

Europass Curriculum Vitae

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Personal information

First name / Surname **Massimo Viviani**

Address

Telephone(s) :

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Nationality Italian

Date of birth

Employment

Researcher at National Research Council of Italy – Institute of Condensed Matter Chemistry and Technologies for Energy (CNR-ICMATE)

Work experience

Dates 2001-present

Occupation Researcher, permanent staff

Name and address of employer CNR-ICMATE, c/o DICCA-UNIGE, Via all'Opera Pia 15, I-16145, Genova, Italy

Dates 1999-2001

Occupation Researcher, non-permanent staff

Name and address of employer CNR-ICFAM, Via De Marini 6, I-16149, Genova, Italy

Education and training

Dates **1995-1998**

Title of qualification awarded PhD in Chemistry for Engineering

Principal subjects/ Synthesis of nanopowders with perovskite structure by aqueous methods

Name of organisation University of Genova

Dates **1993-1994**

Title of qualification awarded Master in Materials Science and Technology

Principal subjects/ Physics, Chemistry and Engineering of materials. Fracture toughness of steels for off-shore applications

Name of organisation University of Genova

Dates **1986-1992**

Title of qualification awarded Master Degree in Physics

Principal subjects/ Intermetallic superconducting materials for radiofrequency applications

Name of organisation University of Genova

Personal skills and competences

Mother tongue(s) **Italian**

Other language(s)

Self-assessment

European level (*)

English

French

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C1	Proficient user	C1	Proficient user	C1	Proficient user	C2	Proficient user	B2	Independent user
C1	Proficient user	C1	Proficient user	B1	Independent user	B1	Independent user	A2	Basic user

(*) [Common European Framework of Reference for Languages](#)

Technical skills and competences Powder technology, Wet chemical synthesis of oxides, ceramic processing, electrochemical impedance spectroscopy, Fuel Cells.

Computer skills and competences LabVIEW, Matlab

- Projects**
- ❑ *EVOLVE: Evolved materials and innovative design for high-performance, durable and reliable SOFC cell and stack*, Progetto EU-FP7, Principal investigator partner CNR, Workpackage leader, member Executive Board: M. Viviani, **2012-2016**
 - ❑ *Electrochemical Impedance Spectroscopy as predictive diagnostic tool for SOFC cells and stacks*, bilaterale Italia-Bulgaria (CNR-BAS), CNR-ICMATE Team member, **2016 – 2018**
 - ❑ *Endurance: ENhanced DURability materials for Advanced stacks of New solid oxide fuel Cells*. Progetto EU-FP7, Principal investigator partner CNR, Scientific Manager, member dell'Executive Board: M. Viviani, **2014-2015**
 - ❑ *INCYPIT - Materiali ceramici e ibridi innovativi per celle a combustibile a conduzione protonica operanti a temperature intermedie: progettazione, caratterizzazione e assemblaggio del dispositivo*, CNR-ICMATE Team member, **2013-2016**
 - ❑ *Reversible SOFC-SOEC Cells*, bilaterale Italia-Bulgaria (CNR-BAS), Principal investigator CNR: M. Viviani, **2013 – 2015**
 - ❑ *BIOITSOFC*, Progetto PRIN 2010-11, Principal investigator unità CNR ITAE/IENI: A. Aricò, **2013-2015**
 - ❑ *SOFC studies by Electrochemical Impedance Spectroscopy*”, bilaterale Italia-Bulgaria (CNR-BAS), Principal investigator CNR: M. Viviani, **2010 – 2012**
 - ❑ *IDEAL-Cell: an Innovative Dual-mEmbrAne Fuel Cells*, Progetto EU-FP7, Principal investigator partner CNR, Workpackage leader, member dell'Executive Board: M. Viviani,

2008-2011

- *Studio della corrosione in acciai per applicazioni in pile a combustibile*, contratto di ricerca con la società IBR Sistemi S.r.l., progetto POR-FESR Regione Liguria, responsabile U.O. IENI-CNR: M. Viviani, **2012-2013**
- *Protonic Fuel Cells*, PRIN 2008, Responsabile Nazionale Prof. Silvia Licoccia, Responsabile U.O. CNR-IENI/SPIN: M. Viviani, **2010-2012**.
- *Celle a combustibile per applicazioni stazionarie cogenerative*, Progetto CNR-MiSE. responsabile U.O. CNR- IENI-Ge: M. Viviani, **2008-2011**

