

# Professional Curriculum Vitae

## Alessandra Sanson

### PERSONAL DATA

Birth: Aviano (PN) il 01/03/1973,Italy  
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### EDUCATION

1. 2000- 2003: **PhD** at School of Industrial and Manufacturing Science, Cranfield University, Cranfield (UK). Project Sponsored by TDK Japan: "Modified Bismuth Titanate Piezoelectric Ceramics".
2. 1992- 2000: **Master Degree in Industrial Chemistry (110/110)**, Padua University: "Synthesis by spray drying of a lead free piezoelectric material in collaboration with ISTECCNR di Faenza.

### APPOINTMENTS AND WORK EXPERIENCE

1. March 2019- **Member and scientific secretary of the Italian NAO (National Associate Organization)** for the **International Union of Pure and Applied Chemistry (IUPAC)**
2. May 2019- **Member of the board of professors of the PhD in Molecular Design of the Padua University**
3. November 2016- **Member of the CNR Task Force in Mission Innovation** for the challenge "Conversion of sunlight to fuels and other forms of chemical energy storage"
4. February 2017- **Italian Focal Point in Mission Innovation** for the challenge "Conversion of sunlight to fuels and other forms of chemical energy storage",
5. 2016- **Member of the MIUR consultancy board** for the Energy Challenge of H2020
6. 2016- 2019 **Member of the board of professors of the PhD in Materials Science of the Parma University**
7. 18th February 2016- **Member of the board** of the Institute of Science and Technology for Ceramics (ISTEC) – CNR.
8. 2015- 2017 **Coordinator of the group number two (Decarbonisation Technologies) of the table for the de-carbonisation of Italy**, set the vicepresident of the Board of Ministries of Italy.
9. 2015- 2018 **Coordinator of the Evaluators Panel of CNR experts on "Production and Advanced Manufacturing"** in charge of evaluating the projects on Sustainable Growth of the Ministry of Economic Development of Italy
10. 2014 - 2015 **Assistant of the coordinator of the Evaluators Panel of CNR experts on "Production and Advanced Manufacturing"** in charge of evaluating the projects on Sustainable Growth of the Ministry of Economic Development of Italy
11. 2014- **Evaluator of projects** on Sustainable Growth of the Ministry of Economic Development of Italy
12. 2014- **Member of the Board of Directors** of the Istituto Superiore Industrie Artistiche (ISIA), Faenza, Italy.
13. 2013- **Member of the Technical-Scientific board of the secondary educational course ITS** on "Advanced Technician for the energy supply and bundling of plant" of the Provinces of Ravenna and Ferrara, Italy.
14. 2012- **ISTEC Representative of the Technical Committee of Centuria Energia on Energy.**
15. 2012 **Consultants for Nevz-Ceramics** (Russia) on shaping processes for ceramic materials.
16. 2011- **ISTEC-CNR Representative and Member of the Steering Committee** in the Energy and Environment Platform of the Emilia Romagna Region.
17. 2011- 2017 – **CNR representative in Airen** (Italian Alliance for the Research on Energy) and in the **Joint Program "Energy Storage" of EERA (European Energy research Alliance)**
18. 2008- **Leader of the Materials and Processing Group** at the Institute of Science and Technology for Ceramics (ISTEC) -CNR
19. 2004- 2007 **Researcher at the Materials and Processing Group** of the Institute of Science and Technology for Ceramics (ISTEC) -CNR

20. **2003 European Scientific Development Coordinator** for euspen Ltd (European Society for Precision Engineering and Nanotechnology), Cranfield University Park, Cranfield, Bedfordshire, UK.

## PROJECT COORDINATION AND PARTICIPATION

### European

#### WP Leader

1. **FP7-NMP.2012.1.4.2 (2012-2015)** "Smart nano-structured devices hierarchically assembled by bio-mineralization processes (**Smiley**)" European Union Seventh Framework Program (FP7/2007-2013), grant agreement n°310637.

#### ISTEC-CNR Unit Leader

1. **ERASMUS+ (2016-2019)**: Erasmus Mundus Doctoral Programme in Sustainable Industrial Chemistry (**SINCHEM**).
2. **FCH-JU (2012-2017)** "Evolved materials and innovative design for high performance, durable and reliable SOFC cell and stack" (**EVOLVE**), European Union's Seventh Framework Program (FP7/2007-2013) for the Fuel Cells and Hydrogen Joint Technology Initiative, grant agreement n° 303429.
3. **ENERGY-2007-1.1-03 (2008-2011)** "Innovative dual membrane fuel cell" (**IDEAL CELL**) European Union's Seventh Framework Program (FP7/2007-2013), grant agreement n° 213389.
4. **Scientific Agreement ISTEC-DLR (Germany)** su "Research and development activities for the production and testing of solid oxide fuel cells" (**2012-2017**),

