

Andrea Luigi Facci – Curriculum Vitae

Nato a Marostica (VI) il 29 Ottobre 1984, nazionalità italiana.

POSIZIONE ATTUALE

- da Dicembre 2020 ad oggi: Professore Associato presso il dipartimento DEIM, Università degli Studi della Tuscia.

POSIZIONI PRECEDENTI

- dal 2018 al 2020: Ricercatore a tempo determinato tipo B presso il dipartimento DEIM, Università degli Studi della Tuscia.
- Dal 2014 al 2018: Ricercatore a tempo determinato tipo A presso il dipartimento DEIM, Università degli Studi della Tuscia.
- Dal 2013 and 2014 Ricercatore a tempo determinato tipo A presso il dipartimento DI Università degli Studi di Napoli Parthenope.
- Da Gennaio 2012 ad Settembre 2012, Ricercatore presso Polytechnic Institute of New York University.

INCARICHI ACCADEMICI PRINCIPALI

- dal Febbraio 2021 ad oggi: Presidente del collegio di dottorato in Engineering for Energy and Environment, Università degli Studi della Tuscia.

FORMAZIONE

- OTTOBRE 2006: LAUREA TRIENNALE IN INGEGNERIA ENERGETICA, UNIVERSITÀ DI ROMA TOR VERGATA
- OTTOBRE 2008: LAUREA MAGISTRALE IN INGEGNERIA ENERGETICA, UNIVERSITÀ DI ROMA TOR VERGATA
- LUGLIO 2012 DOTTORATO DI RICERCA IN INGEGNERIA PER L'ENERGIA E L'AMBIENTE , UNIVERSITÀ DI ROMA TOR VERGATA

PROGETTI DI RICERCA

Responsabile e componente di numerosi progetti di ricerca, tra i quali si evidenziano di seguito:

- dal 2022 ad oggi: Progetto SkillBill, Skill to Boost Innovation and professional fulfillment in a sustainable economy, Horizon Europe. Responsabile di unità locale
- Dal 2022 ad oggi: Progetto HySuM, Hybrid Sustainable Mobility, Band PRIN 2020. Principal investigator
- dal 2020 and 2022, progetto SINBIO, progetti strategici regione Lazio 2019. Responsabile scientifico.

ATTIVITÀ DIDATTICA

Docente titolare dei corsi di Macchine, Macchine e Sistemi Energetici, presso il corso di Ingegneria Industriale, Università degli Studi della Tuscia, ed Internal Combustion Engines e Hydrogen technologies presso il corso di Mechanical Engineering, Università degli Studi della Tuscia.

RELATORE IN NUMEROSE CONFERENZE E CONVEGNI

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PUBBLICAZIONI SCIENTIFICHE

Technical and economic assessment of a SOFC-based energy system for combined cooling, heating and power

AL Facci, V Cigolotti, E Jannelli, S Ubertini
Applied energy 192, 563-574

Optimization of CHCP (combined heat power and cooling) systems operation strategy using dynamic programming

AL Facci, L Andreassi, S Ubertini
Energy 66, 387-400

Trigenerative micro compressed air energy storage: Concept and thermodynamic assessment

AL Facci, D Sánchez, E Jannelli, S Ubertini
Applied Energy 158, 243-254

Analysis of three-dimensional effects in oscillating cantilevers immersed in viscous fluids

AL Facci, M Porfiri
Journal of Fluids and Structures 38, 205-222

Three-dimensional water entry of a solid body: A computational study

AL Facci, M Porfiri, S Ubertini
Journal of Fluids and Structures 66, 36-53

First Results of the “Carbonaceous Aerosol in Rome and Environs (CARE)” Experiment: Beyond Current Standards for PM10

F Costabile, H Alas, M Aufderheide, P Avino, F Amato, S Argentini, ...
Atmosphere 8 (12), 249

Smart integration of photovoltaic production, heat pump and thermal energy storage in residential applications

AL Facci, VK Krastev, G Falcucci, S Ubertini
Solar energy 192, 133-143

Proton exchange membrane fuel cell for cooperating households: A convenient combined heat and power solution for residential applications

F Cappa, AL Facci, S Ubertini
Energy 90, 1229-1238

Combined heat, cooling, and power systems based on half effect absorption chillers and polymer electrolyte membrane fuel cells
G Loreti, AL Facci, I Baffo, S Ubertini
Applied Energy 235, 747-760

Assessment of PIV-based analysis of water entry problems through synthetic numerical datasets
AL Facci, R Panciroli, S Ubertini, M Porfiri
Journal of Fluids and Structures 55, 484-500

