

Prof. Arturo DE RISI, Ph.D.

Full Professor

Department of Engineering for Innovation, University of Salento – Italy

EDUCATION

- 1999 PhD in "Energy Systems and Environment" at the University of Lecce with a thesis titled "Theoretical and Experimental Study of coherent type non-intrusive diagnostic techniques and Numerical analysis applied to internal combustion engines "
- 7/99-10/99 Guest Researcher at the University of Wisconsin, Engine Research Center, Madison, WI, USA where he studied several issues related to the three-dimensional modeling of injection processes;
- 7/98-10/98 Guest Researcher at the University of Wisconsin, Engine Research Center, Madison, WI, USA where he studied a new numerical model for simulation of collision processes in dense sprays;
- 9/96-12/96 Guest Researcher at the University of Wisconsin, Engine Research Center, Madison, WI, USA as consultant of Fiat Research Center;
- 6/96-9/96 Guest Researcher at the Princeton University, NJ, USA. In this period he studied the combustion in internal combustion engines fed with gaseous fuels. In particular he worked on chemical kinetics, diffusion properties of fuels and turbulence in combustion processes related to stratified charge engines;

BIBLIOMETRIC INFORMATION

Scopus: n. doc. 107, n. cit. 3295, H-index 25

Patents (intern.) 15

Patents (nat.) 2

INSTITUTIONAL POSITIONS

- 2016- He is Chair of the Board of the Distretto Tecnologico Nazionale sull'Energia (DiTNE);
- 2012-2016 He is Deputy Director of the "Centro Cultura Innovativo di Impresa" at the University of Salento;
- 2011-2014 He is member of the Italian Technological Platform for Energy Concentrating Solar Power
- 2009-2012 He is member of the Evaluation Committee of the Autonomous Province of Bolzano
- 2008-2012 He member of the board of the Distretto Produttivo Pugliese "La Nuova Energia".
- 2008-2016 He member of the board of the Distretto Tecnologico Nazionale sull'Energia (DiTNE).
- 2008-today He is member of the Evaluation Committee of the NSERC – National Sciences and Engineering Research Council of Canada.

- 2008-2010 He is member of the Scientific Committee of the task-Force Solare Termodinamico - Regione Puglia – coordinated by prof. Carlo Rubbia.
- 2007-today He is in the governing board of the SAE-Neaples - SAE International.
- 2007-2008 He is in the steering board of the program “Vai Col Vento” funded by Regione Puglia.
- 2007 He is member of the team, which developed the Regional Law 4 October 2006, n. 16 “Regolamento per la realizzazione di impianti eolici nella Regione Puglia”.
- 2007-2010 He member of the board of the Agenzia per l’Energia della Provincia di Lecce.
- 2005-2011 He is member of the Scientific Committee of the Centro Linguistico di Ateneo.

SCIENTIFIC EXPERIENCE

- 2022-2026 He is the Principal Investigator of the Relevant National Interest Project - PRIN 2022 “Gases with Nanoparticles as Working Fluid for CSP Technologies” funded by the Italian Ministry of Research;
- 2016-2020 He is the National Coordinator of the Relevant National Interest Project - PRIN 2015 “Development of a New Hydrothermal Carbonization REActor with Renewable Energy Supply for Biomass Treatment (CREA) funded by the Italian Ministry of Research;
- 2015-2017 He is the Principal Investigator of the Horizon 2020 project – “ Fuel flexible, near-zero emissions, adaptive performance marine Engine” funded by EU – Grant Agreement No: 634135-HERCULES-2
- 2014-2015 He is scientific coordinator of the research project PON02_00323_3588246 – “Sviluppo di Tecnologie Innovative nel Campo del Solare a Concentrazione” - INNOVASOL
- 2013-2015 He is scientific coordinator of the training project PON02_00323_3588749 – “Soluzioni Innovative per l’efficienza energetica in edilizia” - EFFEDIL
- 2013-2014 He is scientific coordinator of the training project PON02_00323_2938699 – “Ricerca e Sviluppo di Sistemi per la Produzione Efficiente, la Gestione e l’Accumulo di Energia Elettrica e Termica, Integrati ed Interconnessi in un Virtual Power Plant” - SEB
- 2012-2015 He is scientific coordinator of the training project PON02_00323_3588246 – “Sviluppo di Tecnologie Innovative nel Campo del Solare a Concentrazione” - INNOVASOL
- 2012-2015 He is scientific coordinator of the project PON 254/Ric - PON03_00335: Establishment of the Center for Sustainable Energy, Environment and Mobility - (CSEEM) - (Partners: University of Salento and University of Messina)
- 2010-2014 He is coordinator of a research project in collaboration with Enel Research - Brindisi - regarding the analysis of coal-fired power stations residues.
- 2010-2014 He is principal investigator of the project OLIGAS, which is related to the energy exploitation of oil industry residues.