Commissions

- Member del Consultative Council of the Institute of Electrochemistry and Energy Systems of the Bulgarian Academy of Science from 2012;
- Project Reviewer for the European Science Foundation, **2016-2019**
- Project Reviewer for Ministero dell'Istruzione, Università e Ricerca, **2018-2020**

Teaching/Supervising

- Supervisor of 6 internship from ESIREM-University of Burgundy, Dijon, **2007-2016**
- Supervisor of 3 Doctoral theses in Materials Science (University of Genova), **2006-2015**
- Supervisor of 11 Master theses in Material Science and Technology (University of Genova), **2002-2018**
- Supervisor of 11 Research Grants (CNR), **2010-2016**

Conference Chair

- *EIA11: 11th International Symposium on Electrochemical Impedance Analysis*, 6-10 Novembre **2017**, Camogli, Italy, Program co-Chair: Massimo Viviani
- *CEn 2015: Ceramics for Energy*, 14-15 Maggio **2015**, Faenza, Italy, Organizing committee: Massimo Viviani

Publications (last 5 years)

- [1] E. Venezia, M. Viviani, S. Presto, V. Kumar, and R. I. Tomov, "Inkjet Printing Functionalization of SOFC LSCF Cathodes," *Nanomaterials*, vol. 9, p. 654, 2019.
- [2] D. Clematis *et al.*, "Distribution of Relaxation Times and Equivalent Circuits Analysis of Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-δ}," *Catalysts*, vol. 9, no. 5, p. 441, May 2019.
- [3] D. Clematis, A. Barbucci, S. Presto, M. Viviani, and M. P. Carpanese, "Electrocatalytic activity of perovskite-based cathodes for solid oxide fuel cells," *Int. J. Hydrogen Energy*, vol. 44, no. 12, pp. 6212–6222, Mar. 2019.
- [4] S. Presto, C. Artini, M. Pani, M. M. Carnasciali, S. Massardo, and M. Viviani, "Ionic conductivity and local structural features in Ce_{1-x}Sm_xO_{2-x/2}," *Phys. Chem.*

