


PERSONAL INFORMATION

Francesco Vizza



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Gender M | Date of birth 07/04/1957 | Nationality Italian

ACTUAL POSITION

Director of the “Istituto di Chimica dei Composti Organometallici” (ICCOM) of “Consiglio Nazionale delle Ricerche” (CNR)

BIBLIOMETRIC DATA

FROM SCOPUS (07/01/2021)

- H-index 51
- results found 214
- Sum of times cited 7422
- Citing articles: 6000
- Average citation per item >40

WORK EXPERIENCE

FROM 01/02/2017 - TODAY

Director

Consiglio Nazionale delle Ricerche – Istituto di Chimica dei Composti Organometallici (CNR-ICCOM)

- The direction of ICCOM.

Type of business or sector Scientific and administrative management of ICCOM

FROM 2010 – TODAY

Research director

CNR-ICCOM

- Principal Investigator of national and international research projects.
- Scientific manager of CNR project n. PM.P03.001 “Elettrocatalizzatori per celle a combustibile ed elettrolitiche e per la trasformazione selettiva di risorse rinnovabili”.
- Supervisor or co-supervisor of doctorate and graduate thesis.

Type of business or sector Electrocatalysts for fuel cells (DAMFC and PEMFC); Electroreforming of renewable alcohols for hydrogen production; Electrocatalysts for solar fuels synthesis; Electrocatalysts for chemicals and fuels production from CO2 electroreduction; Direct electrooxidation of alcohols at medium and high temperature (150-200 °C); Development of photocatalysts per hydrogen evolution; Heterogeneous catalysts for hydrogen evolution by hydrolysis or thermolysis of metals hydride; Recovery of metals from spent lithium batteries; Organometallic catalysts for fuel cells and electrolyzers (OMFS and OMER).

FROM 1986 TO 2010

Technical assistant, Researcher, Senior researcher

CNR-ICCOM

- Principal Investigator of national and international research projects.
- Scientific manager of CNR projects
- Supervisor or co-supervisor of doctorate and graduate thesis.
- Synthesis of organometallic compounds and metallic complexes as catalysts of industrial relevant reactions.
- Characterization with NMR and GC-MS instruments.

Type of business or sector Electrocatalysts for fuel cells (DAMFC and PEMFC); Electroreforming of renewable alcohols for hydrogen production; Synthesis of ligands with biological activity; Synthesis and characterization of organometallic complexes as homogeneous catalysts for polymerization, hydrogenation and oxidation reactions.

FROM 1982 TO 1985

Research fellowship holder

Università degli Studi di Firenze – Chemistry department

- Synthesis of organometallic compounds and metallic complexes as catalysts for industrial relevant reactions.
- Characterization with NMR and GC-MS instruments.

Type of business or sector Synthesis of ligands with biological activity; Synthesis and characterization of organometallic complexes as homogeneous catalysts for polymerization, hydrogenation and oxidation reactions.

EDUCATION AND TRAINING

DECEMBER 1982

Degree in biological sciences

Università degli Studi di Firenze

- Synthesis of macrocycles.
- Synthesis of transition metals complexes.

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE(S)

ITALIAN

OTHER LANGUAGES

	UNDERSTANDING		SPEAKING		WRITING
	LISTENING	READING	SPOKEN INTERACTION	SPOKEN PRODUCTION	
ENGLISH	C1	C2	C1	C1	C2

Levels A1/A2: Base user - B1/B2: Intermediate user - C1/C2: Expert user
Common European Framework of Reference for Languages

ORGANIZATIONAL AND MANAGEMENT SKILLS

- Leadership of Laboratory of Advanced Energy Materials (LAEM) made by 6 researcher, 1 post-doc and 1 PhD student.
- Principal Investigator of national and international research projects (see infra).

COMPUTER SKILLS AND COMPETENCES

SELF EVALUATION				
INFORMATION PROCESSING	COMMUNICATION	CONTENT CREATION	SECURITY	PROBLEM SOLVING
INTERMEDIATE USER	INTERMEDIATE USER	INTERMEDIATE USER	BASE USER	BASE USER

Levels: Base user - Intermediate user - Expert user

OTHER SKILLS

- good command of common office suite software (word processor, spreadsheet, presentation program).
- History of Science

ADDITIONAL INFORMATIONS
NATIONAL SCIENTIFIC QUALIFICATION

From 2012: Qualified as Full Professor in the field of “Fundamentals of Chemical Sciences and Inorganic systems”.