### National

#### ISTEC-CNR Unit Leader

1. 2019 **PON Project – Best4you** on development of innovative fotovoltaic integrated cell"
2. 2019 –2021 **3<sup>rd</sup> Programme Agreement CNR-MiSE** (ministry of Economic Development of Italy) for the electric research on "Study and optimization of ceramic membranes for H<sub>2</sub> separation"
3. 2015 **Progetto Premiale "Mater"** Innovative materials and Efficient Technologies for Renewables
4. 2014 –2016 **2<sup>nd</sup> Programme Agreement CNR-MiSE** (ministry of Economic Development of Italy) on "Materials and enabling technologies for the research on the electric systems: Study an development of ceramic membranes for biogas valorisation"
5. 2014 –2016 **2<sup>nd</sup> Programme Agreement CNR-MiSE** (ministry of Economic Development of Italy) on "Materials and enabling technologies for the research on the electric systems: Electrochemical Systems for Energy generation and storage"
6. 2012 **Progetto Premiale** "Integrated and eco-sustainable technologies for the production, storage and use of the energy"
7. 2010-2016 **Call MISE Industria 2015** "PIACE – Intelligent Integrated and Adaptative Platform for microgeneration at high efficiency"
8. 2012 –2014 **2nd Programme Agreement CNR-MiSE** (ministry of Economic Development of Italy) on "Materials and enabling technologies for the research on the electric systems: "Study and optimization of ceramic membranes for biomasses valorisationStudio e sviluppo di membrane ceramiche a conduzione mista per la valorizzazione di gas da biomasse (separazione di H<sub>2</sub>)"
9. 2012 –2014 **2nd Programme Agreement CNR-MiSE** (ministry of Economic Development of Italy) on "Materials and enabling technologies for the research on the electric systems: Electrochemical Systems for Energy generation and storage"
10. 2011 -2012 **1st Programme Agreement CNR-MiSE** (ministry of Economic Development of Italy) on "Materials and enabling technologies for the research on the electric systems: Non metallic conductors for high temperatures"
11. 2011 –2012 **1st Programme Agreement CNR-MiSE** (ministry of Economic Development of Italy) on "Materials and enabling technologies for the research on the electric systems: Electrochemical Systems for Energy generation and storage"
12. 2011 **FISR Call** "Polymeric and Ceramic Fuel Cells Celle a combustibile: System Dimostration and development of new materials"
13. 2008-2010 **MiSE Call** "New materials and New Technologies for an internal combustion cogeneration system (MATEC)"
14. 2008 –2010 **Programme Agreement CNR-MiSE** (ministry of Economic Development of Italy) on "Materials and enabling technologies for the research on the electric systems: " Development of materials for intermediate temperature solid oxide fuel cells"

### Key role

1. 2010-2011 **PRIN Call** "Solid Oxide Fuel Cells working at intermediate temperature (IT-SOFC) fed with liquid fuel and biofuel (BIOTSOFC)."
2. 2006-2010- **FISR** Call "Polymeric and Ceramic Fuel Cells Celle a combustibile: System Dimostrazione and development of new materials"
3. 2003-2006 **FISR** Call " Development of Planar Solid Oxide Fuel Cells of large area supporting electrode";
4. 2006-2008 **FIRB Call**: "nanotechnologies for the development of microcomponents for exhaust emissions and air quality in confined environments"

### **Regional**

#### Coordination

1. 2010-2013 Asse 1 **POR FESR 2007-2013 Emilia Romagna Region**: Constitution of the DSSC Laboratory

#### ISTEC-CNR Unit Leader

2. 2012-2014 **POR FESR 2007/2013 Piedmont Region** " Photovoltaic flexible DSSC based on natural and artificial dyes of new conception (FLEXMAT)".

