

PERSONAL INFORMATION**MICCIO FRANCESCO**BORN ON 1ST AUGUST 1962

ITALIAN CITIZENSHIP

MARRIED

francesco.miccio@cnr.it

WORK EXPERIENCE

- Dates (from – to) from 16/11/1989 - currently
- Name and address of employer Consiglio Nazionale delle Ricerche
- Type of business or sector Public Research Organization
- Occupation or position held Scientist
- Main activities and responsibilities Experimental and theoretical research, Responsible of research team and laboratory
- Dates (from – to) from 1/1/1988 to 15/11/1989
- Name and address of employer IC Soft SpA - Napoli I
- Type of business or sector Private Software Company
- Occupation or position held Software programmer
- Main activities and responsibilities Programming in Cobol, C, Assembler – Trainer in ICT courses

EDUCATION AND TRAINING

- Dates (from – to) 1981-1987
- Name and type of organisation providing education and training Università degli Studi "Federico II" Napoli - Facoltà di Ingegneria
- Title of qualification awarded P.le V. Tecchio 80 - Napoli I
- Level in national classification Degree in Chemical Engineering (5 years)
- Grade: 110/110 cum laude
- Dates (from – to) 1987-1988 (six months)
- Name and type of organisation providing education and training IC Soft
- Argument of training via Posillipo - Napoli I
- Software analysis, development of algorithms and computer programming at basic and advanced levels

PERSONAL SKILLS AND COMPETENCESMOTHER TONGUE
OTHER LANGUAGES**ITALIAN****ENGLISH** Upper Intermediate (PET) - Reading/Writing/Verbal**GERMAN** Intermediate (Zertificat Deutsch) - Reading/Writing/Verbal**FRENCH** Basic - Reading/Writing/VerbalTECHNICAL SKILLS
AND COMPETENCES

Competence in therm-chemical processes (combustion, gasification and pyrolysis) for energy generation

Competence in processes and materials for the abatement of NO_x, SO₂ and CO₂ emissions into the atmosphere from industrial processes

Competence in design and operation of combustion facilities for coal and alternative solid fuels (biomass, wastes, by-products)

Mathematical modelling applied to the process industry, combustion science and ceramic materials for energy and process industry
Expertise in computer assisted mechanical design (CAD)
Excellent computer skill (analysis, programming, graphics, database management)

ADDITIONAL INFORMATION

SCIENTIFIC ACTIVITIES

1989-2001 **RESEARCHER** AT INSTITUTE FOR RESEARCH ON COMBUSTION (IRC) OF CNR IN NAPOLI

2002-2012 **SENIOR RESEARCHER** AT INSTITUTE FOR RESEARCH ON COMBUSTION (IRC) OF CNR IN NAPOLI

1997-1998: **VISITING SCIENTIST** AT INSTITUTE FOR PROCESS ENGINEERING AND POWER PLANT TECHNOLOGY (IVD) - UNIVERSITY OF STUTTGART (D) UNDER A 18 MONTHS RESEARCH FELLOWSHIP OF ALEXANDER VON HUMBOLDT FOUNDATION (BONN D) FOR A RESEARCH ACTIVITY ON BIOMASS GASIFICATION IN FLUIDIZED BED

1999: **VISITING SCIENTIST** AT INSTITUTE OF CHEMICAL ENGINEERING, FUEL TECHNOLOGY AND ENVIRONMENTAL TECHNOLOGY - VIENNA UNIVERSITY OF TECHNOLOGY (AUSTRIA) IN THE FRAME OF A SHORT TERM MOBILITY PROGRAM OF CNR

2005-2006: **DETACHED NATIONAL EXPERT (END)** AT THE EUROPEAN COMMISSION JRC/INSTITUTE FOR ENERGY (PETTEN NL) FOR A RESEARCH ACTION (CLEANWEB) CONCERNING BIOMASS/WASTE GASIFICATION

2012 -2020 : **SENIOR RESEARCHER** AT INSTITUTE FOR SCIENCE AND TECHNOLOGY OF CERAMIC MATERIALS (ISTEC) OF CNR IN FAENZA

2019: **VISITING SCIENTIST** AT DEP. OF CHEMICAL ENGINEERING - BOKU UNIVERSITY OF VIENNA (AUSTRIA) IN THE FRAME OF A SHORT TERM MOBILITY PROGRAM OF CNR