From 2019: Qualified as Full Professor in the field of “Industrial Chemistry”.

MEMBER OF TECHNOLOGICAL-SCIENTIFIC BOARDS

1. “Hydrogen Technologies” and “CO₂ Technologies” of the “Innovation Pole for Technologies on Renewable Energy”.
2. Energy and Energy efficiency” (PIERRE: Polo di Innovazione per le tecnologie sulle Energie Rinnovabili ed il Risparmio Energetico) of the Tuscany Region (2011 – 2014).
3. Member of the Technological-Scientific Board; “Nanoxm Nanotecnologie” for the mercato- Polo innovazione regionale sulle nanotecnologie.

4. Member of the Technological-Scientific Board; Centro Ricerca e Impresa Area di ricerca CNR Florence.

PARTICIPATION IN SCIENTIFIC AND TECHNICAL ORGANIZATIONS:

1. Member of IDECAT, (Network of Excellence) "Integrated Design of Catalytic Nanomaterials for a Sustainable Production". (2004-2010)
2. Responsible for the Hydrogen and Fuel cells section of ENERCHEM (Interdivisional Group of Chemistry for Renewable Energy of the Italian Chemical Society) (2010-2016)
3. Member of the round table group on the Decarbonization of the Italian Economy. Consiglio dei Ministri del Governo Italiano (2016)
4. Member of the Doctorate committee in chemical and pharmaceutical sciences of the University of Siena

PARTICIPATION IN ORGANIZING COMMITTEES OF INTERNATIONAL CONFERENCES:

1. Member of the NATIONAL STEERING COMMITTEE (NSC) of 28th International Conference on Organometallic Chemistry (ICOMC), Florence July 15-20 2018.
2. Member of the organizing committee of the 1st Enerchem school, 20-24 February 2018.
3. Member of the INTERNATIONAL ADVISORY BOARD, 8th Forum on New Materials, Cimtec 2018, Perugia Italy June 4-14 2018.
4. Member of the International Scientific Committee of the 2nd International Meeting on Clean Energy from Ethanol, June 17-20, 2018 in Krakow, Poland.
5. Member of Local Organizing Committee of the 13th European Congress on Catalysis (Europacat 2017) 27-31 August Florence
6. Member of the Organizing Committee of the first EnerChem Congress, 18-10 February 2016, Florence-Italy
7. Member of the Organizing Committee of the International Workshop on Ethanol Electrooxidation December 5 –7 2016, Florence – Italy
8. Member of the Organizing Committee of the International Symposium on Homogeneous Catalysis ISHC XVI, Florence 6-11 July 2008
9. Member of the Organizing Committee of the "International Symposium on Relation between homogeneous and Heterogeneous Catalysis" - ISHHC-XII, Florence 18-22 July 2006

SCIENTIFIC PROJECTS

1. Principal Investigator of the FISR 2019 Alkaline Membranes and Platinum-free catalysts Enabling innovative, open electrochemical devices for Energy storage and conversion (AMPERE)
2. Principal Investigator of the PRIN 2017 "Novel Multilayered and Micro-Machined Electrode Nano-Architectures for Electrocatalytic Applications (Fuel Cells and Electrolyzers) (2019-2022)
3. Principal Investigator of the "GREEN FIELD P.E.A.S. Tuscany Green Chemistry project (2018-2020)
4. Scientific director of the "BIO2Energy" Tuscany energy project (2016-2018)
5. Scientific director of the industrial research project "recovery of materials and metals from Lithium Batteries (2015-2017)"
6. Scientific director of ICCOM-CNR for the industrial project "G.R.E.E.N. impact C.A.P.A.C.I.T.Y." (Tuscany Region Project) (2016-2017)
7. Scientific director of a research unit of the project EnergyLab (2016-2018) (Ente Cassa di Risparmio di Firenze project).
8. Head of the CNR's project PM.P.03001: "Electrocatalysts for fuel cells and electrolyzers and selective conversion of renewable resources" of the Department of Chemical Sciences and Materials Technologies of CNR (2005-2015).
9. Scientific director of the industrial research project; Energy Production" ICCOM-BELENOS CLEAN POWER HOLDING (2012-2013).
10. Scientific director of a research unit of the project PRIT, INDUSTRIA 2015: "Sviluppo di una tecnologia di pretrattamento italiana per la produzione di bioetanolo di seconda generazione" (2012-2014).
11. Scientific director of an industrial research project with Worgas srl. "Nanostructured catalysts for hydrogen production from borohydrides hydrolysis (2010-2013)."
12. Scientific director of a research unit of the project PIRODE: "Production of Hydrogen from Renewables and its chemical storage" (2010-2011).
13. Scientific director of a research unit of the Operational Agreement "Valorizzazione del glicerolo per mezzo di catalisi chimica per la produzione di 1,3-propandiolo e/o acido lattico" between CNR – "Dipartimento Progettazione Molecolare" and the Italian Company "Finanziaria MOSSI & GHISOLFI Srl" (2007–2010).
14. Scientific director of a research unit of the project CESARE: "Concentrated PV CombinED Solar Energy System" financed by Tuscany Region (2008-2010).