## **CONTRACTS WITH COMPANIES**

### Scientific Coordinator

1. 2018 -2019 **Gamma SpA** " Development of Innovative heating systems"
2. 2018 **TT Friction Technologies** "Geopolimeric systems by tape casting for industrial applications"
3. 2017 **Edison SPA** "Development of components for protonic solid oxide fuel cells"
4. 2016- 2017 **Sacmi Imola S.C.** " Proof of Concept of TiO<sub>2</sub> products"
5. 2015 -2016 **RSE S.p.A.** " Ceramic Membranes for Oxygen Separation ad high temperature"
6. 2014 **Aurel S.p.A.** "characterisation of ceramic concentrators"
7. 2014 **System S.p.A.** " Characterisation of Ceramic products"
8. 2012- 2013 **Dyepower** "Test and development of Glass Frit for DSC modules"
9. 2012 **Aurel Spa** " Innovation in Ceramic Products for the Solar Sector"
10. 2009- 2010 **FIAMM S.p.A** (2009-2010) "Shaping and Sintering of sodium-beta-alumina electrolytes"
11. 2010 **Magaldi industrie srl.** "Study and characterisation of a suitable thermal storage materials"
12. 2010 2011 **ENI S.p.A. refining and marketing** "Study and optimization of catalysts for the production of light olefins"
13. Contratto **FIAMM S.p.A.** (2010) "Analisi di fusibilità e dilatometriche su campioni vetroceramici" OF del 28/10/2010, Prot ISTEC n. 138 del 08/02/2011.
14. 2008-2009 **Morphic exergy srl** " Characterisation of carbon-based electrodes for PEM"
15. 2007 **Daunia Wind** " Study and optimization of TiO<sub>2</sub> systems for DSC"

## **TUTORING (SUPERVISOR)**

### **PhD**

1. Linda Bergamini "Innovative materials for solar fuels production" PhD in Science and Technology for materials, University of Parma, **AY 2018-**
2. Alex Sangiorgi "Innovative photovoltaic devices", PhD in Science and Technology for materials University of Parma, **AY 2015-2017**
3. Daniel Montaleone "Ceramic Membranes for hydrogen separation", PhD in Science and Technology for materials University of Parma, **AY 2015-2017**
4. Nicola Sangiorgi "Solar rechargeable storage unit based on rear illuminated Gel-state Dye Sensitized Solar Cells", PhD in materials for Health, Environment and Energy, Università Roma 2 "Tor Vergata", **Ay 2014-2016**
5. Riccardo Bondoni " DSC Solar Cells", PhD in materials for Health, Environment and Energy, Università

Roma 2 "Tor Vergata", **AY 2014-2016**

6. Angela Gondolini "Solid Oxide cell for high temperature electrolysis", PhD in Industrial Chemistry Università degli studi di Bologna, **AY 2010-2012**
7. Elisa Mercadelli "Functional Graded Piezoelectric Multilayers" PhD in Industrial Chemistry Università degli studi di Bologna, **AY 2010-2012**
8. Patrizia Mangifesta "SOFC half-cells of anionic and protonic conduction", PhD in Industrial Chemistry Università degli studi di Bologna, **AY 2010-2012**

### **Master Thesis**

1. Simone Fabbri "Aurivillius -based perovskite for solar conversion" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2019-2020**
2. Andrea Bartoletti "Double perovskite-based materials for solar conversion" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2019-2020**
3. Simone Casadio "Development and Optimization of Fibre-shaped Dye Sensitized solar Cells employing an Innovative fully organic Sensitizer" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2018-2019**
4. Federica Cavini, "Study and production of ceramic materials for solar fuel production" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2017-2018**
5. Irene Carla Mannino " Application of phase change materials (PCMs) on a combined steam reforming Catalytic partial oxidation process" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2017-2018**
6. Filippo Grandi "Semi-solid Microsupercapacitors for portable applications" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2015-2016**
7. Mattia Averardi "Tetrazolic complexes of Ru(II) as photoabsorbers for DSSC" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2013-2014**
8. Daniel Montaleone "Study and optimization of the production processes for hydrogen separation membranes" Master course in Industrial Chemistry, Università degli studi di Bologna **AY 2013-2014**
9. Lorena Milandri "Synthesis and characterization of La<sub>0.4</sub>Sr<sub>0.4</sub>TiO<sub>3</sub> (LST) as innovative anode for solid oxide fuel cells (SOFC)" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2010-2011**.
10. Alex Sangiorgi "Gelcasting of Y<sub>2</sub>O<sub>3</sub>-based applications for laser applications" Master course in Industrial Chemistry, Università degli studi di Bologna **AY 2008-2009**.
11. Angela Gondolini "Microwave assisted synthesis of nano Ce<sub>x</sub>Gd<sub>1-x</sub>O<sub>2-δ</sub> for energetic applications" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2008-2009**.
12. Giada Ghetti "Ceramic components for SOFC" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2007-2008**
13. Manuel Danesin "Innovative ceramic components for SOFC", Master course in Science MM.FF.NN, Master course in Industrial Chemistry, Università degli studi di Padova, **AY 2007-2008**
14. Alessio di Santo "Polyol synthesis of nano Ce<sub>0.8</sub>Gd<sub>0.2</sub>O<sub>2-d</sub> (GDC20) for SOFC" Master course in Industrial Chemistry, Università degli studi di Bologna, **AY 2006-2007**.