- Chem. Phys.*, vol. 20, no. 44, pp. 28338–28345, 2018.
- [5] A. Barbucci, M. P. Carpanese, S. Presto, and M. Viviani, “Preface,” *Bulg. Chem. Commun.*, vol. 50, p. 5, 2018.
- [6] S. Singh, P. Singh, M. Viviani, and S. Presto, “Dy doped SrTiO₃: A promising anodic material in solid oxide fuel cells,” *Int. J. Hydrogen Energy*, vol. 43, no. 41, pp. 19242–19249, Oct. 2018.
- [7] M. P. Carpanese *et al.*, “Characterisation of La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_{3-δ}-Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-δ} composite as cathode for solid oxide fuel cells,” *Bulg. Chem. Commun.*, vol. 50, pp. 95–101, 2018.
- [8] S. Singh *et al.*, “Structural and electrical conduction behaviour of yttrium doped strontium titanate: anode material for SOFC application,” *J. Alloys Compd.*, vol. 748, pp. 637–644, Jun. 2018.
- [9] C. Artini *et al.*, “Structural properties of Sm-doped ceria electrolytes at the fuel cell operating temperatures,” *Solid State Ionics*, vol. 315, no. December 2017, pp. 85–91, Feb. 2018.
- [10] S. Presto, A. Barbucci, M. Carpanese, F. Han, R. Costa, and M. Viviani, “Application of La-Doped SrTiO₃ in Advanced Metal-Supported Solid Oxide Fuel Cells,” *Crystals*, vol. 8, no. 3, p. 134, Mar. 2018.
- [11] S. Presto, P. Kumar, S. Varma, M. Viviani, and P. Singh, “Electrical conductivity of NiMo-based double perovskites under SOFC anodic conditions,” *Int. J. Hydrogen Energy*, vol. 43, no. 9, pp. 4528–4533, Mar. 2018.
- [12] R. Pandey *et al.*, “The effect of synthesis and thermal treatment on phase composition and ionic conductivity of Na-doped SrSiO₃,” *Solid State Ionics*, vol. 314, no. October 2017, pp. 172–177, Jan. 2018.
- [13] P. Kumar, S. Presto, A. S. K. Sinha, S. Varma, M. Viviani, and P. Singh, “Effect of samarium (Sm³⁺) doping on structure and electrical conductivity of double perovskite Sr₂NiMoO₆ as anode material for SOFC,” *J. Alloys Compd.*, vol. 725, pp. 1123–1129, Nov. 2017.
- [14] S. Presto and M. Viviani, “Effect of CuO on microstructure and conductivity of Y-doped BaCeO₃,” *Solid State Ionics*, vol. 295, no. 3, pp. 111–116, 2016.
- [15] A. Caldarelli, E. Mercadelli, S. Presto, M. Viviani, and A. Sanson, “Leaching effect in gadolinia-doped ceria aqueous suspensions for ceramic processes,” *J. Power Sources*, vol. 326, pp. 70–77, 2016.
- [16] F. Giannici *et al.*, “Electrode–Electrolyte Compatibility in Solid-Oxide Fuel Cells: Investigation of the LSM–LNC Interface with X-ray Microspectroscopy,” *Chem. Mater.*, vol. 27, no. 8, pp. 2763–2766, Apr. 2015.
- [17] M. P. Carpanese, A. Barbucci, G. Canu, and M. Viviani, “BaCe_{0.85}Y_{0.15}O_{2.925} dense layer by wet powder spraying as electrolyte for SOFC/SOEC applications,” *Solid State Ionics*, vol. 269, pp. 80–85, 2015.
- [18] F. Agresti, M. Fabrizio, F. Ravera, and M. Viviani, “A Special Section on Nanoparticles in Liquid Media for Material Processing, Environment and Industrial Applications,” *J. Nanosci. Nanotechnol.*, vol. 15, no. 5, pp. 3443–3444, May 2015.
- [19] R. Spotorno, P. Piccardo, F. Perrozzi, S. Valente, M. Viviani, and A. Ansar, “Microstructural and electrical characterization of plasma sprayed Cu-Mn oxide spinels

- as coating on metallic interconnects for stacking solid oxide fuel cells,” *Fuel Cells*, vol. 15, no. 5, pp. 728–734, 2015.
- [20] D. Vladikova *et al.*, “Reversibility in monolithic dual membrane fuel cell,” *Bulg. Chem. Commun.*, vol. 47, no. 2, pp. 519–525, 2015.
- [21] D. Masson *et al.*, “Shaping of a Dual Membrane SOFC and First Electrochemical Tests in a Dedicated 3-Chamber Set-up,” *ECS Trans.*, vol. 68, no. 1, pp. 1969–1978, Jul. 2015.
- [22] S. Presto and M. Viviani, “Infiltration of Metal Substrates with Nanostructured CeO₂ by a Room-Temperature Wet Process,” *J. Nanosci. Nanotechnol.*, vol. 15, no. 5, pp. 3562–3567, May 2015.
- [23] M. P. Carpanese, M. Panizza, M. Viviani, E. Mercadelli, A. Sanson, and A. Barbucci, “Study of reversible SOFC/SOEC based on a mixed anionic-protonic conductor,” *J. Appl. Electrochem.*, vol. 45, no. 7, pp. 657–665, 2015.
- [24] M. P. Carpanese *et al.*, “Electrochemical performances of a reversible high temperature fuel cell based on a mixed anionic-protonic conductor,” *Chem. Eng. Trans.*, vol. 41, no. Special Issue, pp. 235–240, 2014.
- [25] D. Vladikova *et al.*, “Application of yttrium doped barium cerate for improvement of the dual membrane SOFC design,” *Int. J. Hydrogen Energy*, vol. 39, no. 36, pp. 21561–21568, 2014.
- [26] R. Gawel, K. Przybylski, and M. Viviani, “Chemical stability and electrical properties of BaCe_{0.85}Y_{0.15}O_{3-δ}-Ce_{0.85}Y_{0.15}O_{2-δ} composite bulk samples for use as central membrane materials in dual PCFC–SOFC fuel cells,” *Mater. Chem. Phys.*, vol. 147, no. 3, pp. 804–814, Oct. 2014.

Bibliometric information

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