

**PERSONAL INFORMATION****Matteo Testi**

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[Redacted phone number]

[testimatteo1@gmail.com](mailto:testimatteo1@gmail.com)
Sex Male | [Redacted] | *Nationality* Italy

[Select you current working level]

Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input type="checkbox"/> Full professor	<input checked="" type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist
<input type="checkbox"/> Mid-Management Level	<input type="checkbox"/> Associate Professor	<input type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

**WORK EXPERIENCE**

January 2017 to Now

Head of research unit

HyRES - Hydrogen Technologies and Resilient Energy Systems

Center for Sustainable Energy - SE

Fondazione Bruno Kessler, 38122, Trento (TN) Italy

Main activities regard:

- Referent of hydrogen and chemical facilities of SE centre, handling the equipment, installing the test rigs and the auxiliary infrastructures.
- Project coordinator SWITCH (875148), AMON (101101521).
- WP leader in PROMETEO project (101007194).
- Task leader in several EU FCH JU2 projects (NAHV, THOTH2, HYSPIRE)
- Referent for Characterization activities on:
  - PH2P system (Power To Hydrogen To Power)
  - SOC stack (reversible)
  - hydrogen sorption on metal hydrides.
- Due diligence and technological scouting activities, especially in H2 enabling technology as compression, purification and entering system and components.
- Hydrogen Europe: Sherpa of RoadMap 8 (Key tech for H2 distribution).
- Management of research unit (budget planning, trainings, etc.)

**EDUCATION AND TRAINING**

2012-2017

PhD in Physics

EQF 8

Trento University-FBK

Development and realization apparatus to detect hydrogen sorption on metal hydride with control. Development of mathematical model to describe hydrogen sorption in material. Numerical modelling of hydrogen storage tank (12.5 kg). Including heat and gas management system. Characterization of innovative hydrogen storage solid state material. Design, procurement, validation and testing of P2P systema based by rSOC and metal hydride tank.

2010-2012

Master in Material science

EQF 7

University of Venice, Cà Foscari

Study of nano-particle system based on silica for bio medical application

2006-2010

Bachelor in Material science

EQF 6

University of Venice, Cà Foscari

Synthesis and characterization of silica film doped with Europium-Phenanthroline complex for photovoltaic

application

**PERSONAL SKILLS**

Mother tongue(s) Italian

Other language(s) English

Job-related skills

- Testing and characterization on fuel cell and electrolyzer system (VI, long term, EIS)
- Design, procurement and prototyping H2 system
- FEM and system-dynamic models.
- Preparation of EU proposal.

Digital skills

- Office package,
- data analysis (Origin),
- Modelling (FEM: COMSOL Multiphysics, Dynamics: modelica, EES, Equation Engineering Solver).

Other skills

- Training and competence on:
  - ATEX directive (zone and components)
  - PED
- Competence n HAZOP and risk assessment.