Experimental and numerical analysis of energy dissipation in a sloshing absorber
N Cavalagli, C Biscarini, AL Facci, F Ubertini, S Ubertini
Journal of Fluids and Structures 68, 466-481

Analysis of a fuel cell combined heat and power plant under realistic smart management scenarios
AL Facci, S Ubertini
Applied Energy 216, 60-72

Analysis of the influence of thermal energy storage on the optimal management of a trigeneration plant
AL Facci, L Andreassi, S Ubertini, E Sciubba
Energy procedia 45, 1295-1304

Nonlinear hydrodynamic damping of sharp-edged cantilevers in viscous fluids undergoing multi-harmonic base excitation
AL Facci, M Porfiri
Journal of Applied Physics 112 (12)

Techno-economic analysis of battery electricity storage towards self-sufficient buildings
A Rosati, AL Facci, S Ubertini
Energy Conversion and Management 256, 115313

SOFC management in distributed energy systems
D Chiappini, AL Facci, L Tribioli, S Ubertini

Performance evaluation of microbial fuel cells fed by solid organic waste: parametric comparison between three generations
RA Nastro, N Jannelli, M Minutillo, M Guida, M Trifuoggi, L Andreassi, ...
Energy Procedia 105, 1102-1108

Asymmetric water impact of a two dimensional wedge: A systematic numerical study with transition to ventilating flow conditions
VK Krastev, AL Facci, S Ubertini
Ocean Engineering 147, 386-398

Comparing energy and cost optimization in distributed energy systems management
AL Facci, L Andreassi, F Martini, S Ubertini
Journal of Energy Resources Technology 136 (3), 032001

Optimized Modeling and Design of a PCM-Enhanced H₂ Storage
AL Facci, M Lauricella, S Succi, V Villani, G Falcucci
Energies 14 (6), 1554

Hybrid hydrogen and mechanical distributed energy storage
S Ubertini, AL Facci, L Andreassi
Energies 10 (12), 2035

Numerical assessment of similitude parameters and dimensional analysis for water entry problems
AL Facci, S Ubertini
Mathematical Problems in Engineering 2015 (1), 324961

Meta-heuristic optimization for a high-detail smart management of complex energy systems
AL Facci, S Ubertini
Energy Conversion and Management 160, 341-353

Experimental assessment of buoyant cylinder impacts through high-speed image acquisition
S Russo, C Biscarini, AL Facci, G Falcucci, E Jannelli, S Ubertini
Journal of Marine Science and Technology 23, 67-80

Numerical modeling of an automotive derivative polymer electrolyte membrane fuel cell cogeneration system with selective membranes
G Loreti, AL Facci, T Peters, S Ubertini
International Journal of Hydrogen Energy 44 (9), 4508-4523

Fluid structure interaction of buoyant bodies with free surface flows: Computational modelling and experimental validation
AL Facci, G Falcucci, A Agresta, C Biscarini, E Jannelli, S Ubertini
Water 11 (5), 1048

Numerical assessment of an automotive derivative CHP fuel cell system
AL Facci, G Loreti, S Ubertini, F Barbir, T Chalkidis, RP Eßling, T Peters, ...
Energy Procedia 105, 1564-1569

High-efficiency combined heat and power through a high-temperature polymer electrolyte membrane fuel cell and gas turbine hybrid system
G Loreti, AL Facci, S Ubertini
Sustainability 13 (22), 12515

Multidimensional modelling of gaseous injection: Analysis of an impinging jet
L Andreassi, AL Facci, VK Krastev, S Ubertini
International journal of heat and fluid flow 31 (5), 909-915

An optimized power conversion system for a stellarator-based nuclear fusion power plant
FR Famà, G Loreti, G Calabrò, S Ubertini, FA Volpe, AL Facci
Energy Conversion and Management 276, 116572

Comparison of integrated fuel processing options for biogas-fed solid-oxide fuel cell plants

S Ma, G Loreti, L Wang, AL Facci, S Ubertini, C Dong, F Maréchal
E3S Web of Conferences 238, 04002

PIV measurements over a double bladed Darrieus-type vertical axis wind turbine: A validation benchmark

F Arpino, G Cortellessa, M Scungio, G Fresilli, A Facci, A Frattolillo
Flow Measurement and Instrumentation 82, 102064

Numerical simulation of gaseous fuel injection: A new methodology for multi-dimensional modelling

L Andreassi, AL Facci, S Ubertini
International journal for numerical methods in fluids 64 (6), 609-626

Comparative analysis of patient-specific aortic dissections through computational fluid dynamics suggests increased likelihood of degeneration in partially thrombosed false lumen

S Moretti, F Tauro, M Orrico, N Mangialardi, AL Facci
Bioengineering 10 (3), 316

Optimization of chcp operation strategy: Cost vs primary energy consumption minimization

AL Facci, L Andreassi, F Martini, S Ubertini
ASME International Mechanical Engineering Congress and Exposition 56284 ...