2021 - : **RESEARCH DIRECTOR** AT INSTITUTE FOR SCIENCE AND TECHNOLOGY OF CERAMIC MATERIALS (ISTEC) OF CNR IN FAENZA

SCIENTIST IN CHARGE FOR CNR IN THE FRAME OF INTERNATIONAL AND NATIONAL RESEARCH COLLABORATIVE PROJECTS:

- 1993-1994 STRATEGIC PROJECT "AREE METROPOLITANE ED AMBIENTE" OF CNR

- 1993-1994: PC-WAM JOUF0057 (EC JOULE PROGRAMME 1990-1994)

- 2002-2003: SCALE FACTOR IN SPATIAL LAUNCHERS (ASI CONTRACT I/R/187/01 2002-2003)

- 2005-2007: QUOVADIS (EC EIE/04/031/S07.38597 2005-2007)

- 2016-2018: TERMOREF (POR-FESR 2014-2020 EMILIA ROMAGNA N. 737778)

SCIENTIFIC RESPONSIBLE OF R&D ACTIVITIES COMMITTED TO CNR BY THIRD PARTIES/INDUSTRIES (ENEL SPA, ENEA, SAGETER SPA, ASI, ITALGEST SRL)

PROJECT COORDINATION

2007-2010: **COORDINATOR** OF THE RESEARCH PROJECT FLEXGAS (RFCR-CT-2007-0005) FUNDED BY RFCS OF THE EUROPEAN COMMISSION DEALING WITH CO-GASIFICATION OF COAL, BIOMASS AND WASTES IN FLUIDISED BED

2010-2012: **COORDINATOR** OF THE RESEARCH PROJECT FLAVIA FUNDED BY THE ITALIAN MINISTRY FOR AGRICULTURE, FOOD AND FORESTRY DEALING WITH THERMO-VALORISATION OF RESIDUAL BIOMASS WASTES FROM OLIVE-OIL PRODUCTION

2010-2013: **COORDINATOR** OF THE RESEARCH PROJECT FECUNDUS (RFCR-CT-2010-00009) FUNDED BY RFCS OF THE EUROPEAN COMMISSION DEALING WITH CO-GASIFICATION OF COAL IN FLUIDISED BED AND ENTRAINED FLOW WITH CO₂ CAPTURE

ACADEMIC AND DIDACTIC ENGAGEMENTS

2002: **CONTRACT PROFESSOR** AT UNIVERSITÀ DI SALERNO (I) FOR SUPPLEMENTAL LESSONS FOR THE COURSE "DYNAMICS AND CONTROL OF CHEMICAL PROCESSES" AND TUTORING

2003: **CONTRACT PROFESSOR** AT UNIVERSITÀ DI SALERNO (I) FOR SUPPLEMENTAL LESSONS FOR THE COURSE " DYNAMICS AND CONTROL OF CHEMICAL PROCESSES" AND TUTORING

2008: **PROFESSOR** FOR A HIGH FORMATION COURSE ON SOLID RECOVERED FUELS – NEW PERSPECTIVES DERIVING FROM THE EUROPEAN NORMATIVE ON WASTES

2011: **CONTRACT PROFESSOR** AT "ALMA MATER STUDIORUM" UNIVERSITÀ DI BOLOGNA (I) FOR SUPPLEMENTAL LESSONS ON "THERMOCHEMICAL PROCESSES" TO STUDENTS OF THE MASTER IN CHEMICAL ENGINEERING

2012: **CONTRACT PROFESSOR** AT "ALMA MATER STUDIORUM" UNIVERSITÀ DI BOLOGNA (I) FOR SUPPLEMENTAL LESSONS ON "THERMOCHEMICAL PROCESSES" TO STUDENTS OF THE MASTER IN CHEMICAL ENGINEERING

2014: **PROFESSOR** FOR HIGH FORMATION COURSE ON ADVANCED MATERIALS FOR AERO-SPATIAL APPLICATION (PANDION NATIONAL PROJECT)

2017: **QUALIFICATION AS ASSOCIATED PROFESSOR** IN CHEMICAL ENGINEERING GIVEN BY THE ITALIAN MINISTRY OF EDUCATION, UNIVERSITIES AND RESEARCH