**PUBBLICATION**

- [In preparation] Davide Ragaglia, Luca Praticò, Matteo Testi, Techno-economic analysis of stationary hydrogen storage in the context of novel hydrogen storage solution based on metal hydrides-PCM integration
- [In preparation] Michele Bolognese, Luca Praticò, Matteo Testi, Dynamic Modelling of transitions between different operational modes of a complete SOE BoP system with control strategy implementation
- [under OPEN ACCESS publication] E. Crespi, F. Panaccione, D. Ragaglia, M. Testi, Integration of a Solid Oxide Electrolysis system with solar thermal and electrical energy: a testing campaign for operation and control strategy definition, IET Renewable Power Generation, 2024
- Elena Crespi, Gionata Luca, Matteo Testi, Cristina Maggi, Valeria Bona, Marco Biagioperla Barone, Giulia Staffetti, Luigi Crema, Renewable hydrogen production through electrolysis: An analysis of the cost gap for its economic competitiveness in Italy, International Journal of Hydrogen Energy, Volume 68, 2024, Pages 1163-1177, ISSN 0360-3199, <https://doi.org/10.1016/j.ijhydene.2024.04.303>.
- E. Crespi, D. Ragaglia, F. Panaccione and M. Testi, "Control of a Solid Oxide Electrolysis system for hydrogen generation from solar power and thermal energy storage," 2023 International Conference on Clean Electrical Power (ICCEP), Terrasini, Italy, 2023, pp. 765-774, doi: 10.1109/ICCEP57914.2023.10247493.
- M. Bolognese, M. Testi, L. De Bortoli, R. Bartali, L. Crema Experimental validation of a dynamic modelling of a reversible solid oxide cells (rSOCs) E3S Web Conf, 334 (2022), Article 01003
- Jacopo de Maigret, Diego Viesi, Md Shahriar Mahbub, Matteo Testi, Michele Cuonzo, Jakob Zinck Thellufsen, Poul Alberg Østergaard, Henrik Lund, Marco Baratieri, Luigi Crema, A multi-objective optimization approach in defining the decarbonization strategy of a refinery, Smart Energy, Volume 6, 2022, 100076, ISSN 2666-9552, <https://doi.org/10.1016/j.segy.2022.100076>.
- Assessment of ammonia as energy carrier in the use with reversible solid oxide cells, journal = {International Journal of Hydrogen Energy, 2021, 46, 58, 30112-30123, Zendrini, M. and Testi, M. and Trini, M. and Daniele, P. and Van Herle, J. and Crema, L.
- Comparative life cycle assessment of two different SOFC-based cogeneration systems with thermal energy storage integrated into a single-family house nanogrid. Applied Energy, 2021, {285, Di Florio, G. and Macchi, E.G. and Mongibello, L. and Baratto, M.C. and Basosi, R. and Busi, E. and Caliano, M. and Cigolotti, V. and Testi, M. and Trini, M.
- Design and optimization of Isochoric Differential Apparatus (IDA) to reduce uncertainty in H<sub>2</sub> sorption process measurements. International Journal of Hydrogen Energy, 2020, 45, 18, 10775-10796, Testi, M. and Bartali, R. and Crema, L.
- Production and processing of graphene and related materials, 2D Materials, 2020, 7, 2, Backes, C. et al
- Efficient hydrogen generation from water using nanocomposite flakes based on graphene and magnesium. Sustainable Energy and Fuels, 2018, 2, 11, 2516-2525, Bartali, R. and Speranza, G. and Aguey-Zinsou, K.F. and Testi, M. and Micheli, V. and Canteri, R. and Fedrizzi, M. and Gottardi, G. and Coser, G. and Crema, L. and Pucker, G. and Setijadi, E. and Laidani, N.
- Design and modeling of a hybrid reversible solid oxide fuel cell - Organic Rankine cycle. Energy Procedia, 2017, 129, 331-338, Amicabile, S. and Testi, M. and Crema, L.
- The Italian hydrogen mobility scenario implementing the European directive on alternative fuels infrastructure

(DAFI 2014/94/EU), International Journal of Hydrogen Energy, 2017, 42, 44, 27354-27373, Viesi, D. and Crema, L. and Testi, M.

- High efficient Mewar Angithi stove testing in rural Kenya. IREC 2016 - 7th International Renewable Energy Congress, 2016, Parigi, F. and Del Viscio, M. and Amicabile, S. and Testi, M. and Rao, S. and Udaykumar, H.S.
- EDEN: Novel power-to-power system for enhanced hydrogen storage in solid state. Proceedings of the 6th European Fuel Cell - Piero Lunghi Conference, EFC 2015, 2015, 205-206, Crema, L. and Testi, M. and Alberti, F.
- Development of a experimentally validated model for solid state hydrogen storage design of material and tank. EFC 2013 - Proceedings of the 5th European Fuel Cell Piero Lunghi Conference, 2013, 321-322, Testi, M. and Alberti, F. and Bianchin, A. and Forlin, E. and Crema, L.

*According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV*

*Date*

13/02/22

*Signature*

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