### **Bachelor**

1. Arianna Rivalta "Study of the spray process for the production SOFC" Bachelor course in Industrial Chemistry, Università degli studi di Bologna **AY 2012-2013**
2. Alessandro Graziani "Study of the sensitization process for the production of photoelectrochemical cells" Bachelor course on Chemistry and technology for the environment and materials, Università degli studi di Bologna, **AY 2012-2013**
3. Luca Utili "Innovative anodes for solid oxide fuel cells (SOFC)" Bachelor course in Industrial Chemistry, Università degli studi di Bologna, **AY 2010-2011**
4. Vittorio Alpi "Na-β"-allumina synthesis for energy storage" Bachelor course in Industrial Chemistry, Università degli studi di Bologna **AY 2010-2011**
5. Daniele Cortecchia " Study and optimization of TiO<sub>2</sub> screen printed layer for third generation PV" Bachelor course in Industrial Chemistry, Università degli studi di Bologna, **AY 2009-2010**

### **Stage**

1. **2016 (22 March – 29 July):**
  - Sophie Achigar (Chimie ParisTech, Paris, France); Internship Chimie PARisTech
  - Adrien Berthier (Chimie ParisTech, Paris, France); Internship Chimie PARisTech
  - Benjamin Campech (Chimie ParisTech, Paris, France) Internship Chimie PARisTech
  - Laurie Luxeuil (Chimie ParisTech, Paris, France); come da Appraisal di Internship Chimie PARisTech

## 2. 2015 (23 March – 31 July):

- Claire Pilot (Mines ParisTech, Paris, France); Internship Chimie PARisTech
- Anna Benarosch (Chimie ParisTech, Paris, France) Internship Chimie PARisTech
- Anne-Laure Barthelemy (Chimie ParisTech, Paris, France); Internship Chimie PARisTech

## TEACHING EXPERIENCE

1. **Invited lecturer** at the first Enerchem School, 20 - 24 February **2018**, Firenze, Italy
2. **Invited lecturer** of the International summer school "Mechanics for the green economy" Brescia and Trento, Italy, 19-25 July **2017**
3. **2013 Lecturer "Master of second level in Advanced Materials for aerospace applications – PANDION project "**
4. **2011 Lecturer IFTS** course "Technician for the monitoring and management of the environment
5. **2009- Professor** of "**Industrial Ceramic Process**" Bachelor course in "Industrial Design with Ceramics and advanced materials", Third year of the Bachelor course, at ISIA (Istituto Superiore Industria Artistiche) Faenza (Italy)
6. **2007-2017 Lecturer of** "Shaping process for ceramics for energetic applications" PhD in Chemistry of the Università di Bologna (Italy)
7. **2005 Lecturer of "Ceramic processes for advanced ceramic"** 11° Scuola AIMAT "Ceramics Materials for functional and structural ceramics" 3 - 7 October **2005** Ischia Porto (NA).

## SCIENTIFIC SKILLS

- ❖ Design and engineering of materials and device ceramic-based for energy applications: solid oxide cells (SOFC/SOEC) Photovoltaic cells (DSSC, perovskites), gas separation membranes (Oxygen, hydrogen and CO<sub>2</sub>), electrochemical (ZEBRA batteries, supercapacitors) chemical and thermal storage (PCM), Photoelectrochemical cell for solar conversion (PEC), gas sensors.
- ❖ Processing techniques for bulk and 3D ceramics: pressing (linear e isostatic), Extrusion, tape and slip casting, screen printing, solid free-form fabrication (gel casting and freeze-drying) microextrusion, ink jet printing;
- ❖ Thin Film deposition techniques: evaporation and sputtering, spin- e dip- coating, wet powder spray, ink-jet and EPD.
- ❖ Design and production of inorganic-based multilayers (ceramics, glass and metals) via tape casting and/or screen- e stencil-printing;
- ❖ Production and microstructural characterization of materials (porosimetry, surface area analysis (BET), SEM, permeability, flexural strength, TEM TG; DTA; DSC, dilatometry ,XRD)
- ❖ Chemical synthesis of ceramic powders (spray-drying, sol-gel, tecnica dei poliolli) also with non conventional heating source (IR, MW);
- ❖ Synthesis and characterization of nanofluids Sintesi di nanofluidi e nanolubrificanti a base metallica ed ossidica;
- ❖ Study and optimization of ceramic suspensions and ink (rheology, zeta potential, dynamic light scattering);
- ❖ Spectroscopic analysis: ICP-OES, UV-visible, IR, atomic absorption;
- ❖ Synthesis and characterization of ferroelectric and piezoelectric materials;
- ❖ Electrochemical and functional PV characterization (cyclic voltammetry, impedance spectroscopy, i-v curves and quantum efficiency).

