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Sabina Fiorot

| Nationality: | Gender: |

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SHORT CV

Sabina Fiorot
Chemical Engineer with a PhD in Chemical Engineering at Politecnico di Torino. Her expertise and skills are based on more than twenty years spent in research and development in the areas of advanced energy, hydrogen and fuel cells technologies, innovative batteries and energy system monitoring and integration. She undertakes technical and managerial activity on National and International projects.

WORK EXPERIENCE

21/01/2023 - today - Torino, Italy
Iveco Group (Fpt Industrial spa) https://www.ivecogroup.com/
Position: Innovation - Funding & Cooperation - Funded Project Manager

Responsible for collaborative R&D programme and funding to support innovation programmes.

Experienced Project Manager with a track record on innovation, R&D and strategy in the energy and transport industry, with a high focus on sustainability. EU/National funded project proposal writing. Identification of contents with high potential of innovation in Energy, Clean-Tech, Hydrogen and Battery field. Technical and economic management of European, National and local projects in the Environmental and Innovative Sectors.

07/03/2015 - 20/01/2023 - Torino, Italy
Environment Park spa www.envipark.com
Position: R&D Project Manager

Feasibility studies and consultancy services evaluating scenarios for the integration of innovative technologies for hydrogen production, storage and use:
- Identification and analysis of technological suppliers: selection of brands and models of equipment (performance, size..);
- Estimation of CAPEX and OPEX for individual technologies, in cooperation with suppliers;
- Identification of specific regulations, procedures or sector recommendations.

Project Management (Regional and EU funding: H2020, CleanHydrogen, LIFE, Interreg MED, Interreg Alpine Space, EURAMET):
- EU funded project proposal writing. Identification of contents with high potential of innovation in Energy, Clean-Tech and Hydrogen field;
- Technical and economic management of European, National and local projects in the Environmental and Hydrogen Sectors. Responsible for quality execution of project tasks with respect of assigned time and budget.

Focus on past two years' activities
- Project Manager in EU projects: EveryWh2ere, REFLEX, SuStainHUTS, HytechCyclyng, Met4H2, HyCARE, SOWHAT)
- Coordinator of the BEST4Hy Project (Sustainable Solutions for Recycling of End-of-Life Hydrogen Technologies)
- R&D installations of demonstrators of funded projects: setup definition, safety aspects and interface with the Park utilities.
- Training: Technical Workshops on H2 technology, H2 engineering, components and markets. EU and National Policies. Targets: Technicians, R&D operators and Managers. Sectors: Automotive, Energy Utilities, Gas and Energy
- Assessment, positioning and road mapping: technical & business assistance to company management

for definition of the current positioning over new technologies; support in the elaboration of roadmaps and action plans for the access to innovative markets segments
- Market and policies intelligence: innovative value chain analysis and players positioning; survey of international policies and trends impacting cleantech markets evolution
- Consultancy in the identification of possible CO2 emissions reduction scenarios: techno-economic analysis of reuse of hydrogen in blending with natural gas in a cogeneration plant; waste hydrogen recirculation process identification, epitaxial silicon's production process
- Feasibility studies and consultancy evaluating possible scenarios for the integration of some innovative technologies for hydrogen production, storage and use
- Evaluation of the "readiness" of technologies in the hydrogen sector for applications in the domestic market / Support for participation in innovation programs and networks of the hydrogen sector
- Study on the contribution of the FC system to airport reduction objectives
- Support in the preparation of "Intermodal and logistics center": use of alternative energy sources (electric charging stations, LNG and hydrogen distributors…).
- Design, sizing and bench testing of Fuel Cell Power System, supporting the customer in identifying component suppliers and integrating and assembling the Cargo Bike. The integration and analysis include also the hydrogen storage.
- Refitting of the **Hydrogen Lab** (definition of specifications, safety aspects, supervision of design and relationships with suppliers) for the installation of CO2 Circle LAB plants (SOFC test bench, PEM electrolyzes, methanation, CO2 capture plant….).