15. Scientific director of industrial research projects with Argus s.r.l. "Characterization of organic and inorganic compounds" (2005-2011).
16. Scientific director of a research unit of the project "HYRDOLAB" on Electrocatalysts for fuel cells (PEMFCs and DAFCS), and electrolyzers for hydrogen production, financed by Ente Cassa di Risparmio di Firenze (2009-2015).
17. Scientific director of the FISIR project: "Nanosistemi inorganici ed ibridi per lo sviluppo e l'innovazione di celle a combustibile", MIUR (2005-2009).
18. Scientific director of industrial research projects with Idealab srl on nanostructured catalysts for Fuel Cells (PEMFC and DAFC) (2005-2008).
19. Scientific director of industrial research projects with ACTA SPA on nanostructured catalysts for hydrogen production (2005-2008).
20. Scientific director of a research unit of the project EBH2, ob Project ROP. 3 d4 extent Tuscany "Sustainable production of hydrogen using electrochemical and photo-biological processes" (2007-2008)
21. Scientific director of a research unit of the project "Synthesis and characterization of copper-64 complexes with nitrogen macrocycles and their use in diagnostic and therapy" CNR-Agenzia 2000, (2000-2001).
22. Scientific director of a research unit of the project "Synthesis and biological activity of new radio-tracers" Tuscany (1999-2000).
23. Scientific director of a research unit of the project "Design and development of anticancer drugs" CIRCMSB, Interuniversity Consortium for Research on Metals in Biological Systems. (2002-2003).

