

**Prof. ing. Andrea CARPIGNANO**  
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Born in Voghera (PV) the 29<sup>th</sup> of May 1964  
Address: Giaveno (TO), via Carlo Bovero 142.

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## CURRICULUM VITAE

Andrea Carpignano is Professor at the Politecnico di Torino in charge of the course in Safety and Risk Analysis since 1996. He was founder and coordinator for the Master course in "Reliability, Maintenance and Safety" organized by Politecnico di Torino in the period 2003-2014. Since 2014, vice Coordinator of the Master course MASIEO – Master in Industrial Engineering and Operations, organized by SUPSI (Lugano).

He is expert in advanced methodologies for RAMS Analyses, Risk assessment for technical systems and Maintenance Engineering.

He was author for several research works on books, international journals and conferences. He is referee for the international journals (Reliability Engineering and System Safety, Cognition, Technology and Work, International Journal of Hydrogen Energy, et al.).

Andrea Carpignano contributes to strategies and coordination of RAMS&E SRL.

Member of the Engineers list in Asti, since the 1990, n. 365.

## STUDY

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1983-1989 – MSc in Nuclear Engineering – Politecnico di Torino.

1989-1993 – PhD in Energetics – Politecnico di Torino in collaboration with the Research Centre of European Commission.

Continuous training on RMA/S/HSE topics since 1993.

## ACADEMIC AND RESEARCH ACTIVITIES

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1993- 2005 – **POLITECNICO DI TORINO** – Researcher, in charge of the course in Safety and Risk Analysis since 1996.

2005- today – **POLITECNICO DI TORINO** – Professor, in charge of the course in Safety and Risk Analysis.

1988-1993 – **JOINT RESEARCH CENTRE of the European Commission (Ispra site)** – Research activity on advanced methodologies for the safety and reliability assessment of complex systems.

1993- today – **POLITECNICO DI TORINO Energy Department (DENERG)** – Manager of the research group working on RAMS and Risk analyses ([www.rams.polito.it](http://www.rams.polito.it)).

The main researching topics are:

- Techniques for RAMS (Reliability, Availability, Maintainability and Safety) analysis of complex systems;

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- Reliability Centred Maintenance;
- Safety Analysis and Risk Assessment;
- Modelling and simulation of accidental scenarios (releases and dispersions, fires, explosions, etc.);
- Emergency Planning;
- Environmental Impact of Energy Systems.

These activities are performed in different fields: power production, chemical industry, oil&gas, transportation. They have been performed during several collaborations with Companies and Research Centres.

Since 2015, he is responsible for the DENERG-SEADOG research group on oil&gas offshore safety for oil&gas activities, funded by MISE and responsible for the Energy Modelling Lab in DENERG.

He is author of more than 100 publications on Books, National and International Journals or Conferences (Reliability Engineering and System Safety, Journal of Man Machine Studies, Antincendio, La Manutenzione, European Safety and Reliability Conference, Probabilistic Safety Assessment and Management, et al.). See details in [www.polito.it](http://www.polito.it).

He is reviewer for the international journals Reliability Engineering and System Safety e Cognition, Technology and Work, International Journal of Hydrogen Energy.

He represents Politecnico di Torino in ESRA, the “European Safety and Reliability Association”.

He was technical manager for Politecnico di Torino in several research and consulting projects (<http://www.rams.polito.it/>).

## TRAINING ACTIVITIES

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1996-today – **POLITECNICO DI TORINO** – In charge of the course in **Safety and Risk Analysis**.

2004-2009 and 2019-today – **POLITECNICO DI TORINO** – In charge of the course in **Environmental Impact of Energy Systems**.

2009-today – **POLITECNICO DI TORINO** – In charge of the course in **Risk Analysis** (in English, for foreign students, in collaboration with ENI).

2004-2014 – **POLITECNICO DI TORINO** – Founder and Director of the **Master Course in Reliability, Maintenance and Safety** of Politecnico di Torino fully sponsored by national and international Companies.