07/03/2015 – 20/01/2023 – Torino, Italy

PREVENTION AND PROTECTION SERVICE OFFICER (ASPP) – Environment Park spa

01/01/2007 – 09/03/2015 – Torino, Italy

R&D PROJECT ENGINEER – Environment Park spa

Research & Development: renewable energies and energy storage (batteries, Fuel cell):
- Characterization and set up of H2 production systems (hydrocarbon fuels reformer, electrolyzes, …);
- Test and characterization of PEM and HT PEM fuel cell stack and fuel cell power systems;
- Design and characterization of test benches for testing of components (compressors, blowers);
- Components and sensors identification in hydrogen supply chain;
- Reporting and data analysis;
- Publications, scientific reports and oral presentations for National and International conferences and Seminars;
- Training courses on the issues of the hydrogen supply chain and fuel cells;
- Coordination and management of the activities of thesis's/internships

01/01/2004 – 31/12/2006 – Torino, Italy

PHD IN CHEMICAL ENGINEERING – POLYTECHNIC OF TURIN - DISAT

Research and development in the field of synthesis, characterization according to some of the more established techniques of heterogeneous catalysis.
In particular:
- Design and construction of testing plants for CO preferential oxidation catalysts and water gas shifts (WGS);
- Test of microreactors for WGS, CO oxidation and methanation;
- Skills in synthesis and characterization (BET area, XRD, SEM/EDS, TG, TPD/TPO/TPR) and catalyst tests;
- Gas analysis via: multiplegas-analizer (ABB), gas chromatograph and micro-gas chromatograph (GC-3800 and micro-GC-4900 VARIAN);
- Research activity within the Projects: MICROCHP, Celco Yacht, Biofeat, Miniref, Profuel, PRIN.

01/02/2003 – 31/12/2003 – Torino, Italy

CONTRACT RESEARCHER – POLYTECHNIC OF TURIN - DISAT

R&D activities. clean up processes of syngas produced via reforming.

EDUCATION AND TRAINING

01/01/2004 – 31/12/2006 – Corso Duca degli Abruzzi 24, TO, Italy

PHD _CHEMICAL ENGINEERING – Polytechnic of Turin

Courses:

- Combustion Systems, Hydrogen: an Energy Vector for Sustainable Development (Hydrogen roadmaps), Environmental Impact of Energy Systems (Department of Energetics, Politecnico di Torino)
- Catalysis in Environment and Energy (DISMIC-Politecnico di Torino)
- “Innovative catalysts for applications in the fields of energy and environment”
- “Nanoparticles - Synthesis and Characterization”
- “SCHOOL ON CATALYSIS” (Poland)
- Hyschool: “State of art and future of hydrogen and fuel cells technologies”.
- Participation in International Conferences in Hydrogen and Renewable sources.

Thesis: “CO clean-up processes of reformate H2 gas streams for PEM Fuel Cell applications”.

https://www.polito.it/

01/10/1994 – 12/07/2002 – Corso Duca degli Abruzzi 24, TO, Italy

CHEMICAL ENGINEERING – Polytechnic of Turin - DISAT

- Environmental Engineering, Industrial Chemistry,
- Applied thermodynamics and heat transmission,
- Fundamentals of process engineering,
- Environmental Safety Technique

Thesis: “Sviluppo di catalizzatori per l’ossidazione preferenziale del monossido di carbonio (COPROX)”.

https://www.polito.it/

LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH C1		C1	C1	B2	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Microsoft Excel | Microsoft Powerpoint | Google Drive | Google Docs | Microsoft Office | Outlook

COMMUNICATION AND INTERPERSONAL SKILLS

Communication

Good communication skills gained through the following activities:

- industrial technology auditing
- participation to networking and brokerage events (R&D and B2B)
- public presentation of managed EU projects
- public technical presentations in seminars/workshops
- training courses on energy efficiency/hydrogen applications

MANAGEMENT AND LEADERSHIP SKILLS

Project management

Ability to manage project teams with partners of different skills on an international scale: definition of shared goals and timelines, monitoring of the activities.

PROJECTS

01/01/2007 - CURRENT

EU Projects

- H2020 - H2Haul, https://www.h2haul.eu/

The EU-funded H2Haul project is advancing and demonstrating 16 new heavy-duty hydrogen fuel cell trucks in collaboration with two of the major European truck manufacturers, IVECO and VDL. The project will deploy on small-level prototypes to achieve standardised zero emission trucks for commercial activities.