## FOREIGN LANGUAGES, IT ET AL.

- *Lingue straniere: English: Fluent; French: Base;*
- *IT: Excellent knowledge of Office (Excel, Word, Powerpoint, Access) and Windows; good knowledge of Mac OS, crystallographic software (WinRietveld, Crystallographica), and data elaboration scientifici (Mathcad, Origin) and image analysis (Image Pro Plus); basic programming in Basic e Fortran.*
- *Referee for: Journal of the American Ceramic Society, Journal of Materials Science, Journal of Electroceramics, Ceramics International, National Science Foundation (US), Journal of European Ceramic Society, Journal of Power Source, Journal of Hydrogen Science and Technology, Journal of surface science*
- *Evaluator for the European Commission VI Programme, confirmed for the VII and H2020.*

- *Evaluator for the Economic Ministry of Latvia (2016)*
- *Deep knowledge of the funding schemes: regional (POR-FESR 2007-2014 e 2014-2020), national (Progetti FISR, FIRB, PRIN, Industria 2015, MiSE) and european (JTI Hydrogen and Fuel cells, Horizon2020)*

## DISSEMINATION

1. "Ceramic Materials and Energy" presentation to school students during the contest "Energy Clip" organized by the Bassa Romagna municipality, 27/05/**2016**
2. Energy laboratory for students of Istituto Comprensivo Carchidio-Strocchi ISTECCNR Faenza, 4/03/**2015**: "Tape casting"
3. "Energizziamoci" Palazzo delle Esposizioni Faenza 11 - 26/04/**2015**: "Photovoltaics effect: how to gain energy from the sun" e "how to build a photovoltaic cell: the artificial leaf" 13-16-21/04/2015: "electricity and materials". 22/04/**2015**:
4. Formation course for the secondary school students of "Ricci Curbastro" di Lugo, Materials for energy applications".
5. Energy laboratory for the students of Istituto Comprensivo Carchidio-Strocchi Faenza, 6/03/2014: "Energy and electricity", 13/03/2014: "Energy and its forms", 20/03/**2014**: "Energy from the sun".
6. Formation course for the secondary school students of "Ricci Curbastro" Lugo, ISTECCNR Faenza 06/03/**2014**: "materials for energy applications".
7. Formation of students of industrial ceramics processes of Istituto Tecnico Superiore per le Industrie Artistiche, (ISIA) Faenza 13/05/**2014**: "Tpe casting, an innovative process".
8. "Green might", Fusignano (RA) 15/07/**2013**: "Technologies and materials for energy applications"
9. Formation course in nanotechnology for the professor of the secondary school I Liceo Scientifico Ricci Curbastro di Lugo, ISTECCNR Faenza 23/02/**2012**: "New generation solar cells".
10. "Un giorno da ricercatori al Parco Torricelli" week of the the technology and scientific culture, ISTECCNR Faenza 17/04/**2012**: "the artificial photosynthesis"
11. "The researcher night", ISTECCNR Faenza 23/09/**2011**: "Tape casting" and "New generation solar cells"

## VARIOUS

1. **Member of the Scientific Committee** of "XII CONvegno Nazionale INSTM and XV Convegno Nazionale AIMAT" 21-24 July 2019, Ischia (NA) Italy
2. **Organizer and Chair** workshop "challenges and opportunity of research in micro-gravity" in collaborazione con Nanoracks Ltd, 26-09-2019 Roma, Italy
3. **Member of the scientific Committee and co-chair** for the sessions "Chemistry for Energy" and "Materials" Conferenza di Dipartimento DSCTM, Bressanone, 28-30 ottobre 2018 (Italy)
4. **Organizer** Meeting CNR- BP, 14 Luglio 2018, Roma (Italy)
5. **Co-organizer and chair** workshop "Advanced nanomaterials for cultural heritage" in Nanoinnovation 2018, 27 Settembre 2018, Roma, (Italy)
6. **Member of the scientific Committee and co-chair** for the sessions "Chemistry for Energy" and "Materials" Conferenza di Dipartimento DSCTM, Assisi, 24-26 settembre 2018 (Italy)
7. **Member of the Scientific Committee** of "Materials.it" 22-26/10/2018 Bologna, Italy
8. **Founding Member** of the **Italian Chapter of the American Ceramic Society (2017-)**
9. **Member of the scientific Committee and co-chair** for the sessions "Chemistry for Energy" and "Materials" Conferenza di Dipartimento DSCTM, Alghero, 19-20 ottobre 2017 (Italy)
10. **Chair** of the Internatinoal workshop "Ceramics for Energy, CEn 2017" organized by ISTECCNR, co-chair: Dr. Maurizio Peruzzini, 7-9 Giugno **2017**, Museo Internazionale delle Ceramiche, Faenza (RA).
11. **Chair** of the International Workshop "Ceramics for Energy, CEn 2015" organized by ISTECCNR, co-chair: Dr. Maurizio Peruzzini, 14-15 Maggio **2015**, Museo Internazionale delle Ceramiche, Faenza (RA).
12. 26-27/02/2015 **Course on "SOFT skill: competencies and managing for dealing with collaborators and working groups"** Milan School of Management
13. **Guest Editor** Journal of the European Ceramic Society for the volume "Ceramics for Energy", 2017

