

Luigi Crema		
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CURRICULUM VITAE _ LUIGI CREMA

GENERAL PROFILE

Luigi Crema is coordinating the topic of Energy in FBK as head of the CMM ARES Unit - Applied research on energy systems, with a team of about 18 people, with multidisciplinary skills in energy system integration. The main areas of expertise are those related to hydrogen, redox flow batteries and concentrated solar energy, with attention to technological innovation, collaboration with industry and implementation of initiatives within Urban and Regional planning.

In recent experience, the technical expertise is complemented by a relevant role on business development, management role in FBK as head of ARES and governing roles in National / European institutions, such as H2IT, the Italian Association of Hydrogen and Fuel Cells, or FCH JU, the Fuel Cells and Hydrogen Joint Undertaking and upcoming hydrogen and batteries EC Partnerships and IPCEIs on Batteries (EUBATIN) and Hydrogen Technologies and Systems.

Luigi Crema has an expertise distributed in several domains and topics: from analytical and numerical simulation, to applied and experimental. The expertise is distributed mainly in the domains of Energy, Environmental Sciences and Engineering. Such expertise has been strengthening in years of experience in System Integration, in between research, innovation and technology transfer, from both Academic and Industrial points of view. Such work has been always performed with the overall intent of reciprocal personal growth combined with enhancement of potential with the colleagues, partners, and collaborators in general.

PROFESSIONAL EXPERTISE

*Since 2021: **Fondazione Bruno Kessler (Trento)** – Director of the Centre on Sustainable Energy*

*Since 2014: **FCH – JU (Brussels)** - Member of the Governing Board of Hydrogen Europe Research, TC1 Leader – Hydrogen Production*

*Since 2020: **Polo EDILIZIA 4.0 (Italy)** – Member of the Scientific Committee*

*Since 2018: **H2IT (Italy)** – Vice President*

*Since 2017: **H2IT (Italy)** – Member of the Directive Council*

Since 2017: **Green Energy Storage (Italy)** – Member of the Scientific Committee

Since 2016: **National Cluster on Energy (Italy)**: scientific representative for Trentino

Since 2015: **National Board on Energy for MISE and MIUR (Italy)**: member of the extended Board

2014/2020: **Fondazione Bruno Kessler (Trento)** – Head of ARES research unit, Applied Research on Energy Systems, coordinating the Energy activity in FBK.

2014/2020: **N.ERGHY / HYDROGEN EUROPE RESEARCH** – Member of the Coordination Board and Vice – Chair of the Energy Pillar for Hydrogen production, handling, storage and distribution

2007/2013: **Fondazione Bruno Kessler (Trento)** – Full time employee and Senior Researcher, scientific responsible for energy related activities within REET (Renewable Energies and Environmental Technologies) unit. Involved in activities in the sector of solar energy, biomasses, thermal and electrical energy storages, fuel cells, smart buildings and cities.

Relevant activities/roles:

- **2009:** DiGeSPo as a best project in CSP in the call FP7-Energy-2009-1
- **2009:** involved in the KIC – ENERGY proposal eCANDO (lead by TU Graz)
- **2010 (since):** Contact point for FBK within the General Assembly of eseia (European Sustainable Energy Innovation Alliance)
- **2010:** Honoured of FBK Luigi Stringa Prize in “Research for Innovation”
- **2010:** Lecturer at the Master Course Nano Micro Technologies on Renewable Energies, FBK and University of Trento
- **2010:** MoU subscription between FBK and the US Department of Energy – Pacific Northwest National Laboratory, on topics related research on Renewable Energy Systems and Materials
- **2010 (since):** Contact point for FBK in the European Platform JTI – FCH on fuel cells and hydrogen
- **2011:** career progress in FBK to senior researcher
- **2010 and 2011:** invited lecturer and keynote speaker to the Styrian academy Summer School and Business Seminars (ICT for energy, Energy Storage Techs)
- **2011:** EDen project approved within the call FP7-JTI FCH-2011-1, coordination FBK
- **2011 (since):** Member of the Editorial Board of the journal “Energy, Sustainability and Society” (Springer)
- **2012:** invited expert by European Commission within the “Education and Training Initiative” – SET Plan, horizontal objective “System Integration”
- **2013:** Flagship Graphene, coordinator for FBK of activity related Hydrogen storage on Decorated Graphene nano structures

