G., Mocellin, P., Vianello, C., Maschio, G., Salzano, E. Accidental release in the bunkering of LNG: Phenomenological aspects and safety zone (2022) *Ocean Engineering*, 252, 111163. DOI: 10.1016/j.oceaneng.2022.111163
4. Carboni, M., Pio, G., Mocellin, P., Vianello, C., Maschio, G., Salzano, E., On the flash fire of stratified cloud of liquefied natural gas (2022) *Journal of Loss Prevention in the Process Industries*, 75, 104680. DOI: 10.1016/j.jlp.2021.104680
5. Gerbec, M., Vidmar, P., Pio, G., Salzano, E. A comparison of dispersion models for the LNG dispersion at port of Koper, Slovenia (2021) *Safety Science*, 144, 105467. DOI: 10.1016/j.ssci.2021.105467
6. Ding, J., Wang, X., Chen, Y., Salzano, E. The effects of phosphorus-free inhibitors on the ignition of lycopodium dust (2021) *Journal of Loss Prevention in the Process Industries*, 72, 104543. DOI: 10.1016/j.jlp.2021.104543
7. Pio, G., Mocellin, P., Vianello, C., Salzano, E. A detailed kinetic model for the thermal decomposition of hydroxylamine (2021) *Journal of Hazardous Materials*, 416, 125641. DOI: 10.1016/j.jhazmat.2021.125641
8. Danzi, E., Pio, G., Marmo, L., Salzano, E. The explosion of non-nano iron dust suspension in the 20-l spherical bomb (2021) *Journal of Loss Prevention in the Process Industries*, 71, 104447. DOI: 10.1016/j.jlp.2021.104447
9. Pio, G., Ruocco, C., Palma, V., Salzano, E. Detailed kinetic mechanism for the hydrogen production via the oxidative reforming of ethanol (2021) *Chemical Engineering Science*, 237, 116591. DOI: 10.1016/j.ces.2021.116591
10. Aneziris, O., Gerbec, M., Koromila, I., Nivolianitou, Z., Pilo, F., Salzano, E. Safety guidelines and a training framework for LNG storage and bunkering at ports (2021) *Safety Science*, 138,

105212. DOI: 10.1016/j.ssci.2021.105212

11. Carboni, M., Pio, G., Vianello, C., Salzano, E., Safety distances for the sour biogas in digestion plants (2021) *Process Safety and Environmental Protection*, 147, 1-7. DOI: 10.1016/j.psep.2020.09.025
 12. Knyazkov, D.A., Dmitriev, A.M., Korobeinichev, O.P., Osipova, K.N., Pio, G., Shmakov, A.G., Salzano, E., Structure of premixed flames of propylene oxide: Molecular beam mass spectrometric study and numerical simulation (2021) *Proc. of the Combustion Institute*, 38 (2), 2467-2475. DOI: 10.1016/j.proci.2020.06.336
 13. Carboni, M., Pio, G., Vianello, C., Maschio, G., Salzano, E., Large eddy simulation for the rapid phase transition of LNG (2021) *Safety Science*, 133, 105001. DOI: 10.1016/j.ssci.2020.105001
 14. Wako, F.M., Pio, G., Salzano, E., Reduced combustion mechanism for fire with light alcohols (2021) *Fire*, 4 (4), 86. DOI: 10.3390/fire4040086
 15. Pio, G., Salzano, E., Accidental combustion phenomena at cryogenic conditions (2021) *Safety*, 7 (4), 67. DOI: 10.3390/safety7040067
 16. Gargiulo, M.V., Garcia, A., Paulillo, A., Amoroso, O., Salzano, E., Capuano, P., An integrated approach to risk and impacts of geo-resources exploration and exploitation (2021) *Energies*, 14 (14), 4178. DOI: 10.3390/en14144178
 17. Wako, F.M., Pio, G., Salzano, E. Laminar burning velocity and ignition delay time of oxygenated biofuel (2021) *Energies*, 14 (12), 3562. DOI: 10.3390/en14123562
 18. Pio, G., Salzano, E. Implementation of gas-phase kinetic model for the optimization of the ethylene oxide production (2020) *Chemical Engineering Science*, 212, 115331. DOI: 10.1016/j.ces.2019.115331
 19. Salzano, E., Carboni, M., Pio, G. The effects of low-temperature phenomena on rapid phase transition of liquid hydrogen (2020) *International Journal of Hydrogen Energy*, 45 (56), 32676-32685. DOI: 10.1016/j.ijhydene.2020.08.140
 20. Iannaccone, T., Landucci, G., Tugnoli, A., Salzano, E., Cozzani, V. Sustainability of cruise ship fuel systems: Comparison among LNG and diesel technologies (2020) *Journal of Cleaner Production*, 260, 121069. DOI: 10.1016/j.jclepro.2020.121069
 21. Pio, G., Renda, S., Palma, V., Salzano, E. Safety parameters for oxygen-enriched flames (2020) *Journal of Loss Prevention in the Process Industries*, 65, 104151. DOI: 10.1016/j.jlp.2020.104151
 22. Pio, G., Salzano, E. Gas-phase thermal explosions in catalytic direct oxidation of alkenes (2020) *Journal of Loss Prevention in the Process Industries*, 65, 104097. DOI: 10.1016/j.jlp.2020.104097
 23. Olivar, O.J.R., Mayorga, S.Z., Giraldo, F.M., Sánchez-Silva, M., Pinelli, J.-P., Salzano, E. The effects of extreme winds on atmospheric storage tanks (2020) *Reliability Engineering and System Safety*, 195, 106686. DOI: 10.1016/j.ress.2019.106686
 24. Mosisawako, F., Pio, G., Salzano, E. The Effect of Hydrogen Addition on Low-Temperature Combustion of Light Hydrocarbons and Alcohols (2020) *Energies*, 13 (15), 3808. DOI: 10.3390/en13153808
 25. Argyroudou, S.A., Fotopoulou, S., Karafagka, S., Ptilakis, K., Selva, J., Salzano, E., Basco, A., Crowley, H., Rodrigues, D., Matos, J.P., Schleiss, A.J., Courage, W., Reinders, J., Cheng, Y., Akkar, S., Uçkan, E., Erdik, M., Giardini, D., Mignan, A., A risk-based multi-level stress test methodology: application to six critical non-nuclear infrastructures in Europe (2020) *Natural Hazards*, 100 (2), 595-633. DOI: 10.1007/s11069-019-03828-5
- Book (as Editor) Krausmann, E., Cruz A.M., Salzano E., *Natech Risk Assessment and Management - Reducing the Risk of Natural-Hazard Impact on Hazardous Installations*, Elsevier, 1st Ed., ISBN-10: 0128038071, 268 pag., 2016.

Bologna, 31/12/2022