2018: **QUALIFICATION AS FULL PROFESSOR** IN CHEMICAL ENGINEERING GIVEN BY THE ITALIAN MINISTRY OF EDUCATION, UNIVERSITIES AND RESEARCH

2018-2019: **CONTRACT PROFESSOR** AT UNIVERSITÀ DEGLI STUDI DI BRESCIA (I) FOR SUPPLEMENTAL LESSONS IN THE COURSE "ENERGETICS AND RENEWABLE ENERGIES" MASTER IN MECHANICAL ENGINEERING

2019-2020: **CONTRACT PROFESSOR** AT UNIVERSITÀ DEGLI STUDI DI BRESCIA (I) FOR SUPPLEMENTAL LESSONS IN THE COURSE "APPLIED THERMODYNAMICS" MASTER IN MECHANICAL ENGINEERING

2020-2021: **APPOINTED PROFESSOR** AT "ALMA MATER STUDIORUM" UNIVERSITÀ DI BOLOGNA (I) FOR THE COURSE "PROCESS ENGINEERING FUNDAMENTALS" DEGREE IN ENERGETIC ENGINEERING

DISSEMINATION AND TUTORING

INVITED FOR LECTURES AND LESSONS ON CHEMICAL ENGINEERING, FUELS, COMBUSTION, GASIFICATION

TUTOR FOR INTERNATIONAL VISITING SCIENTISTS, PERSONNEL IN TRAINING AND GRANT-HOLDERS

CO-SUPERVISOR FOR MASTER (9) AND PHD (2) STUDENTS

EVALUATOR OF MASTER (1) AND PHD (2) THESES

PARTICIPATION TO TECHNICAL COMMITTEES AND EVALUATION EXERCISES

2001-2002: **ITALIAN DELEGATE** IN CEN TC-335 WG3 FOR THE EUROPEAN NORMATIVE ON SOLID BIOFUELS

2003-2008: **ITALIAN DELEGATE** IN CEN TC-343 WG4 FOR THE EUROPEAN NORMATIVE ON SOLID RECOVERED FUELS

2008: **EXPERT EVALUATOR** FOR A RESEARCH PROJECT IN THE FRAME OF A CALL OF THE NATIONAL RESEARCH FOUNDATION - SOUTH AFRICA (NRF-SA)

2012-2014: **MEMBER OF THE ITALIAN COMMITTEE (CTI GL904)** FOR THE COMPILATION OF A TECHNICAL RECOMMENDATION ON GASIFIERS FOR LIGNO-CELLULOSIC FUELS

2013: **EXPERT EVALUATOR** FOR RESEARCH PROJECTS OF THE ITALIAN MINISTRY FOR AGRICULTURE, FOOD AND FORESTRY

2013: **EXPERT EVALUATOR** OF TWO PROJECT PROPOSALS SUBMITTED TO EC- RFCS CALL 2013

2013: **MONITORING EXPERT** OF EC-FP7-ENERGY OPTIMASH PROJECT FOR EUROPEAN COMMISSION

2015: **ENROLLED EXPERT** IN "LARGE-SCALE COMBUSTION OF CARBON FUELS" FOR NINE SIGMA INC. (USA)

2016: **ITALIAN DELEGATE** IN WG 04 "PHYSICAL AND MECHANICAL TESTS" OF ISO/TC 300 ON "SOLID RECOVERED FUELS"

2016: **EXPERT EVALUATOR** FOR FIVE PROJECT PROPOSALS SUBMITTED TO EC- RFCS CALL 2016

2017: **EXPERT EVALUATOR** FOR A RESEARCH PROPOSAL SUBMITTED TO THE NATIONAL SCIENCE CENTER OF POLAND

2018: **EXPERT EVALUATOR** FOR A RESEARCH PROPOSAL SUBMITTED TO THE INSUBRIA UNIVERSITY (IT)

2014-CURRENTLY: **EVALUATOR AND MONITORING EXPERT** FOR INNOVATION PROJECTS (12) SUBMITTED/FUNDED BY THE ITALIAN MINISTRY FOR ECONOMIC DEVELOPMENT MISE