- **2014:** vice – chair ENERGY Pillar of N.ERGHY, research grouping of European Fuel Cells and Hydrogen Joint Undertaking
- **2014:** member of the Italian Extended Board on Energy for H2020
- **2015:** invited in a plenary session at HYCELTEC Tenerife
- **2015** Italy – Korea bilateral FCH Symposium SEUL
- **2015 / 16:** scientific responsible for the drafting of the National Strategic Plan of Italy on Hydrogen Mobility, as part of the EU-DAFI Directive. This has become National Law in D. Leg. 257 (16/12/17)
- **2016:** coordinator of CH2P project
- **2016:** supported the start-up of Green Energy Storage
- **2016:** release of the Strategic plan for Hydrogen mobility for H2IT, then National Law 257 December 2016
- **2017:** Participation at the Table Tiscar on the Plan for National Mobility organized by the Italian Presidency of the Ministry Council
- **2018:** (since) member of the team working on the strategy for Fuel Cells and Hydrogen programme of the 8th Framework Programme of the European Commission
- **2018:** involved in new projects: COMESTO (electric micro-grids), HYCARE (hydrogen storage), SMART ALTITUDE (Low carbon ski-resorts), MOSCA (novel solutions for reversible solid oxide cells applied to transport and energy sectors).
- **2018:** Energy National Expert in the Italy – India Summit (New Delhi), participated by Prime Ministers Conte and Modi
- **2018:** Member of the Scientific Board of Green Energy Storage
- **2018:** (since) Strategic collaboration with SNAM
- **2019:** One of three experts of FBK inside the Scientific Committee of the FORUM PAT, to identify strategic priorities in research for Trentino
- **2019:** Expert at the Hydrogen Challenge event organized by SNAM, with participation of Italian Prime Minister Conte and 2 Italian Ministries
- **2020:** Vice-president H2IT, Italian Association on Fuel Cells and Hydrogen
- **2020:** Coordinator of SWITCH project
- **2020:** Member of the Coordination Board of Hydrogen Europe Research as TC1 leader (>75% of votes among 70 EU research Institutions)
- **2020:** Several political contacts with MIT, MISE, Italian Presidency of the Ministry Council, Italian Senate to support new energy directions and hydrogen

2006/2007: SESA S.p.A. (Este - Pd) – Permanent position – Technical responsible of a plant

for Recycling of Organic Fraction from Municipal Solid Wastes (Composting, Aerobic and anaerobic fermentation processes, BIOGAS production, Cogeneration). Plant size: recycling of 250.000 tons / year of organic compounds; installed electrical capacity 6 MWel; installed thermal capacity 5 MW (including a heating district). SESA is one of the biggest European plants for the recycling of organic fraction of municipal wastes.

2002/2006: **LGS Technology (Ferrara)** – Permanent position - **Project and R&D Manager** – Manager for all the sensor's department (R&D, manufacturing, tests e post-selling assistance)

2000/2001: **Unitec s.r.l. (Ferrara)**– Permanent position - **R&D Manager** – Manager in the development of instrumentation based on thick film sensors for environmental monitoring, Production manager, Assistance manager

1998/1999: **Orion s.r.l. and Physic Department (Univ. of Ferrara)** – Research Collaboration - "Development of Thick Film sensors for the environmental pollution monitoring"

1997/1998: **INFM – National Institute for Matter Physics, by Physic Department (Univ. of Ferrara)** – Research Collaboration - "Development of a thick film sensor for tropospheric Ozone monitoring " (Sensor and Semiconductors Lab)