Non-dimensional numerical analysis of coupled Metal Hydride-Phase Change Material hydrogen storage system

M Maggini, G Falcucci, A Rosati, S Ubertini, AL Facci
Journal of Energy Storage 93, 112230

Influence of sensors layout in damage monitoring of cylindrical bodies under impulsive hydrodynamic loading

P Fanelli, AL Facci, S Russo
AIP Conference Proceedings 1978 (1)

Combining renewable sources towards negative carbon emission hydrogen

G Loreti, AL Facci, S Ubertini
International Journal of Hydrogen Energy 48 (54), 20875-20888

Live crack damage detection with local strain measurement on solid bodies subjected to hydrodynamic loading

P Fanelli, AL Facci, E Jannelli
Procedia Structural Integrity 8, 539-551

Comparison among different cchp plant configurations with energy flows optimization

G Bella, AL Facci, A Fumarola, L Tribioli, S Ubertini
Proceedings of the third international conference on applied Energy

A multidimensional model to simulate direct gaseous fuel injection in internal combustion engines

L Andreassi, AL Facci, S Ubertini
Internal Combustion Engine Division Spring Technical Conference 43406, 477-486

Cylinder-lamina system fluid–structure interaction problem solved with an original OpenFOAM code

C Stefanini, F Giorgetti, A Mercuri, A Facci, P Fanelli

Journal of Computational Science 54, 101420

Fluid-structure interaction problem of a deformable lamina solved with an original OpenFOAM code

P Fanelli, C Stefanini, AL Facci, S Ubertini

Procedia Structural Integrity 24, 939-948

Multidimensional Modelling of Gaseous Injection in Modern Direct Injection Internal Combustion Engines: Analysis of Different Fuel Injection Strategies.

L Andreassi, AL Facci, S Ubertini

SAE Technical Paper

Adapting to the Abyss: Passive Ventilation in the Deep-Sea Glass Sponge *Euplectella aspergillum*

G Falcucci, G Amati, G Bella, AL Facci, VK Krastev, G Polverino, S Succi, ...

Physical Review Letters 132 (20), 208402

In-depth characterization through dimensional analysis of the performance of a membrane-integrated fuel processor for high purity hydrogen generation

G Loreti, AL Facci, T Peters, S Ubertini

International Journal of Hydrogen Energy 47 (4), 2442-2460

Environmental and Health Impact of Electric and Hydrogen Light Vehicles: The Case of an Italian Small City

L Andreassi, G Falcucci, AL Facci, S Ubertini

SAE Technical Paper

Numerical simulation of water entry problems using open source codes

AL Facci, P Fanelli, VK Krastev, S Russo, G Falcucci

AIP Conference Proceedings 1978 (1)

Control strategy optimization of HVAC plants

AL Facci, F Martini, S Pirozzi, A Zanfardino, S Ubertini

AIP Conference Proceedings 1648 (1)

Numerical Modeling of Metal Hydride-Phase Change Material Hydrogen Storage Systems with Increased Heat Exchange surface area

M Maggini, AL Facci, G Falcucci, S Ubertini

Thermodynamic and economic analyses of the retrofit of existing electric power plants with fusion reactors

FR Famà, V Prost, G Calabrò, FA Volpe, S Ubertini, AL Facci

Energy Conversion and Management: X 23, 100668

Three-dimensional simulation of gaseous fuel injection through a hybrid approach

L Andreassi, AL Facci, S Ubertini

Smart Energy community for electric vehicles recharge in a building environment
A Rosati, G Loreti, AL Facci, J Taborri, S Rossi, S Ubertini
13th International Conference on Applied Energy ICAE-2021 ICAE

Analysis of the performances of a fuel cell CHP system under different energy demand and climate scenarios
AL Facci, G Loreti

Experimental analysis on slamming reduction in rectangular liquid tanks subjected to harmonic motion
N Cavalagli, C Biscarini, AL Facci, F Ubertini, P Manciola
AIP Conference Proceedings 1978 (1)

Numerical modeling of an automotive derivative PEM fuel cell CHP system with selective membranes
AL Facci, G Loreti, P Thijs, S Ubertini
ENEA

Efficienza energetica dei sistemi sria compressa: Metodologia di benchmarking delle prestazioni e strumento di supporto alle decisioni per l'efficientamento energetico
V Intorna, A Facci, S Salvatori, S Ubertini, M Villarini
Report Ricerca di Sistema Elettrico. Ministero dello Sviluppo Economico ...