- 2010-2020 He is coordinator of research projects in cooperation with Wartsila - Winterthur- Switzerland for the fluid dynamic optimization of the lubrication system in two-stroke engines for marine propulsion.
- 2008-2014 He is principal investigator of the project Solar – funded by MIUR with DM17449. This project aims to develop new solutions in high temperature concentrated solar system based on nanofluid.
- 2008-2009 He is coordinator of a research project in collaboration with VolksWagen Research – Wolfsburg – Germany for the experimental analysis of combustion process within direct injection internal combustion engines.
- 2008-2009 He is coordinator of the research project “Individuazione di nuove soluzioni tecniche per la riduzione dei consumi e delle emissioni e per il miglioramento delle prestazioni dei sistemi di iniezione” in collaboration with Centro Veicoli Italia – Bosch. This project aims to develop innovative combustion systems.
- 2007-2008 He is coordinator of a research project in collaboration with Wartsila – Winterthur– Switzerland for the optical characterization of washing step in two-stroke engines for marine propulsion.
- 2005-2006 He is coordinator of the research project “Progettazione di un test-rig per la misura ed i rilievi sperimentali di un test case per codici CDF” in collaboration with GETRAG S.p.A. - B/ELF3 - Research Center for Future Technologies. In this project a test rig was designed to study lubrication of gear wheels and detailed experimental measurements were performed in order to build a test-case able to assess the ability of different CFD codes to simulate such phenomena
- 2007-2009 He is coordinator of the PRIN project “Sviluppo e prototipazione di nano-dispositivi basati su strutture MIM e MOM per la conversione diretta dell'energia solare”.
- 7/2008-today He is coordinator of the research project “Nano-Rectenne per la conversione diretta ad alta efficienza di luce solare in elettricità” funded by Regione Puglia.
- 4/2007-2009 He is coordinator of the research project "Applicazioni di nanofluidi per la trasmissione del calore" funded by Regione Puglia with Determinazione del Dirigente Settore Programmazione e Politiche comunitarie del 23 gennaio 2006, n. 13.
- 4/2007-2009 He is coordinator of the research project "Diagnosi e monitoraggio con mezzi non intrusivi del malfunzionamento dei dispositivi meccanici e del processo di combustione nei motori a combustione interna" funded by Regione Puglia with Determinazione del Dirigente Settore Programmazione e Politiche comunitarie - 23 gennaio 2006, n. 13.
- 4/2006 He is coordinator of a research project in collaboration with Shell Research regarding the relations between fuel compressibility and emissions in common-rail-based diesel engines.
- 2005-2008 He is coordinator of a research project in collaboration with Nardò Technical Center –Prototipo Group – for the development of optimization techniques for the design of combustion chambers in internal combustion engines and for the development of on-board measurement systems of emissions.
- 2005-2007 He is coordinator of a research project in collaboration with VolksWagen Research – Wolfsburg – Germany for the development of diagnostic techniques of combustion in internal combustion engines.

- 2003-2006 He is coordinator of the research project “Progetto per lo Sviluppo di un Sistema di Combustione Innovativa per Diesel Omogeneo” in collaboration with Centro Veicoli Italia – Bosch for the development of innovative combustion systems.
- 12/2003 He is coordinator of the FIRB project “Sviluppo di Tecniche di Diagnostica LASER per lo Studio della Combustione e dei Fenomeni di Autoaccensione”, RBAU01CXNP, funded with Decreto Direttoriale n. 2176/Ric. Del 10 dicembre 2003;
- 2003-2004 He is coordinator of a research project in collaboration with Centro Ricerche Fiat – Bari – for the development of gas injectors;
- 7/2001 He is coordinator of the project CNRG00718A in the program CNR-Agenzia2000 titled "Analisi del rumore di combustione e delle vibrazioni di motori a combustione interna come indice per l'ottimizzazione delle emissioni";
- 3/2000 He is coordinator of Workpackage n.2 in the European research project "A Thermophotovoltaic Power Generator for Hybrid Electric Vehicles" (THE REV) contract n. ERK6-CT-1999-00019;
- 11/99 He is coordinator for the production of experimental devices for measurements on spray on the ICE engines bench for the investigation on the optimized injection strategies for the reduction of the pollutants emissions in the ICE engines for the activities of the laboratories "Combustione e Spray" and "Macchine" of the University of Lecce;
- 7/99 He is coordinator of the Work package n.1, "Analisi dello spray e dell'iniezione per l'ottimizzazione di motori a combustione interna", in the project P11 "Applicazioni di tecniche di prototipazione e progettazione allo sviluppo di componenti industriali con materiali innovativi", of the Programma Operativo "Materiali Innovativi" - Cluster 26;
- 3/99-4/99 He is in charge for the organization and the start-up of the Ufficio Europa for the Programma Operativo Multiregionale 940022 II-FSE Decisione n. C(94)3491 del 16 dicembre 1994 Sottoprogramma Formazione dei Funzionari della Pubblica Amministrazione PASS - Pubbliche Amministrazioni per lo Sviluppo del Sud;

ENGINEERING EXPERIENCE

He is certified PE since 1997 he has been involved in the design of:

- ZEB and NZEB Buildings
- Renewable Energy power plants
- Energy Communities
- HVAC systems
- Cogeneration Power Plants
- ICE design

Lecce, 29th October 2024

Prof. ing. Arturo de Risi