PUBLICATIONS

- (1) Ferrara, M.; Bevilacqua, M.; Melchionna, M.; Criado, A.; Crosera, M.; Tavagnacco, C.; Vizza, F.; Fornasiero, P. Exploration of Cobalt@N-Doped Carbon Nanocomposites toward Hydrogen Peroxide (H₂O₂) Electrosynthesis: A Two Level Investigation through the RRDE Analysis and a Polymer-Based Electrolyzer Implementation. *Electrochim. Acta* **2020**, *364*, 137287 DOI: 10.1016/j.electacta.2020.137287.
- (2) Ferrara, M.; Bevilacqua, M.; Tavagnacco, C.; Vizza, F.; Fornasiero, P. Fast Screening Method for Nitrogen Reduction Reaction (NRR) Electrocatalytic Activity with Rotating Ring-Disc Electrode (RRDE) Analysis in Alkaline Environment. *ChemCatChem* **2020**, *12* (24), 6205–6213 DOI: 10.1002/cctc.202001498.
- (3) Miller, H. A.; Pagliaro, M. V.; Bellini, M.; Bartoli, F.; Wang, L.; Salam, I.; Varcoe, J. R.; Vizza, F. Integration of a Pd-CeO₂/C Anode with Pt and Pt-Free Cathode Catalysts in High Power Density Anion Exchange Membrane Fuel Cells. *ACS Appl. Energy Mater.* **2020**, *3* (10), 10209–10214 DOI: 10.1021/acsaem.0c01998.
- (4) Ipadeola, A. K.; Lisa Mathebula, N. Z.; Pagliaro, M. V.; Miller, H. A.; Vizza, F.; Davies, V.; Jia, Q.; Marken, F.; Ozoemena, K. I. Unmasking the Latent Passivating Roles of Ni(OH)₂ on the Performance of Pd-Ni Electrocatalysts for Alkaline Ethanol Fuel Cells. *ACS Appl. Energy Mater.* **2020**, *3* (9), 8786–8802 DOI: 10.1021/acsaem.0c01314.
- (5) Miller, H. A.; Lavacchi, A.; Vizza, F. Storage of Renewable Energy in Fuels and Chemicals through Electrochemical Reforming of Bioalcohols. *Curr. Opin. Electrochem.* **2020**, *21*, 140–145 DOI: 10.1016/j.coelec.2020.02.001.
- (6) Tuci, G.; Filippi, J.; Rossin, A.; Luconi, L.; Pham-Huu, C.; Yakhvarov, D.; Vizza, F.; Giambastiani, G. CO₂ Electrochemical Reduction by Exohedral N-Pyridine Decorated Metal-Free Carbon Nanotubes. *Energies* **2020**, *13* (11), 2703 DOI: 10.3390/en13112703.
- (7) D'Olimpio, G.; Boukhvalov, D. W.; Fujii, J.; Torelli, P.; Marchionni, A.; Filippi, J.; Kuo, C.-N.; Edla, R.; Ottaviano, L.; Lue, C. S.; Vizza, F.; Nappini, S.; Politano, A. Catalytic Activity of PtSn₄: Insights from Surface-Science Spectroscopies. *Appl. Surf. Sci.* **2020**, *514*, 145925 DOI: 10.1016/j.apsusc.2020.145925.
- (8) Pagliaro, M. V.; Bellini, M.; Lavacchi, A.; Miller, H. A.; Bartoli, C.; Vizza, F. Phosphate Stabilized PdCoP@NiFoam Catalyst for Self-Pressurized H₂ Production from the Electrochemical Reforming of Ethanol at 150 °C. *J. Catal.* **2020**, *382*, 237–246 DOI: 10.1016/j.jcat.2019.12.019.
- (9) Bellini, M.; Bevilacqua, M.; Marchionni, A.; Miller, H. A.; Filippi, J.; Grützmacher, H.; Vizza, F. Energy Production and Storage Promoted by Organometallic Complexes. *Eur. J. Inorg. Chem.* **2018**, *2018* (40), 4392–4392 DOI: 10.1002/ejic.201801149.
- (10) Boukhvalov, D. W.; Marchionni, A.; Filippi, J.; Kuo, C.-N.; Fujii, J.; Edla, R.; Nappini, S.; D'Olimpio, G.; Ottaviano, L.; Lue, C. S.; Torelli, P.; Vizza, F.; Politano, A. Efficient Hydrogen Evolution Reaction with Platinum Stannide PtSn₄ via Surface Oxidation. *J. Mater. Chem. A* **2020**, *8* (5), 2349–2355 DOI: 10.1039/C9TA10097K.
- (11) Ren, R.; Wang, X.; Chen, H.; Miller, H. A.; Salam, I.; Varcoe, J. R.; Wu, L.; Chen, Y.; Liao, H.; Liu, E.; Bartoli, F.; Vizza, F.; Jia, Q.; He, Q. Reshaping the Cathodic Catalyst Layer for Anion Exchange Membrane Fuel Cells: From Heterogeneous Catalysis to Homogeneous Catalysis. *Angew. Chemie Int. Ed.* **2020**, anie.202012547 DOI: 10.1002/anie.202012547.
- (12) Baccioli, A.; Ferrari, L.; Vizza, F.; Desideri, U. Potential Energy Recovery by Integrating an ORC in a Biogas