STUDIES

2001/2002 Degree in **Innovative Physic Technologies**, "Sensors and Semiconductors", University of Ferrara, "Chemoresistive sensors for environmental monitoring".
Evaluation: **102/110**

1999/2000 Grant from the **Italian National Institute for Physic Matter (INFM)**, 1999/2000, "Development of Thick Film sensors for Environmental pollution monitoring (CH₄, H₂S, NH₃, CO, NO_x, O₃) ", Physic Department, Univ. of Ferrara.
1° ranked at National level.

1996/1997 Bachelor's Degree in **Physical methodologies** for environmental control and diagnostic, University of Ferrara, "Development of an innovative system for the measure of tropospheric Ozone".
Evaluation: **66/70**

1990/1991 Maturità Scientifica, Liceo Scientifico G. B. Ferrari, Este (Pd), 1990/91,
Evaluation: **54/60**

MANAGERIAL, TECHNICAL SKILLS and COMPETENCES

Intro: 3 years in Academic institution, 6 years in product industry, 2 years in process industry and 13 years in Research Institution.

Strategic management: skills in strategic planning, innovation management, lobbying in national and EU clusters, management of wide teams working on specific missions. Leading position in the forefront of political engagement with Italian Ministries and EU institutions.

People management: head of research both in institutions and enterprises, responsible of industrial plant, coordinating teams of some tens of people. Teamwork approach using both sharing methodology in the research and Chinese walls with confidential industrial research. Valorization of young researchers.

Project management: at all levels, from proposal to project coordination and programme management.

Software: all basic software tools (Office, maths software, statistic, and analytic software)
3D-CAD software (Inventor, Solid Works).

FEM software (Comsol Multiphysic, Ansys), Control tools (Labview).

Main field of expertise - Energy: Hydrogen through the whole chain from production (SOE, rSOE, AEMEL) to handling, storage and distribution to end uses in Transport, Residential and industrial applications; Batteries (Redox Flow Batteries); Solar energy (Concentrated Solar Power and industrial process heat), Biomass (energy conversion processes, combustion), Waste Recycling (aerobic and anaerobic fermentation processes), Energy co-generation (ICEs, Stirling engines, Organic Rankine Cycles), Energy storage (microporous sorption systems for thermal storage, metal hydrides for hydrogen storage), Energy management of local resources;

Other fields of expertise - Electric Engineering: design of PCB circuit and algorithms of controls for prototypes and instruments.

Other fields of expertise - Mechanical Engineering: dimensioning of parts, selection of materials and adaptation of constraints related structural mechanic, heat transfer, fluid dynamic.

Other fields of expertise – Testing and Process Engineering: electrical characterization of sensors, industrial processes dimensioning, development of instruments for actuation and measurement, control, actuation in the field of environmental, energy, bio-medical applications

Quality, Safety and Security:

1997. Course on Security and Health in work environments at the University of Ferrara, within the Degree in Physics methodologies in Environmental Diagnostic and Control.

2002. Course on Quality (Vision 2000) and Security in work environment (LGS Technologies, Ferrara).

2006. Course on safety in industrial environments due to plant responsibility in SESA Este, Composting, Biogas and Cogeneration plant (200.000 tons/year of organic fraction from municipal wastes recycled, responsibility on 70 employees in the plant).

