



Francesco Paparoni

● EDUCATION AND TRAINING

04/11/2021 – CURRENT

PHD IN PHYSICS, EARTH AND MATERIALS SCIENCES International school of advanced studies - University of Camerino

Setup development and application of XAS and Raman measurements of water splitting catalysts under operando conditions. Sample synthesis, doping engineering and characterization (Raman, XAS, XPS) and electrochemical characterization (LSV, CA, IPCE).
Characterization of battery electrodes.

Address Via Gentile III Da Varano, I-62032 Camerino | **Website** <https://isas.unicam.it/> | **Field of study** Catalysis |

Level in EQF EQF level 8 | **Thesis** Operando characterization of catalysts for water splitting reactions

05/02/2024 – 09/02/2024 ANVERSA, Belgium

ELECTROCATALYSIS WINTER SCHOOL University of Antwerpen

Website <https://www.uantwerpen.be/en/summer-winter-schools/electrocatalysis/>

23/10/2023 – 27/10/2023 Saclay, 91191 Gif-sur-Yvette, France

QUANTIFICATION METHODS IN X-RAY SPECTROMETRY EXSA/LNHB

Website http://www.lnhb.fr/home/conferences-publications/exsa_sw/exsa-workshop/

19/09/2022 – 30/09/2022 Trieste, Italy

XVI SCHOOL ON SYNCHROTRON RADIATION Società Italiana Luce di Sincrotrone

Website <https://www.lucedisincrotrone.it/events/sils-school-2022elettra/>

31/10/2019 – 25/10/2021 Camerino, Italy

MASTER DEGREE IN PHYSICS University of Camerino

Thesis work on the production and characterization of molybdenum trioxide films on different substrates. Sample production via thermal evaporation chamber. Structural and conductive analysis via Raman spectroscopy, SEM, XRF, 4T sensing, AFM, KFM, XAS. Design and production of a chamber for Raman annealing in high vacuum conditions.

Address Via Madonna delle Carceri, 9B, 62032, Camerino, Italy | **Website** <https://www.unicam.it/> |

Thesis Synthesis and Characterization of Transition Metal Oxide Films on Metal Substrates

04/11/2015 – 28/10/2019 Camerino, Italy

BACHELOR DEGREE IN PHYSICS University of Camerino

Address Via Andrea D'Accorso, 16, 62032, Camerino, Italy | **Website** <https://www.unicam.it/> |

Thesis MISURA DEL RUMORE DI AEROGENERATORI E VALUTAZIONE DI IMPATTO ACUSTICO

● NETWORKS AND MEMBERSHIPS

01/09/2022 – CURRENT Trieste

Società Italiana Luce di Sincrotrone

"Young" Membership

Link <https://www.lucedisincrotrone.it/>

I-62032 Camerino

Sez. Fisica, Scuola di Scienze e Tecnologie, Università di Camerino

Affiliation

L'Orme des Merisiers, 91190 Saint-Aubin, France

Synchrotron SOLEIL

Affiliation

● **CONFERENCES AND SEMINARS**

03/09/2024 – 05/09/2024 Università della Calabria

SILS conference 2024

Poster and Oral contribution

03/04/2024 – 05/04/2024 ECPM, Strasbourg

Ecatalytix

Poster Presentation: Unraveling the photoelectrocatalytic OER on ultra-thin Y-NixFe₂O₃ films

Link <https://www.synchrotron-soleil.fr/en/events/ecatalytix>

18/01/2024 – 19/01/2024 Synchrotron SOLEIL L'Orme des Merisiers Départementale 128 91190 Saint-Aubin

18th SOLEIL USERS' MEETING

Poster presentation: EC Cell for Operando XAS investigations on X-ray opaque supports

Link <https://www.synchrotron-soleil.fr/en/events/sum2024>

25/10/2023 – 25/10/2023 Laboratoire National Henri Becquerel, Saclay, 91191 Gif-sur-Yvette

EXSA/LNHB Workshop on "Quantification Methods in X-ray Spectrometry"

Oral contribution: Operando XAS investigations on X-ray opaque supports.

Link http://www.lnhb.fr/home/conferences-publications/exsa_sw/exsa-workshop/

02/10/2023 – 02/10/2023 SOLEIL Synchrotron

Journée Sciences & Techniques

Oral contribution: Tuning of the catalytic OER performances of maghemite via Ni doping - An operando XAS study

30/08/2023 – 01/09/2023 Rome, University of "La Sapienza"

SILS Conference 2023

Oral Presentation titled "*Enhancement of the structural stability in Li-ion batteries active material through oxide coating - an XAS study*"

18/05/2022 – 19/05/2022 Frascati (RM)

LIMS 2022

Poster presentation titled: Investigation of the phase dynamics of the amorphous MoO₃-Metal heterostructures by In-Situ Raman spectroscopy.