Three dimensional numerical simulation of water entry problem
AL Facci, M Reggio, S Ubertini
AIP Conference Proceedings 1648 (1)

Analysis of fish and bioinspired robotic fish swimming together in a water tunnel
G Polverino, P Phamduy, AL Facci, M Drago, K Khan, L Yang, M Porfiri
Bioinspiration, Biomimetics, and Bioreplication 2013 8686, 45-52

Optimization strategies for MICRO-CHP systems based on HT-PEM fuel cells
A Facci, G Falcucci, E Jannelli, S Ubertini
EFC 2013-Proceedings of the 5th European Fuel Cell Piero Lunghi Conference ...

Optimized Design of a H₂-Powered Moped for Urban Mobility
G Loreti, A Rosati, I Baffo, S Ubertini, AL Facci
Energies 17 (6), 1314

Enhancing Metal Hydride-Phase Change Material Hydrogen Storage Systems Efficiency with Expanded Graphite
M Maggini, G Falcucci, AL Facci, S Ubertini

Simulation-Driven Optimization of Metal Hydride-Packed Hydrogen Storage Systems for Enhanced Performance
M Maggini, AL Facci, G Falcucci, S Ubertini

Numerical analysis of a CHCP system combining an absorption chiller and a low temperature PEM fuel cell
AL Facci, G Loreti

AUTomotive deRivative Energy system: Modelling driven PEMFC chp prototype development

G Loreti, AL Facci

Sviluppo e dimostrazione di sistemi di monitoraggio e controllo dei consumi di energia legati alla produzione di aria compressa

V Introna, A Facci, S Salvatori, S Ubertini

Asymmetric water impact of a two dimensional wedge

K Vlk, AL Facci, S Ubertin

Performance Evaluation of Microbial Fuel Cells Fed by Solid Organic Waste

RA Nastro, N Jannelli, M Minutillo, M Guida, M Trifuoggi, L Andreassi, ...

Strongly coupled partitioned approach for fluid structure interaction in free surface flows

AL Facci, S Ubertini

AIP Conference Proceedings 1738 (1)

Three-dimensional water entry of a solid body

AL Facci, P Maurizio, S Ubertini, M Porfiri

Assessment of the technical and economical performances of a CHCP system based on SOFCs

L Lipardi, AL Facci, E Jannelli, S Ubertini

Proceedings of the 6th European Fuel Cell-Piero Lunghi Conference, EFC 2015 ...

Trigenerative micro compressed air energy storage

AL Facci, S David, J Elio, S Ubertini, D Sanchez, E Jannelli

Proton exchange membrane fuel cell for cooperating households

C Francesco, AL Facci, S Ubertini

Optimization strategies for micro-chp systems based on ht-pem fuel cells

F Giacomo, AL Facci, J Elio, G Falcucci, E Jannelli, S Ubertini

Optimization of chcp operation strategy

AL Facci, L Andreassi, F Martini, S Ubertini

Analysis of fish and bioinspired robotic fish swimming together in a water tunnel

P Giovanni, P Paul, AL Facci, D Marco, K Kamran, Y Lu, P Maurizio

Comparison among different CCHP plant configurations with energy flows optimization

AL Facci, A Fumarola, S Ubertini, L Tribioli, G Bella

SOFC Management in Distributed Energy Systems

C Daniele, AL Facci, T Laura, S Ubertini, D Chiappini, L Tribioli

Multidimensional modelling of gaseous injection

L Andreassi, AL Facci, VK Krastev, S Ubertini, K Vlk

Numerical simulation of gaseous fuel injection
A Luca, AL Facci, S Ubertini, L Andreassi

Simulazione multidimensional delliniezione di combustibili allo stato gassoso
L Andreassi, AL Facci, V Krastev, S Ubertini

Multidimensional Modelling of Gaseous Injection in Modern Direct Injection Internal
Combustion Engines
L Andreassi, AL Facci, S Ubertini

A MULTIDIMENSIONAL MODEL TO SIMULATE DIRECT GASEOUS FUEL
INJECTION IN INTERNAL COMBUSTION ENGINES
AL Facci, L Andreassi, S Ubertini

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Firma

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