2014. Responsible for safety in FBK – ARES for laboratories on hydrogen and energy technologies.

LANGUAGES

English	<i>Spoken – Interaction</i>	<i>C1</i>
	<i>Spoken - Oral</i>	<i>C2</i>
	<i>Comprehension – Listening</i>	<i>C1</i>
	<i>Comprehension – Lecture</i>	<i>C2</i>
	<i>Written</i>	<i>C2</i>

French	<i>Spoken – Interaction</i>	<i>B1</i>
	<i>Spoken – Oral</i>	<i>A2</i>
	<i>Comprehension – Listening</i>	<i>B1</i>
	<i>Comprehension – Lecture</i>	<i>A2</i>
	<i>Written</i>	<i>A2</i>

SOCIAL and ORGANIZATIONAL SKILLS

(text from the psycho attitudinal evaluation during vertical progress to senior researcher R2, FBK – Human Resources)

“Luigi is a confident, independent self-starter with competitive drive, initiative, a sense of urgency, and the ability to make decisions and take responsibility for them. He can react and adjust quickly to changing conditions and come up with ideas for dealing with them. His drive is purposeful, directed at getting things done quickly. He responds positively and actively to challenge and pressure, and he has confidence in his ability to handle novel problems and people. He is an outgoing, poised person, a lively and enthusiastic communicator, tending to be a little more authoritative than persuasive in his style. Luigi talks briskly, with assurance and conviction and is a stimulating influence on others, while being firm, direct, and self-assured in dealing with them. His work pace is distinctly faster-than-average. He learns and takes action quickly. With an interest in other people and their development, Luigi will delegate authority, limiting such delegation to people in whom he has high levels of confidence, and following up with pressure for timely results. He makes decisions about people and situations quickly. He assesses what’s generally going on, and rather than exhaustively research, pulls together the information he has and takes action forcefully. He’s confident in his assumptions about any missing information and is comfortable acting even in the absence of complete information. For Luigi, continual progress towards the general goal is more important than always being exactly on track; he’s flexible and will make course corrections as necessary, when the time arises. Sure of himself, Luigi sets high standards of achievement for himself and others and looks for opportunities to compete and to win. He is ambitious both for himself and for the business which employs him.”

MAIN EDUCATION and TRAINING PROGRAMMES, LECTURES and SCHOOLS

2010	<i>Master “Nano Micro”, Lectures on Renewable Energies</i>	<i>FBK, UniTn</i>
2010	<i>Tutor of PhD Student for DISI PhD School, Siarhei Bartashevich</i>	<i>FBK, UniTn</i>
2010	<i>Styrian Academy Summer School – invited lecturer</i>	<i>TU Graz</i>
2010	<i>Styrian Academy Business Seminars – invited lecturer</i>	<i>TU Graz</i>
2010	<i>Renewable Energies, update course to teachers</i>	<i>Liceo Torricelli, Bolzano</i>
2011	<i>Styrian Academy Summer School – invited lecturer</i>	<i>TU Graz</i>
2011	<i>Styrian Academy Business Seminars – invited lecturer and keynote speech</i>	<i>TU Graz</i>
2012	<i>Smart Energies, European Funded Training for students</i>	<i>Istituto Tecnico Buonarroti, Trento</i>
2012	<i>“Green Innovation for SMEs” project – Training and innovation for SME, EU funded initiative managed by Fondoimpresa – Responsible of Educational Programme</i>	<i>5 SMEs in the Province of Trento</i>
2012	<i>Invited expert by European Commission for Education & Training Programme, Set Plan. Coauthor of guidelines for new EU Education&Training programmes within Horizon2020</i>	<i>European Commission, Brussels</i>
2012	<i>Tutor of PhD Student for DISI PhD School, Syed Ashad Mustufa</i>	<i>FBK, UniTn</i>
2012	<i>Tutor of PhD Student for Physic Department, Matteo Testi</i>	<i>FBK, UniTn</i>
2013	<i>Tutor of PhD Student for DISI PhD School, Shahriar Mahbud</i>	<i>FBK, UniTn</i>
2016	<i>Invited lecturer at a School on Fuel Cells and Hydrogen</i>	<i>University Parthenope, Naples</i>
2016	<i>Invited lecturer for the introductive speech at the Master on Renewable Energies</i>	<i>University of Udine and Trieste, Italy</i>
2017	<i>Tutor of PhD Student for DII PhD School, Mattia Duranti</i>	<i>FBK, UniTn</i>
2018	<i>Tutor of PhD Student for DIMA PhD School, Luca Praticò</i>	<i>FBK, UniRoma1</i>
2019	<i>Responsible for UF4 training module “Renewable Energies” at ALTA FORMAZIONE PROFESSIONALE, Villazzano - Trento</i>	<i>AFP Villazzano, post-secondary school, Trento</i>
2020		