- JTI-CLEANH2- Accelerate trucks, https://h2accelerate.eu/

150 trucks from three European truck OEMs, the Volvo Group, Daimler AG and IVECO will be deployed across eight EU member states. IVECO will deploy 65 trucks. Each company will develop and deploy 41-44 tonne articulated trucks which are specified for the longest haul operation (ranges over 600km). The trucks will be deployed with over 20 truck operators and operate in a wide range conditions and day-to-day operations across 8 European member states.

- HORIZON EUROPE-MINDED

Role. Manufacturing of edaily minibus prototype to be integrated with innovative solutions improving of 20% the range at 0°C. Support to innovative products developments: technical specifications and KPI targets definition, inputs of main subsystems, operating strategies. Support to testing and demonstration activities.

- JTI-FCH-BEST4Hy, https://best4hy-project.eu/

SustainaBIE SoluTions FOR recycling of end of life Hydrogen technologies

Role: project coordination, developing the training plan and the training kit; in the same WP ENVI will be involved in regulation analysis and involvement of stakeholders and policy makers.

- LC-SC3-EE-6-2018-2019-2020-SO WHAT,

Supporting new Opportunities for Waste Heat And cold valorization Towards EU decarbonization

Role: definition of lessons leant (environmental and technical benefits) including the evaluation also of no energy benefits of investment beyond energy savings (link with the H2020 M-benefits project); support via organization of an internal CLUSTER WS in order to collect Cluster lessons learnt; stakeholder's engagement.

- JTI-FCH-HyCARE, https://hycare-project.eu/

Development of a prototype hydrogen storage tank with use of a solid-state hydrogen carrier on large scale.

The HyCARE project aims at developing a hydrogen storage tank with use of a solid-state hydrogen carrier in large scale.

- JTI-FCH – REFLEX, http://www.reflex-energy.eu/

Reversible solid oxide Electrolyzer and Fuel cell for optimized Local Energy miX.

Role: testing demo site; the system will operate either in electrolysis mode (SOEC) to store excess electricity to produce H2, or in fuel cell mode (SOFC) when energy needs exceed local production, to produce electricity and heat again from H2 or any other fuel locally available.

- JTI-FCH – EVERYWH2ERE, http://www.everywh2ere.eu/

Making hydrogen affordable to sustainably operate Everywhere in European cities

Role: responsible of the demo campaign in Italy and coordination of demo events in EU

- JTI-FCH – HytechCycling, http://hytechcycling.eu/

New technologies and strategies for fuel cells and Hydrogen Technologies in the phase of reCycling and dismantling

Role: legislative framework analysis and barriers identification; collection of the main needs from the main actors and creation of guidelines for new re-adaptation strategies.

- LIFE- SustainHuts, http://sustainhuts.eu/

Sustainable Mountain Huts in EU

Role: support in the energy modernization "Rifugio Torino" and CO2 reduction monitoring.

- JTI-FCH – Knowhy, https://knowhy.eu/

Improving the Knowledge in Hydrogen and Fuel Cell Technology for Technicians

Role: Training for technicians' material preparation and training in Italy.

- JTI-FCH – ENE.FIELD, http://enefield.eu/

European-wide field trials for residential fuel cell micro-CHP

Role in the project: Envipark project researcher, definition of training needs for technicians

- JTI-FCH – FLUMABACK,

Fluid Management component improvement for Back up fuel cell Systems

Role in the project: WP leader for testing protocols, testing and data analysis

- JTI-FCH – FITUP, Role in the project: Envipark project researcher, test and protocols definition
- JTI-FCH - HYPROFESSIONALS

Development of educational programs and training initiatives related to hydrogen technologies and fuel cells in Europe.

Role in the project: Envipark project researcher

01/01/2007 - CURRENT

National Projects

- CleanDronhy (Clever)

Integrated system for the production, charging and use of hydrogen for the power supply of a high-performance drone
Role: activity test of fuel cell system

- THOR (Piemonte Automotive Platform)

The project is dedicated to the construction of a platform for an electric vehicle powered by lithium batteries, complete with management system and safety devices for road homologation.

- STEPS (Piemonte Aerospace Platform)

The project, coordinated by Thales Alenia Space, is aimed at the development of different technological solutions for applications related to space export. Experimentation of cells with reversible fuels, capable of self-producing the fuel for its own operation.