- Plant. *Appl. Energy* **2019**, 256, 113960 DOI: 10.1016/j.apenergy.2019.113960.
- (13) Rossi, F.; Bevilacqua, M.; Busson, B.; Corva, M.; Tadjeddine, A.; Vizza, F.; Vesselli, E.; Bozzini, B. An In Situ IR-Vis Sum Frequency Generation Spectroscopy Study of Cyanide Adsorption during Zinc Electrodeposition. *J. Electroanal. Chem.* **2019**, 855, 113641 DOI: 10.1016/j.jelechem.2019.113641.
- (14) Ren, R.; Zhang, S.; Miller, H. A.; Vizza, F.; Varcoe, J. R.; He, Q. Facile Preparation of an Ether-Free Anion Exchange Membrane with Pendant Cyclic Quaternary Ammonium Groups. *ACS Appl. Energy Mater.* **2019**, 2 (7), 4576–4581 DOI: 10.1021/acsaem.9b00674.
- (15) Bellini, M.; Pagliaro, M. V.; Lenarda, A.; Fornasiero, P.; Marelli, M.; Evangelisti, C.; Innocenti, M.; Jia, Q.; Mukerjee, S.; Jankovic, J.; Wang, L.; Varcoe, J. R.; Krishnamurthy, C. B.; Grinberg, I.; Davydova, E.; Dekel, D. R.; Miller, H. A.; Vizza, F. Palladium–Ceria Catalysts with Enhanced Alkaline Hydrogen Oxidation Activity for Anion Exchange Membrane Fuel Cells. *ACS Appl. Energy Mater.* **2019**, 2 (7), 4999–5008 DOI: 10.1021/acsaem.9b00657.
- (16) Lenarda A; Bevilacqua M; Tavagnacco C; Nasi L; Criado A; Vizza F; Melchionna M; Prato M; Fornasiero P. Selective Electrocatalytic H₂O₂ Generation by Cobalt@N-Doped Graphitic Carbon Core-Shell Nanohybrids. *ChemSusChem* **2019**, 12, 1664–1672. <https://doi.org/10.1002/cssc.201900238>.
- (17) Passaponti, M.; Rosi, L.; Savastano, M.; Giurlani, W.; Miller, H. A.; Lavacchi, A.; Filippi, J.; Zangari, G.; Vizza, F.; Innocenti, M. Recycling of Waste Automobile Tires: Transforming Char in Oxygen Reduction Reaction Catalysts for Alkaline Fuel Cells. *J. Power Sources* **2019**, 427, 85–90. <https://doi.org/10.1016/j.jpowsour.2019.04.067>.
- (18) Enrico Berretti; Andrea Giaccherini; Giordano Montegrossi; Francesco D'Acapito; Francesco Di Benedetto; Claudio Zafferoni; Alessandro Puri; Giovanni Orazio Lepore; Hamish Miller; Walter Giurlani; et al. In-Situ Quantification of Nanoparticles Oxidation: A Fixed Energy X-Ray Absorption Approach. *CATALYSTS* **2019**, 9, 1–12. <https://doi.org/10.3390/catal9080659>.
- (19) Vizza F.; Miller H. A.; Folliero M. G.; Marchionni A.; J., F. Hydrometallurgic Processes for the Treatment of Lithium Batteries and Recovery of the Metals Contained Therein. 2019.
- (20) Baccioli A; Ferrari L; Vizza F; Desideri U. Feasibility Analysis of Coupling an ORC to a MGT in a Biogas Plant. *ENERGY PROCEDIA* **2019**, Volume 158, 2311-2316, 2311–2316.
- (21) Vizza, F.; Baccioli, A.; Ferrari, L.; Guillier, R.; Yousfi, O.; Vizza, F.; Desideri, U. Feasibility Analysis of Bio-Methane Production in a Biogas Plant: A Case Study. *Energies* **2019**, 12. <https://doi.org/10.3390/en12030473>.