14. **External Examiner PhD Course** in Material Science, Department of Energy Convesion and Storage, **DTU (Denmark) 2018-2019**
15. **External Examiner PhD Course** in Materials, Mechatronics and Systems Engineering, **University of Trento (Italy) 2018-2019**
16. **External Examiner PhD Course** in Material Science, DISAT, **Turin Politechnic University (ITALY) 2018-2019**

## PUBBLICATIONS

1. N. Sangiorgi, A. Sangiorgi, A. Dessì, L. Zani, M. Calamante, G. Reginato, A. Mordini, A. Sanson "Improving the efficiency of thin-film fiber-shaped dye-sensitized solar cells by using organic Sensitizers" *Solar Energy Mater. And Solar Cells*, 204, 110209, **2020**
2. B. Ballarin, E. Boanini, L. Montalto, P. Mengucci, D. Nanni, C. Parise, I. Ragazzini, D. Rinaldi, N. Sangiorgi, A. Sanson, M.C. Cassani, "PANI/Au/Fe<sub>3</sub>O<sub>4</sub> nanocomposite materials for high performance energy storage" *Electrochimica Acta*, 322, 134707, **2019**
3. N. Sangiorgi, G. Tuci, A. Sanson, M. Peruzzini, G. Giambastiani "Metal-free carbon-based materials for electrocatalytic and photo-electrocatalytic CO<sub>2</sub> reduction" *Rendiconti Lincei. Scienze Fisiche e Naturali* 30 (3), 497-513, **2019**
4. J. Yus, Z. Gonzalez, A.J. Sanchez-Herencia, A. Sangiorgi, N. Sangiorgi, D. Gardini, A. Sanson, C. Galassi, A. Caballero, J. Morales, B. Ferrari, "Semiconductor water-based inks: Miniaturized NiO pseudocapacitor electrodes by inkjet printing" *Journal of the European Ceramic Society* 39 (9), 2908-2914, **2019**
5. N. Sangiorgi, A. Sangiorgi, F. Tarterini, A. Sanson "Molecularly imprinted polypyrrole counter electrode for gel-state dye-sensitized solar cells" *Electrochimica Acta* 305, 322-328, **2019**
6. E. Mercadelli, A. Gondolini, D. Montaleone, P. Pinasco, S. Escolástico, J. M. Serra, A. Sanson " Production strategies of asymmetric BaCe<sub>0.65</sub>Zr<sub>0.20</sub>Y<sub>0.15</sub>O<sub>3-δ</sub>-Ce<sub>0.8</sub>Gd<sub>0.2</sub>O<sub>2-δ</sub> membrane for hydrogen separation" <https://doi.org/10.1016/j.ijhydene.2019.03.148> , **2019**
7. A. Sangiorgi, Z. Gonzalez, A. Ferrandez-Montero, J. Yus, A.J. Sanchez-Herencia, C. Galassi, A. Sanson, B. Ferrari, *Journal of The Electrochemical Society* 166 (5), H3239-H3248, **2019**
8. D. Montaleone, E. Mercadelli, A. Gondolini, M. Ardit, P. Pinasco, A. Sanson "Role of the sintering atmosphere in the densification and phase composition of asymmetric BCZY-GDC composite membrane" *Journal of the European Ceramic Society* 39 (1), 21-29, **2019**
9. D. Montaleone, E. Mercadelli, S. Escolástico, A. Gondolini, J. M. Serra, A. Sanson "All-ceramic asymmetric membranes with superior hydrogen permeation " *Journal of Materials Chemistry A* 6 (32), 15718-15727, **2018**
10. A. Gondolini, E. Mercadelli, G. Constantin, L. Dessemond, V. Yurkiv, R. Costa, A. Sanson " On the manufacturing of low temperature activated Sr<sub>0.9</sub>La<sub>0.1</sub>TiO<sub>3-δ</sub>-Ce<sub>1-x</sub>Gd<sub>x</sub>O<sub>2-δ</sub> anodes for solid oxide fuel cell" *Journal of the European Ceramic Society* 38 (1), 153-161, **2018**
11. N. Sangiorgi, A. Sanson "Influence of electropolymerized polypyrrole optical properties on bifacial Dye-Sensitized Solar Cells" *Polymer* 125, 208-216, **2017**
12. M.P. Carpanese, D. Clematis, A. Bertei, A. Giuliano, A. Sanson, E. Mercadelli, C. Nicoletta, A. Barbucci, "Understanding the electrochemical behaviour of LSM-based SOFC cathodes. Part I—Experimental and electrochemical" *Solid State Ionics* 301, 106-115, **2017**
13. B. Mátravölgyi, T. Hergert, A. Thurner, B. Varga, N. Sangiorgi, R. Bendoni, L. Zani, G. Reginato, M. Calamante, A. Sinicropi, A. Sanson, F. Faigl, A. Mordini, "Synthesis and Investigation of Solar Cell Photosensitizers Having a Fluorazone Backbone" *European Journal of Organic Chemistry* 2017 (14), 1843-1854, **2017**
14. E. Mercadelli, D. Montaleone, A. Gondolini, P. Pinasco, A. Sanson "Tape-cast asymmetric membranes for hydrogen separation" *Ceramics International* 43 (11), 8010-8017, **2017**
15. D. Montaleone, E. Mercadelli, A. Gondolini, P. Pinasco, A. Sanson " On the compatibility of dual phase BaCe<sub>0.65</sub>Zr<sub>0.2</sub>Y<sub>0.15</sub>O<sub>3-δ</sub>-based membrane for hydrogen separation application" *Ceramics International* 43 (13), 10151-10157, **2017**
16. A. Krämer, S. Engel, N. Sangiorgi, A. Sanson, J.F. Bartolomé, S. Gräf, F.A. Müller " ZnO thin films on single carbon fibres fabricated by Pulsed Laser Deposition (PLD)" *Applied Surface Science* 399 282–287, **2017**.
17. Nicola Sangiorgi, Lucrezia Aversa, Roberta Tatti, Roberto Verucchi, Alessandra Sanson "Spectrophotometric method for optical band gap and electronic transitions determination of semiconductor materials" *Optical Materials* 64 18-25, **2017**.