- EFESO (Industria 2015 – Energy efficiency)

Development of Solid Oxide micro-cogeneration units for residential applications
Partners: ARISTON, Acumentrics (USA), ENEA, FN, General Impianti, Hysytech, Envipark, Proeng, SofcPower, StMicroelectronics, UniPG, Università Politecnica delle Marche,

- HYTRACTOR (Industria 2015 – Made in Italy)

Development of a Fuel Cell Powered Tractor
Partners: CNH, CRF, Verderone, ENEA, CNR, Envipark, Ferrari, Zefiro, SAPIO, Tonutti, API-COM, ROTER, ELASIS

- CARI (Polight-Hydrogen)

Air and recirculating hydrogen compressors
Partners: CRF, MAger, Apr, PdT, MenT, Envipark, Meccanica Bicchi

- MOSFC (Polight-Hydrogen)

Fuel Cell Self-propelled Operating Machine
Partners: Envipark, Verderone Battista, Verderone Industrie, Amet

- S-BOAT (Polight-Hydrogen)

On-board auxiliary generator and energy storage system Partners:
Envipark, Hysytech, Enerconv, Azimut, PdT, Amet

- RES-COGEN (Polight-Hydrogen)

Residential FC for cogeneration
Partners: Envipark, Giacomini, Hysytech, Enerconv, PdT

- MORGASS (Enermhy)

Energy Exploitation of Organic Materials Results from Agricultural and Livestock Activities for Biomass Gasification
Partners: Envipark, Hysytech, Agrindustria, UniTo

- HYSYPOWER

Development of innovative solutions for Fuel cell-based UPS systems
Partners: Electro Power Systems, Envipark, Politecnico di Torino

- MHYTO

Development of a Fuel Cell Power System for automotive applications
Partners: CRF, Envipark, Politecnico di Torino

- NANOSOFC

Development of innovative solutions for solid oxide fuel cells electrodes
Partners: Politecnico di Torino, Envipark

- MICROCHP

Development of PEMFC based micro combined heat and power generator.

- CELCOYACHT

Development of a PEMFC based APU for luxury boats.

- HYSYVISION

Create the first Hydrogen Supply Chain in Piedmont region.

- BIOH2POWER

From waste to renewables gaseous fuels for current and future vehicles.

- EOS

Energy from Solid Oxide FC

PUBLICATIONS

Publications

- Mougin, J., Cubizolles, G., Hauch, A., ...Fiorot, S., Perez, G., “Development of an efficient rSOC based renewable energy storage system”, ECS Transactions, 2021, 103(1), pp. 337-350
- A. Bernad, A. M. Férriz, M. Zarzuela, **S. Fiorot**, J. Dufour, D. Iribarren, A. Valente, R. Stropnik, M. Mori, 2019, “Critical materials and recycling strategies for fuel cells and hydrogen technologies”, International Journal of Hydrogen Energy
- Férriz, A.M., Bernad, A., Mori, M., Fiorot, S., “End-of-life of fuel cell and hydrogen products: A state of the art”, International Journal of Hydrogen Energy 2019, pp. 12872-12879
- N. Belmonte, S. Staulo, **S. Fiorot**, C. Luetto, P. Rizzia, M. Baricco, 2018, “Fuel cell powered octocopter for inspection of mobile cranes: Design, cost analysis and environmental impacts”, Applied Energy
- Cittanti, D., Ferraris, A., Airale, A., ...Scavuzzo, S., Carello, M., “Modeling Li-ion batteries for automotive application: A trade-off between accuracy and complexity”, 2017 International Conference of Electrical and Electronic Technologies for Automotive,
- **S. Fiorot**, C. Galletti, S. Specchia, G. Saracco and V. Specchia, 2007, “Development of water gas shift supported catalysts for fuel processor unit”, International Journal of Chemical Reactor Engineering
- C. Galletti, S. Fiorot, S. Specchia, G. Saracco and V. Specchia, 2006, “Catalytic performance of Au-TiO2 catalysts prepared by deposition-precipitation for CO preferential oxidation in H2-rich gases”, Chemical Engineering Journal
- S. Specchia, C. Galletti, S. Fiorot, G. Saracco, V. Specchia, 2006, “CO preferential oxidation over Rh-supported catalyst in H2-rich gas for fuel cell applications”, ECS Transactions - Fuel Cell Seminar, Volume 5, accepted for publication, in press
- S. Fiorot, C. Galletti, S. Specchia, G. Saracco, V. Specchia, 2006, “Water gas shift catalysts for fuel cell processor: from fixed bed to microchannelled reactors”, Chemical Engineering Journal, submitted for publication
- C. Galletti, S. Fiorot, S. Specchia, G. Saracco, V. Specchia, 2006, “Activity of Rhodium-based catalysts for CO preferential oxidation: from fixed bed to microchannelled reactor”, Topics in Catalysis, submitted for publication
- S. Fiorot, 2006, “CO clean-up processes of reformate H2 gas streams for on-board fuel cell applications”, Tesi di Dottorato di ricerca in Ingegneria Chimica, Politecnico di Torino, Dicembre 2006