REVIEWER FOR INTERNATIONAL PEER REVIEWED JOURNALS

ACS OMEGA, ADV. POWDER TECHNOLOGY, APPLIED ENERGY, APPLIED SCIENCES, BIOMASS & BIOENERGY, CARBON LETTERS, CATALYSTS, CHEM. ENG. JOURNAL, CHEM. ENG. COMMUNICATIONS, CHEM. ENG. RES. DESIGN, CHEM. ENG. SCIENCE, CHEM. ENG. TRANSACTIONS, CHEM. PAPERS CLEAN TECHNOLOGIES, CLEAN TECHNOLOGIES AND ENVIRONMENTAL POLICY, COMB. SCI. TECH., COMBUSTION AND FLAME, COMPUTERS & CHEMICAL ENG., CONSTR. & BUILDING MAT., ENERGIES, ENERGY & FUELS, ENERGY CONV. MANAGEMENT, ENERGY TECHNOLOGY, ENGINEERING SCIENCE AND TECHNOLOGY, FUEL PROCESSING TECH., FUEL, HEAT TRANSFER, INT. JOURNAL HYDROGEN ENERGY, INT. JOURNAL ENERGY RESEARCH, INVENTIONS, J. ADVANCED RESEARCH IN FLUID MECHANICS AND THERMAL SCIENCES, J. ANALYTICAL APPLIED PYROLYSIS, J. CLEANER PRODUCTION, J. CO₂ UTILIZATION, J. ENG. MARITIME ENVIRONMENT, J. ENVIRONMENTAL CHEMICAL ENGINEERING, J.

HAZARDOUS MATERIALS, J. TAIWAN INST. CHEM. ENG., MATERIALS, MINERALS, NANOMATERIALS, PROCESSES, SUSTAINABILITY, SUSTAINABLE MATERIALS AND TECHNOLOGIES, WASTE AND BIOMASS VALORIZATION

SERVICES IN INTERNATIONAL JOURNAL AND CONFERENCES

2012 : TOPICAL COORDINATOR OF SUSTAINABLE FUELS SESSION AT 21ST FBC CONFERENCE 2012

2012: CHAIRMAN OF SESSION AT 21ST FBC CONFERENCE,

2015: CHAIRMAN OF SESSION 12TH ICHEAP 2015

2017: MEMBER OF THE SCIENTIFIC COMMITTEE OF 11TH EUROPEAN CONFERENCE ON INDUSTRIAL FURNACES AND BOILERS (INFUB-11 2017)

2018: MEMBER OF THE SCIENTIFIC COMMITTEE OF INT. CONFERENCE ON BIOMASS ICONBM-2018

2019: MEMBER OF THE SCIENTIFIC COMMITTEE OF INT. CONFERENCE ICHEAP14

2020: MEMBER OF THE SCIENTIFIC COMMITTEE OF 12TH EUROPEAN CONFERENCE ON INDUSTRIAL FURNACES AND BOILERS (INFUB-12)

2020: MEMBER OF THE SCIENTIFIC COMMITTEE OF INT. CONFERENCE ON BIOMASS ICONBM-2020

2021: MEMBER OF THE SCIENTIFIC COMMITTEE OF INT. CONFERENCE ICHEAP15

REVIEWER OF CONFERENCE PAPERS: INT. SYMPOSIUM ON COMBUSTION, FBC CONFERENCES, EF FLUIDIZATION CONFERENCES, CFB CONFERENCES

2020 - CURRENTLY: EDITOR FOR ENERGIES MPDI (IF 2.7)

BIBLIOMETRIC DATA

AUTHOR/CO-AUTHOR OF 62 ARTICLES PUBLISHED/ACCEPTED IN ISI INDEXED JOURNALS AND 92 PAPERS COLLECTED IN BOOKS, JOURNALS OR CONFERENCE PROCEEDINGS (INTERNATIONAL)

NUMBER OF DOCUMENTS (SCOPUS): 90

H-INDEX (SCOPUS): 20:

NUMBER OF CITATIONS (SCOPUS): 1445

NUMBER OF DOCUMENTS (WOS): 74

H-INDEX (WOS): 19

NUMBER OF CITATIONS (WOS): 1232

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PATENTS

Italian patent N. 01295837

Injector for coal-water suspensions with variable geometry

PCT International patent N. WO/2012/172579

Combustion fluid-bed plant which can be fed with conventional and alternative liquid fuels

PCT International patent N. WO/2017/013581

Alternating potential gas separation process with capacitive membranes, and relevant plant