LIST of PROJECTS, WRITTEN PROPOSED COORDINATED PARTICIPATED

Acronym	YEAR	Partners	Level	Funding
KLOBEN - first energy project in FBK	2007	KLOBEN	PARTICIPATED	KLOBEN
BIOTEC	2009	FEM, CNR-IVALSA	Written, proposed, coordinated	Fondazione CARITRO
DIGESPO, m-CHP from SMALL SCALE CSP	2010	UU (S), POLIMI (I), NARVA (D), SES (UK), ELMA (I), PIM (Ma)	Written, proposed, approved, coordinated	FP7-ENERGY-2009 DG Research
SOLTEC	2010	-	Written, proposed, coordinated	Local Energy Agency
BIODOMUS	2010	ELMA, SES	Written, proposed, coordinated	Local Energy Agency
ICT- ENSURE	2010	TU GRAZ	Subcontractor	FP7-ENV
ECOCEL	2011	UNIROMA3, SELEX COMM, SGS FUTURE	PARTICIPATED	MATTM
GALEF	2011	NEG, CNR-IVALSA, CNR-CEFSA	PARTICIPATED	PROVINCE of TRENTO, Law 6
BIOTECH	2011	CESEFOR (E), CERTH ISFTA (Gr)	Written, proposed, coordinated	INTERREG Ivc, subproject
INNOVATION RADAR	2011	Siemens (D), Deutch Telekom (D), KTH (S), Fortiss (D)	Participated	KIC-ICT
MISTICO	2011	Uni Bologna	Written, participated	Fondazione CARITRO
SUSTAINABLE CONNECTED HOME	2011	MIT (USA)	PARTICIPATED	Province of Trento
EDEN, HIGH DENSITY ENERGY STORAGE ON MG-BASED METAL HYDRIDES	2012	MBN (I), CIDETE (E), MATRES (I), PROSYSTEMS (UK), ULL (E), JRC (NL)	Written, proposed, approved, coordinated	FP7-JTI FCH-2011
CONTEST	2012	ELMA, UNIROMA3	Written, proposed, coordinated	Local Energy Agency
FET FLAGSHIP GRAPHENE	2012	152 EU PARTNERS	PARTICIPATED, WP ENERGY on HYDROGEN STORAGE	FP7-FET-FLAGSHIP-2012
CONCERT, Short range Biomass Value chains	2013	CEIS, COMANO MUNICIPALITY, BIOMASS STAKEHOLDERS, FEM, CNR-IVALSA	Written, proposed, approved, coordinated	Local Energy Agency
BRICKER	2013	18 PARTNERS	participated	FP7-ENV
CIVIS	2013	UNITN, ALLTO, IMPERIAL COLLEGE, TU DELPTH, KTH, FONDAZIONE ENEL,	Written, proposed, approved, participated	FP7-SMARTCITIES
STAGE STE	2014	40 PARTNERS	participated	FP7-IRP
CORESNOV	2015	CORTECH	participated	PROVINCE of TRENTO, Law 6
STRATEGIC NATIONAL PLAN ON H2 MOBILITY - ITALY	2015	MOBILITY H2IT	Written, proposed, approved, coordinated	NATIONAL PROGRAMME - IN KIND CONTRIBUTION
FLAGSHIP GRAPHENE	2016	152 PARTNERS	PARTICIPATED	H2020-FET