CONFERENCES AND SEMINARS

Conferences/Congress

- M. Carello, A. Ferraris, A. Airale, D. Cittanti, S. Scavuzzo, S. Fiorot, Modeling Li-ion batteries for automotive application: A trade-off between accuracy and complexity, Conference: 2017 International Conference of Electrical and Electronic Technologies for Automotive.
- Carpignano, S. Fiorot, A. Graizzaro, U.A.Icardi, M. Mazzucato, F. Nicolin, V. Verda, "BIOH2POWER WP6: Life Cycle, environmental and socio-economic impact, sardinia 2009: Twelfth International Waste Management and Landfill Symposium, 5 - 9 October 2009, S. Margherita di Pula (Cagliari).
- D. Fino, G. Saracco, V. Verda, A. Carpignano, R. Zocchi, G. Dininno, S. Trini Castelli, D. Anfossi, B. Mercenaro, F. federici, S. Fiorot, A. Graizzaro, A. Marigo, S. De Santis, "BIOH2POWER: From Waste To Renewable Gaseous Fuels For Current And Future Vehicles", Second International Symposium of Energy by Biomass and Waste, Venezia 17-20 novembre 2008
- S. Fiorot, C. Galletti, S. Specchia, G. Saracco, V. Specchia, 2006, "Water gas shift catalysys for fuel processor: from fixed bed to microchannel reactors", XII International Conference on Chemical Reactors, CHEMREACTOR-17, 15-19 May 2006. C. Galletti,
- S. Fiorot, S. Specchia, G. Saracco, V. Specchia, 2006, " Catalytic performance of Au-TiO2 catalysts prepared by deposition-precipitation for CO preferential oxidation in H2-rich gases", XII International Conference on Chemical Reactors, CHEMREACTOR-17, 15-19 May 2006. C. Galletti,
- S. Fiorot, S. Specchia, G. Saracco, V. Specchia, 2006, "Activity of Rh-based catalysts for CO preferential oxidation in H2-rich gases", 12th Nordic Symposium on Catalysis, 28-30 May 2006.
- S. Specchia, C. Galletti, S. Fiorot, G. Saracco, V. Specchia, 2006, " CO preferential oxidation over Rh-supported catalysts in H2 rich gas for fuel cell applications", Fuel Cell Seminar, 13-17 November, Honolulu Hawaii.
- C. Galletti, S. Fiorot, G. Saracco, V. Specchia, 2005, "Development of microchannelled reactor for CO preferential oxidation in H2-rich gas for fuel cell", Proceedings International Hydrogen Energy Congress and Exhibition IHEC 2005- Istanbul, Turkey, 13-15 July 2005.
- S. Fiorot, C. Galletti, G. Saracco, V. Specchia, 2005 "Water Gas Shift catalysts for CO clean up for fuel cell on mobile applications", Ecoefficiency – Biennale, Torino Lingotto, 18-21 maggio 2005.
- C. Galletti, S. Fiorot, G. Saracco, V. Specchia, 2005, "Development of microchannelled reactor for CO preferential oxidation in H2-rich gas for fuel cell", Ecoefficiency – Biennale, Torino Lingotto, 18-25 maggio 2005.
- S. Fiorot, C. Galletti, G. Saracco, V. Specchia, 2005 "Water Gas Shift catalysts for CO clean up for fuel cell on mobile applications", Proceedings International Hydrogen Energy Congress and Exhibition IHEC 2005- Istanbul, Turkey, 13-15 July 2005.

GDPR AUTHORISATION

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