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He provides lectures for other Master Courses in Italy on the topics of RAMS and Risk Analyses:

- Master **ENI-University of Pisa** in HSEQ, module of Reliability and Maintenance;
- Master **ENI-POLITO** in Energy Engineering and Operations, module in Industrial Maintenance and HSE (2004-today)
- Masters **ENI - University of Bologna**, module on Functional Safety - SIL Analysis (2009-2016)
- Masters **SAIPEM - University of Bologna**, module on Functional Safety - SIL Analysis (2015-2016)
- Master **Politecnico di Torino** in Industrial Safety and Risk Analysis, module on Consequence analysis of Major Accidents – Accident Simulation (2002-2012).
- Master **SUPSI (Lugano)** in Industrial Engineering and Operations – MASIEO, module on RAMS and risk analysis techniques (2014- 2017).
- Master **MEDEA (ENI – San Donato M.se)** – module on Safety Management Systems (2015- today)
- Master **Politecnico di Torino – EDF FENICE** in Energy efficiency and sustainability in Industry, modules on Safety and Maintenance engineering (2016-2019)
- Master **Politecnico di Torino – MICHELIN** “Smart State of the Art Manufacturing”, module on Reliability, Safety and Maintenance Engineering (2018 – 2019)
- Master **Politecnico di Torino – Ingegneria Forense**, module on Reliability, Safety and Maintenance Engineering (2018 – 2019)
- Master **University of Torino** - ITT Management and Industrialisation of Innovation (2018 – 2019)
- Master **Politecnico di Torino – ALSTOM** “Railways Mobility Industry: Train 4 me”, module on “Safety and Competitiveness by Standards and Innovation” (2019 – 2020)
- Master **Politecnico di Torino CHAPLIN** in Operational Excellence Management, contribution in Lean principles for Aerospace Manufacturing, ed. 2019-2020.
- Master **Politecnico di Torino MAGCEM** in Advanced Techniques for plant management in concrete production. (in collaboration with **BUZZI UNICEM**), responsible of the module “Maintenance Engineering”, ed. 2019-2020.

He was member of the Didactic Board of the PhD in Industrial Safety and Risk Assessment.

He hold and organized several courses for other universities, public authorities and private companies: Politecnico di Milano, Università di Palermo, Università di Bologna, SUPSI Università Professionale di Lugano (Swiss), SITAF-Susa (Torino IT), CSEA

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BONAFUS-Chieri (Torino IT), JRC-Ispra(Ispra IT), Master EAEME-CEE, AEM-Torino (IT), FESTO Formazione (Milano IT), TECNOMARE (Milano), HUNTSMANN (Varese IT), POLPHARMA (Gdansk – Poland), ENI-SNAMPROGETTI (Milano IT), ENI Corporate University (Milano IT), TUV Italia (Milano IT), RINA Industry (Genova IT), Disaster Management Course per la REGIONE PIEMONTE (Torino IT), AHLSTROM Turin (Mathi Canavese IT), INFINEUM (Vado).

In particular, in collaboration with the ENI Corporate University, he hold courses on the following topics: Asset Integrity, Risk Analysis, HAZOP, LOPA, SIL Analysis, Reliability and Maintenance Engineering. He managed several collaboration for the preparation of training materials for safety courses for Kazakistan and Algerian operators. He contributed to the organization and covered the role of Chairman for two seminars on Asset Integrity and Process safety for the ENI Group.

For details on training activities, please refer to [www.ramse.it](http://www.ramse.it) and <http://www.polito.it/>.

#### PROFESSIONAL ACTIVITY

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1997 - 2016 – **RAMS&E srl** (Torino) – Founder of RAMS&E and Technical Manager for the RAMS/HSE division.

2016 - 2018 – **RAMS&E srl** (Torino) – Strategy Manager and general Coordinator for RAMS&E.

2019 - today – **RAMS&E srl** (Torino) – Support for strategies and coordination for RAMS&E.

For a detailed list of the activities managed in the period 1997-2016, please refer to the RAMSE CV ([www.ramse.it](http://www.ramse.it)).

In the period 2016-2018 he has been the coordinator of the Italian permanent working group on Oil&Gas off-shore safety, born in the framework of the Risk Assessment and Management Conference (VGR).

He has been expert consultant for RAMS (Reliability, Availability, Maintainability and Safety) topics for the Certification Bodies Registro Italiano Navale (RINA) and TUV Italia.

#### LANGUAGES

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English – B2

Torino, September the 29th, 2020

Prof. Ing. Andrea Carpignano