- (22) Ren, R.; Zhang, S.; Miller, H. A.; Vizza, F.; Varcoe, J. R.; He, Q. Facile Preparation of Novel Cardo Poly(Oxindolebiphenylene) with Pendant Quaternary Ammonium by Superacid-Catalysed Polyhydroxyalkylation Reaction for Anion Exchange Membranes. *J. Memb. Sci.* **2019**, 591, 117320. <https://doi.org/10.1016/j.memsci.2019.117320>.
- (23) Rotundo, L.; Filippi, J.; Gobetto, R.; Miller, H. A.; Rocca, R.; Nervi, C.; Vizza, F. Electrochemical {CO}₂ Reduction in Water at Carbon Cloth Electrodes Functionalized with a Fac-Mn(Apppy){(CO)}₃Br Complex. *Chem. Commun.* **2019**, 55, 775–777. <https://doi.org/10.1039/c8cc08385a>.
- (24) Bellini M; Folliero M.G.; Evangelisti C.; He Q.; Hu Y.; Pagliaro M.V.; Oberhauser W.; Marchionni A.; Filippi J.; Miller H.A.; et al. A Gold–Palladium Nanoparticle Alloy Catalyst for CO Production from CO₂ Electroreduction. *ENERGY Technol.* **2019**, 7. <https://doi.org/DOI: 10.1002/ente.201800859>.
- (25) Vizza F; Miller H A; Folliero M G; Marchionni A; Filippi J. Procedimento Idrometallurgico per Il Trattamento Di Batterie Al Litio e Recupero Dei Metalli in Esse Contenuti. 2018.
- (26) Iglesias D; Giuliani A; Melchionna M; Marchesan S; Criado A; Nasi L; Bevilacqua M; Tavagnacco C; Vizza F; Prato M; et al. N-Doped Graphitized Carbon Nanohorns as a Forefront Electrocatalysts in Highly Selective O₂ Reduction to H₂O₂. *CHEM* **2018**, 4, 106–123. <https://doi.org/10.1016/j.chempr.2017.10.013>.
- (27) Iglesias, D.; Giuliani, A.; Melchionna, M.; Marchesan, S.; Criado, A.; Nasi, L.; Bevilacqua, M.; Tavagnacco, C.; Vizza, F.; Prato, M.; et al. N-Doped Graphitized Carbon Nanohorns as a Forefront Electrocatalyst in Highly Selective O₂ Reduction to H₂O₂. *Chem* **2018**, 4(1), 106–123. <https://doi.org/10.1016/j.chempr.2017.10.013>.
- (28) Miller HA; Ruggeri J; Marchionni A; Bellini M; Pagliaro MV; Bartoli C; Pucci A; Passaglia E; Vizza F. Improving the Energy Efficiency of Direct Formate Fuel Cells with a Pd/C-CeO₂ Anode Catalyst and Anion Exchange Ionomer in the Catalyst Layer. *ENERGIES* **2018**, 11. <https://doi.org/10.3390/en11020369>.
- (29) Pagliaro, M. V.; Bellini, M.; Filippi, J.; Folliero, M. G.; Marchionni, A.; Miller, H. A.; Oberhauser, W.; Vizza, F.; Pagliaro MV; Bellini M; et al. Hydrogen Production from the Electrooxidation of Methanol and Potassium Formate in Alkaline Media on Carbon Supported Rh and Pd Nanoparticles. *Inorganica Chim. Acta* **2018**, 470, 263–269. <https://doi.org/10.1016/j.ica.2017.05.055>.
- (30) Tuci, G.; Filippi, J.; Ba, H.; Rossin, A.; Luconi, L.; Pham-Huu, C.; Vizza, F.; Giambastiani, G. How to Teach an Old Dog New (Electrochemical) Tricks: Aziridine-Functionalized {CNTs} as Efficient Electrocatalysts for the Selective {CO}₂ Reduction to {CO}. *J. Mater. Chem. A* **2018**, 6.