CORE 1				
ECONIT	2016	COLMEGNA NORD	Written, proposed, approved	PROVINCE of TRENTO, Law 6
SMSE	2016	AGIS ELETTRONICA	Written, proposed, approved	PROVINCE of TRENTO, Law 6
GREENERSYS	2016	GREEN ENERGY STORAGE	Written, proposed, approved, coordinated	PROVINCE of TRENTO, Law 6
GREENERNET	2016	GREEN ENERGY STORAGE	Written, proposed, approved,	H2020-FTI-2015
INSHIP	2016	FRAUNHOFER ISE AND OTHER 27 PARTNERS	Written, proposed, approved,	H2020-ECRIA-2016
CH2P	2016	SOLID POWER, DLR, HT CERAMIX, EPFL, SHELL, HYGEAR, GREENOVATE	Written, proposed, approved, coordinated	H2020-JTI FCH-2016
JIVE	2016	ELEMENT ENERGY AND OTHER 21 PARTNERS	Approved, participated	H2020-JTI FCH-2016
STARDUST	2017	29 EU PARTNERS (TRENTO, PAMPLONA and TAMPERE - smart cities involved)	Approved, participated	H2020-SCC1-2017
OSMOSE	2017	33 EU PARTNERS	Approved, participated	H2020-LCE04-2017
HYCARE	2018	10 EU PARTNERS	Approved, participated	H2020-JTI FCH-2018
NEWELY	2019	11 EU PARTNERS	Approved, participated	H2020-JTI FCH-2019
SWITCH	2019	SOLID POWER, DLR, EPFL, SHELL, HYGEAR, SWECO	Written, proposed, approved, coordinated	H2020-JTI FCH-2019

Other 9 proposals prepared and submitted in 2020, of which 1 coordinated, written. **2 IPCEI projects under confirmation - preparation with about 18 M€ of funding for FBK in next 5 years.**

PATENTS

Name	Authors	Applicant
TiO ₂ Nb as spectrally selective absorbing coating for low and intermediate temperature applications.	R. Bartali, N. Laidani, Andreas Mattsson, E Wackelgard, L. Crema , V.Micheli, Gottardi G.,	Fondazione Bruno Kessler
RICEVITORE VOLUMETRICO A GEOMETRIA FRATTALE (2016)	F. Alberti, L. Crema , M. Romero, J. Gonzales, M. Roccabruna	Fondazione Bruno Kessler
MATERIALE NANOCOMPOSITO A BASE DI GRAFENE PER LA GENERAZIONE DI IDROGENO E CALORE IN AMBIENTE ACQUOSO E PROCESSO PER LA SUA PRODUZIONE (2016)	R. Bartali, N. Laidani, G. Gottardi, M. Testi, L. Crema	Fondazione Bruno Kessler

LIST of PAPERS and PROCEEDINGS

Google Scholar - July 20, 2020: 87 authorships, H-Index: 13, H-15-Index: 15

All information on the authorships and H-Indexes available at:

https://scholar.google.com/citations?view_op=list_works&hl=it&user=xipBmfgAAAAJ

Books:

1. Crema L., Testi M., Trini M., book chapter
“High temperature electrolysis: efficient and versatile solution for multiple applications” in HYDROGEN BOOK SERIES” – 2020 - edited by Prof. Dr. Dr. Marcel VAN DE VOORDE. Publisher DE GRUYTER. IN WRITING
2. Book chapter in: Alverà M. “Generation H, Healing the climate with hydrogen”, 2019 (Mondadori) (Marco Alverà is the CEO of SNAM, the biggest gas grid operator in Europe)

Papers:

3. Duranti, M.; Macchi, G.; Crema, L., “Equilibrium Properties of a Bromine-Bromide Electrolyte for Flow Batteries”, 2020, Journal of The Electrochemical Society, Volume 167, Number 10. DOI <https://doi.org/10.1149/1945-7111/ab98a7>
4. M Testi, R Bartali, L Crema, “Design and optimization of Isochoric Differential Apparatus (IDA) to reduce uncertainty in H2 sorption process measurements”, 2020, International Journal of Hydrogen Energy
5. Backes, Claudia et al., “Production and processing of graphene and related materials”, 2020, 2D Materials, Vol 7, Issue 2. DOI 10.1088/2053-1583/ab1e0a
6. Duranti, Mattia; Testi, Matteo; Macchi, Edoardo Gino; Crema, Luigi, “Stepwise potentiometric titration applied to bromine-bromide electrolytes”, 2019, IFBF Conference Book of papers, pag. 38 – 39, ISBN 978-1916451896
7. Liu, W.; Setijadi, E.; Crema, L.; Bartali, R.; Laidani, N.; Aguey-Zinsou, K. F.; Speranza, G., “Carbon nanostructures/Mg hybrid materials for hydrogen storage”, in «DIAMOND AND RELATED MATERIALS», vol. 82, 2018, pp. 19 - 24
8. Luquea, S.; Menéndez, G.; Roccabruna, M.; González-Aguilara, J.; Crema, L.; Romero, M., “Exploiting volumetric effects in novel additively manufactured open solar receivers”, in «SOLAR ENERGY», vol. 174, 2018, pp. 342 - 351
9. Viesi, Diego; Galgaro, Antonio; Visintainer, Paola; Crema, Luigi, “GIS-supported evaluation and mapping of the geo-exchange potential for vertical closed-loop systems in an Alpine valley, the case study of Adige Valley (Italy)”, 2018, GEOTHERMICS, Vol. 71, pg. 70 – 87, DOI 10.1016/j.geothermics.2017.08.008
10. Viesi, Diego; Galgaro, Antonio; Zanetti, Alberto; Visintainer, Paola; Crema, Luigi, “Experimental geothermal monitoring assessing the underground sustainability of