18. E. Mercadelli, A.S. Aricò, A. Gondolini, S. Siracusano, M. Ferraro, V. Antonucci, A. Sanson "Influence of powders thermal activation process on the production of planar  $\beta$ -alumina ceramic membranes" *Journal of Alloys and Compounds* 696 1080-1089, **2017**.
19. A. Gondolini, E. Mercadelli, A. Sangiorgi, A. Sanson "Integration of Ni-GDC layer on a NiCrAl metal foam for SOFC application" *Journal of the European Ceramic Society* 37 1023-1030, **2017**.
20. E. Mercadelli, A. Gondolini, P. Pinasco, A. Sanson "Stainless Steel Porous Substrates Produced by Tape Casting" *Metals and Materials International*, doi: 10.1007/s12540-017-6336-2.
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## CONGRESS PRESENTATIONS

*il primo nome è di chi ha presentato il lavoro*

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2. L. Bergamini, N. Sangiorgi, A. Sanson "All-inorganic perovskite for solar conversion" Invited poster Avogadro Colloquia 17<sup>th</sup> - 18<sup>th</sup> December 2019, Rome (Italy)
3. L. Bergamini, N. Sangiorgi, M. Serrano-Ruiz, M. Caporali, M. Peruzzini, M. Melucci, A. Sanson "CsPbBr<sub>3</sub> nanocomposites for photocatalytic applications" E-mrs Nizza 27<sup>th</sup> - 31<sup>st</sup> May 2019. (poster)
4. A. Sangiorgi, Z. Gonzalez, A. Ferrandez, J. Yus, A.J. Sanchez-Herencia, C. Galassi, A. Sanson, and B. Ferrari "Fused filament fabrication of photocatalytic filters for water purification", Young Ceramists Additive Manufacturing Forum (yCAM) 2020, Toulouse (Francia), 15-17 aprile **2020** (oral).
5. J. Yus, Z. Gonzalez, A.J. Sanchez-Herencia, A. Sangiorgi, A. Sanson, C. Galassi, B. Ferrari "NiO and TiO<sub>2</sub> Water-based Inks for Printing Energy Microdevices", Young Ceramists Additive Manufacturing Forum (yCAM) 2020, Toulouse (Francia), 15-17 aprile **2020** (oral).
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7. N. Sangiorgi, A. Sangiorgi, A. Sanson, *Molecular Imprinted Polypyrrole counter electrode for quasi-solid DSSCs*, International Conference on Hybrid and Organic Photovoltaic - HOPV 2019, Roma 12-15 Maggio **2019** (oral).
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10. E. Mercadelli, A. Gondolini, D. Montaleone, P. Pinasco, S. Escolástico, J.M. Serra, A. Sanson "Production of an all-ceramic asymmetric membrane with superior hydrogen permeation" XVI ECerS CONFERENCE **2019** (Oral).
11. A. Sanson, E. Mercadelli, A. Gondolini, P. Pinasco "Key issues in the manufacturing of proton conductive multilayers ceramics" XVI ECerS Conference 2019, Torino, 16-20 Giugno **2019** (invited)
12. A. Sanson, A. Gondolini, E. Mercadelli "Supported films for SOFC applications" 43rd International Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, Florida, USA, 27 Gennaio -1 Febbraio, **2019** (invited)