- <https://doi.org/10.1039/c8ta04267e>.
- (31) Oberhauser W; Evangelisti C; Liscio A; Kovtun A; Cao Y; Vizza F. Glycerol to Lactic Acid Conversion by NHC-Stabilized Iridium Nanoparticles. *J. Catal.* **2018**, *368*, 298–305. <https://doi.org/10.1016/j.jcat.2018.10.024>.
- (32) Gao TY; Yang J; Nishijima M; Miller HA; Vizza F; Gu HY; Chen HQ; Hu YF; Jiang Z; Wang L; et al. Evidence of the Strong Metal Support Interaction in a Palladium-Ceria Hybrid Electrocatalyst for Enhancement of the Hydrogen Evolution Reaction. *J. Electrochem. Soc.* **2018**, *165*, F1147–F1153. <https://doi.org/10.1149/2.0351814jes>.
- (33) Bellini Marco; Bevilacqua Manuela; Marchionni Andrea; Miller Hamish Andrew; Filippi Jonathan; Grutzmacher Hansjorg; Francesco, V. Energy Production and Storage Promoted by Organometallic Complexes. *Eur. J. Inorg. Chem.* **2018**, 4393–4412. <https://doi.org/10.1002/ejic.201800829>.
- (34) Miller, H. A.; Vizza, F.; Miller HA; Vizza F. Electrocatalysts and Mechanisms of Hydrogen Oxidation in Alkaline Media for Anion Exchange Membrane Fuel Cells. In *ANION EXCHANGE MEMBRANE FUEL CELLS: PRINCIPLES, MATERIALS AND SYSTEMS*; An L; Zhao, T. S., Ed.; 2018; Vol. 63. https://doi.org/10.1007/978-3-319-71371-7_3.
- (35) Al Khatib M; Bellini M; Pogni R; Giaccherini A; Innocenti M; Vizza F; Lavacchi A. Effect of Electrode Shape and Flow Conditions on the Electrochemical Detection with Band Microelectrodes. *SENSORS* **2018**, *18*. <https://doi.org/10.3390/s18103196>.
- (36) Omasta TJ; Peng X; Miller HA; Vizza F; Wang LQ; Varcoe JR; Dekel DR; Mustain WE. Beyond 1.0 W Cm(-2) Performance without Platinum: The Beginning of a New Era in Anion Exchange Membrane Fuel Cells. *J. Electrochem. Soc.* **2018**, *165*, J3039–J3044. <https://doi.org/10.1149/2.0071815jes>.
- (37) Chen Y X; Gombac V; Montini T; Lavacchi A; Filippi J; Miller H A; Fornasiero; Vizza F; Chen, Y. X.; Gombac, V.; et al. An Increase in Hydrogen Production from Light and Ethanol Using a Dual Scale Porosity Photocatalyst. *GREEN Chem.* **2018**, *20* (10), 2299–2307–2307. <https://doi.org/10.1039/c7gc03508j>.
- (38) Giaccherini, A.; Giaccherini, A.; Cinotti, S.; Guerri, A.; Carlà, F.; Montegrossi, G.; Vizza, F.; Lavacchi, A.; Felici, R.; Di Benedetto, Francesco Innocenti, M. Operando SXRD Study of the Structure and Growth Process of Cu₂S Ultra-Thin Films. *Sci. Rep.* **2017**, *7* (1), 1615. <https://doi.org/10.1038/s41598-017-01717-0>.
- (39) Lenarda, A.; Bellini, M.; Marchionni, A.; Miller, H. A.; Montini, T.; Melchionna, M.; Vizza, F.; Prato, M.; Fornasiero, P. Nanostructured Carbon Supported Pd-Ceria as Anode Catalysts for Anion Exchange Membrane Fuel Cells Fed with Polyalcohols. *Inorganica Chim. Acta* **2017**, *470*, 213–220. <https://doi.org/10.1016/j.ica.2017.05.020>.
- (40) Miller, H. A.; Vizza, F.; Marelli, M.; Zadick, A.; Dubau, L.; Chatenet, M.; Geiger, S.; Cherevko, S.; Doan, H.; Pavlicek, R. K.; et al. Highly Active Nanostructured Palladium-Ceria Electrocatalysts for the Hydrogen Oxidation Reaction in Alkaline Medium. *Nano Energy* **2017**, *33*, 293–305. <https://doi.org/10.1016/j.nanoen.2017.01.051>.
- (41) Oberhauser, W.; Evangelisti, C.; Caporali, S.; Dal Santo, V.; Bossola, F.; Vizza, F. Ethyl Lactate from Dihydroxyacetone by a Montmorillonite-Supported Pt(II) Diphosphane Complex. *J. Catal.* **2017**, *350*, 133–140. <https://doi.org/10.1016/j.jcat.2017.04.006>.
- (42) Pecorini, I.; Ferrari, L.; Baldi, F.; Albini, E.; Galoppi, G.; Bacchi, D.; Vizza, F.; Lombardi, L.; Carcasci, C.; Ferrara, G.; et al. Energy Recovery from Fermentative Biohydrogen Production of Biowaste: A Case Study Based Analysis. *Energy Procedia* **2017**, *126*, 605–612. <https://doi.org/10.1016/j.egypro.2017.08.230>.
- (43) Mahmoudian, J.; Bellini, M.; Pagliaro, M. V.; Oberhauser, W.; Innocenti, M.; Vizza, F.; Miller, H. A. Electrochemical Coproduction of Acrylate and Hydrogen from 1,3-Propanediol. *ACS Sustain. Chem. Eng.* **2017**, *5* (7), 6090–6098. <https://doi.org/10.1021/acssuschemeng.7b00968>.
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PERSONAL DATA Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".