- GSHP borehole heat exchangers in a protected hydrothermal area: The case study of Ponte Arche (Italian Alps)", 2018, GEOTHERMICS, Vol. 75, pg. 192 – 207. DOI 10.1016/j.geothermics.2018.05.002
11. Viesi, Diego; Pozzar, Francesca; Federici, Alessandro; [Crema, Luigi](#); Mahbub, Md Shahriar, "Energy efficiency and sustainability assessment of about 500 small and medium-sized enterprises in Central Europe region", 2017, ENERGY POLICY, Vol. 105, pg. 363 – 374. DOI <http://dx.doi.org/10.1016/j.enpol.2017.02.045>
 12. Mahbub, Md Shahriar; Viesi, Diego; Cattani, Sara; [Crema, Luigi](#), "An innovative multi-objective optimization approach for long-term energy planning", 2017, APPLIED ENERGY, Vol. 208, pg. 1487 – 1504. DOI 10.1016/j.apenergy.2017.08.245
 13. Viesi, Diego; [Crema, Luigi](#); Testi, Matteo, "The Italian hydrogen mobility scenario implementing the European directive on alternative fuels infrastructure (DAFI 2014/94/EU)", 2017, INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, PG. 27354 – 27373. DOI 10.1016/j.ijhydene.2017.08.203
 14. Mahbub, Md Shahriar; Wagner, Markus; [Crema, Luigi](#), "Incorporating domain knowledge into the optimization of energy systems", 2016, APPLIED SOFT COMPUTING, Vol. 47, pg. 483 – 493. DOI 10.1016/j.asoc.2016.06.013
 15. Van Nguyen, Chuc; Bartali, Ruben; [Crema, Luigi](#); Speranza, Giorgio, Effect of glass surface treatments on the deposition of highly transparent reduced graphene oxide films by dropcasting method, in «COLLOIDS AND SURFACES. A, PHYSICOCHEMICAL AND ENGINEERING ASPECTS», vol. 498, 2016 , pp. 231 - 238
 16. R. Cavada, A. Cimatti, [L. Crema](#), M. Roccabruna, S. Tonetta, **Model-Based Design of an Energy-System Embedded Controller using Taste**, , 2016
 17. Desideri, Adriano; Amicabile, Simone; Alberti, Fabrizio; Quoilin, Sylvain; [Crema, Luigi](#); Lemort, Vincent, **Dynamic modeling and control strategies analysis of a novel small CSP biomass plant for cogeneration applications in building**, in «ENERGY PROCEDIA», 2015
 18. Matevz Pusnik, Boris Susic, Fouad Al-Mansour, [Luigi Crema](#), Marco Cozzini, Shahriar Mahbub, Christoph Holzner, Johannes Kohlmaier, 2014 **Framework for Sustainability Assessment of Small and Medium-Sized Enterprises** , vol. 42,
 19. Alessandro Vaccari, Antonino Calà Lesina, Luca Cristoforetti, Andrea Chiappini, [Luigi Crema](#), Lucia Calliari, Lora Ramunno, Pierre Berini, Maurizio Ferrari, 2014 **Light-opals interaction modeling by direct numerical solution of Maxwell's equations**, in «OPTICS EXPRESS (ISSN:1094-4087)», , pp. 27739 - 27749 vol. 22, n. 22,
 20. F. Alberti, [L. Crema](#), A. Bozzoli, **Heat Transfer Analysis for a Small-Size Direct-Flow Coaxial Concentrating Collector**, in «JOURNAL OF SOLAR ENERGY ENGINEERING», vol. 134, n. 4, 2012;
 21. [L. Crema](#), F. Alberti, A. Bertaso, A. Bozzoli, **Development of a pellet boiler with Stirling engine for m-CHP domestic application**, in «ENERGY, SUSTAINABILITY AND SOCIETY», vol. 1, n. 1, 2011
 22. [L. Crema](#), A. Bozzoli, G. Cicolini, A. Zanetti , 2010, **A novel Retrofittable Solar Cooler/Heater based on Adsorption cycle for domestic application**, in «POLSKA ENERGETYKA ONECZNA», , pp. 43- 53 vol. 1-4/2009 1/2010;
 23. E. TRAVERSA, M. L. DI VONA , S. LICOC CIA, M. SACERDOTI, M. C. CAROTTA, [L. CREMA](#), G. MARTINELLI, 2001 **Sol-gel processed TiO2-based nano-sized powders for use in thick-film**

gas sensors for atmospheric pollutant monitoring, in «JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY», , pp. 167- 179 vol. 22;

24. M. C. CAROTTA, G. MARTINELLI, **L. CREMA**, C. MALAGÙ, M. MERLI, G. GHIOTTI, E. TRAVERSA, **2001 Nanostructured thick film gas sensors for atmospheric pollutant monitoring: quantitative analysis on field tests**, in «SENSORS AND ACTUATORS. B, CHEMICAL», , pp. 336- 342 vol. 76, n. 1-3;
25. M. C. CAROTTA, G. MARTINELLI, **L. CREMA**, M. GALLANA, M. MERLI, G. GHIOTTI, E. TRAVERSA, **2000 Array of thick film sensors for environmental monitoring application**, in «SENSORS AND ACTUATORS. B, CHEMICAL», , pp. 1- 8 vol. 68.

Proceedings:

1. F. Sallaberry, F. Alberti, **L. Crema**, M. Roccabruna, **2014 Characterization of a Medium Temperature Concentrator for Process Heat – Tracking Error Estimation**, EUROSUN 2014, (EUROSUN 2014, 16-19 September 2014) Aix-Les-Bains,
2. **L. Crema**, F. Alberti, M. Roccabruna, **2014 DISTRIBUTED M-CHP GENERATION FORM A SMALL SCALE CONCENTRATED SOLAR POWER**, SUSTAINABLE ENERGY 2014: THE ISE ANNUAL CONFERENCE,
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In faith,

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