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23. A. Sanson, E. Mercadelli, A. Gondolini "Proton Conductive Multilayers: manufacturing key issues" 42nd International Conference & Exposition on Advanced Ceramics and Composites, Daytona Beach, Florida, 21-26 Gennaio **2018** (invited)
24. A. Sanson Eurasia Conference on Chemical Sciences "Challenges and opportunities of energetic materials for industry" Rome 5-8 September **2018** (Keynote)
25. N. Sangiorgi, A. Sangiorgi, A. Sanson "Molecular Imprinting Technology and solar cells", Materials.it 2018, Bologna (Italia), 22-26 ottobre **2018** (oral).
26. J. Yus, Z. Gonzalez, A.J. Sanchez-Herencia, A. Sangiorgi, N. Sangiorgi, A. Sanson, C. Galassi, A. Caballero, J. Morales, B. Ferrari "The age of additive manufacturing. Water based semiconductor inks for the fabrication of Energy Microdevices", V Congreso Hispano-Luso de Cerámica y Vidrio – SECV 2018, Barcellona (Spagna), 8-10 ottobre 2018 (oral).
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39. D. Montaleone, E. Mercadelli, A. Gondolini, P. Pinasco, A. Sanson "Role of the sintering atmosphere in the densification and phase composition of asymmetric BCZY-GDC composite membrane" Ceramics for Energy, Faenza, Italy, 7-9 June **2017** (Orale).
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42. A. Gondolini, E. Mercadelli, A. Sanson "Electrode Manufacturing Strategies for MSCs" 2nd EVOLVE Workshop: Towards the next generation metal supported solid oxide cells, Stuttgart, Germany, October 12, **2016** (Orale).
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45. A. Strini, A. Sanson, E. Mercadelli, R. Bendoni, M. Marelli, V. Dal Santo, L. Schiavi "New route for in-situ anatase phase stabilization of titania-based photocatalysts", 9th European Meeting on Solar Chemistry and Photocatalysis SPEA 9 - June 13-17, **2016** - Strasbourg, France (Poster).
46. R. Bendoni, N. Sangiorgi, A. Sangiorgi, A. Sanson, "Understanding the role of water in the formulation of screen-printing inks for Dye-sensitized Solar Cells", 14th European congress of the European Ceramic Society - ECERS 2015, Toledo (Spain), 21-25 June **2015** (Oral).
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49. A. Caldarelli, R. Bendoni, A. Gondolini, A. Sangiorgi, A. Sanson "Wet deposition processes for obtaining ceramic film with tailored thickness" International Workshop Ceramics for Energy, Cen 2015, Faenza (Italy), 14-15 May **2015** (Oral).
50. N. Sangiorgi, R. Bendoni, A. Sangiorgi, A. Sanson, "Influence of anions on transparency and electrochemical properties of electro-polymerized polypyrrole counter-electrode for Dye-sensitized Solar Cells", International Conference on Hybrid and Organic Photovoltaics - HOPV **2015**, Rome (Italy), 10-13 May **2015** (Poster).
51. D. Masson, B. Abdallah, F. Willot, D. Jeulin, E. Mercadelli, A. Sanson, A. Chesnaud, A. Thorel "Morphological Modeling of a Metal Foam Supported SOFC Configuration" ECS Conference on Electrochemical Energy Conversion & Storage with SOFC-XIV, July 26-31, **2015**, Glasgow, Scotland (Oral).
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58. A. Gondolini, E. Mercadelli, P. Pinasco, A. Sanson "Single Step Production of Cathode Supported SOFC" ICACC 38th International Conference and Exposition on Advanced Ceramics and Composites, Daytona Beach, Florida, 26-31 January **2014** (Oral).
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Quanto dichiarato nel presente curriculum vitae corrisponde al vero ai sensi degli artt. 46 e 47 del DPR 445/2000.

La sottoscritta esprime il proprio consenso affinché i dati personali forniti possano essere trattati nel rispetto del D.Lgs 196/2003 e successive modifiche.

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