Link <https://www.enea.it/it/seguici/events/lims2022/save-the-date-convegno-lims-2022>

14/02/2022 – 15/02/2022 Frascati (RM)

Quantum materials in quantum technologies

Speaker in the QMQT workshop organized by INFN (RM). Presentation titled: Metallic Interface Effects on Ionic Redistribution in MoO₃ Films

Link <https://www.phys.uniroma1.it/fisica/archivionotizie/quantum-materials-quantum-technologies-qmqt>

● **SCIENTIFIC PUBLICATIONS**

A New Cell for In Situ High-Temperature Micro-Raman Experiments: Studying the Dynamics of Oxygen Vacancy Formation in α -MoO₃

Francesco Paparoni, Andrea Di Cicco, Marco Minicucci, Emin Mijit, and Seyed Javad Rezvani. *J. Phys. Chem. C* **2024**, **128**, 15522–15532

A novel electrochemical flow-cell for operando XAS investigations in X-ray opaque supports

Francesco Paparoni, Guillaume Alizon, Andrea Zitolo, S. Javad Rezvani, Andrea Di Cicco, Helene Magnan and Emiliano Fonda, *Phys. Chem. Chem. Phys.* 2024

Oxide Coating Role on the Bulk Structural Stability of Active LiMn2O4 Cathodes

Francesco Paparoni, Emin Mijit, Hamideh Darjazi, Francesco Nobili, Andrea Zitolo, Andrea Di Cicco, Rahul Parmar, Roberto Gunnella, and S. Javad Rezvani, *J. Phys. Chem. C* **2023**, **127**, **18**, 8649–8656

Link <https://doi.org/10.1021/acs.jpcc.3c00342>

Metallic Interface Induced Ionic Redistribution within Amorphous MoO3 Films

Francesco Paparoni, Emin Mijit, Shafaq Kazim, Marco Minicucci, Nicola Pinto, Alessandro D'Elia, Salvatore Macis, Changyoung Kim, Soonsang Huh, Roberto Gunnella, Augusto Marcelli, Andrea Di Cicco and Seyed Javad Rezvani, *Adv. Mater. Interfaces* **2022**, **9**, 2200453

Link <https://doi.org/10.1002/admi.202200453>

A Two-Dimensional Borophene Supercapacitor

Yaser Abdi, Ali Mazaheri, Soheil Hajibaba, Sara Darbari, Seyed Javad Rezvani, Andrea Di Cicco, Francesco Paparoni, Reza Rahighi, Somayeh Gholipour, Alimorad Rashidi, Mahdi Malekshahi Byranvand and Michael Saliba, *ACS Materials Lett.* **2022**, **4**, 1929–1936

Electrochemical characterization of γ -Fe2O3 and a reduced graphene oxide composite as a sustainable anode material for Na-ion batteries

Antunes Staffolani, Leonardo Sbrascini, a Luca Bottoni, a Luca Minnetti, a Hamideh Darjazi, Angela Trapananti, Francesco Paparoni, Seyed Javad Rezvani, bd Marco Minicucci, Messaoud Harfouchee and Francesco Nobili. *Energy Adv.*, **2024**, **3**, 1726–173

EXAFS investigations on the pressure induced local structural changes of GeSe2 glass under different hydrostatic conditions

Emin Mijit, Joao Elias F. S. Rodrigues, Georghii Tchoudinov, Francesco Paparoni, Toru Shinmei, Tetsuo Irifune, Olivier Mathon, Angelika Dorothea Rosa and Andrea Di Cicco, *J. Phys.: Condens. Matter* **35** (2023) 264001 (9pp)

Link <https://doi.org/10.1088/1361-648X/acc8b1>

Aluminum-Activated Borophene Nanosheets with Enhanced Oxidation Resistance for Nanoelectronic Devices

Seyed Javad Rezvani, Yaser Abdi, Rahul Parmar, Francesco Paparoni, Simone Antonini, Roberto Gunnella, Andrea Di Cicco, Matteo Amati, Luca Gregoratti, Ali Mazaheri, and Soheil Hajibaba. *ACS Appl. Nano Mater.* 2024, 7, 13712–13719.

WORK EXPERIENCE

16/11/2021 – 25/06/2024 Camerino, Italy

UNIVERSITY TEACHING ASSISTANT UNIVERSITY OF CAMERINO

Teaching assistant in the course of **Fisica 1** for the chemistry department in the University of Camerino (A.A. 2021-2022, 2022-2023) and **Physics** for biosciences and biotechnologies (A.A. 2023-2024).

14/11/2021 – 21/11/2021 San Ginesio, Italy

SCIENCE TEACHER SECONDARY SCHOOL IIS A. GENTILI

Teacher of physics and math in a secondary school (high school).

19/01/2021 – 09/07/2021 Camerino, Italy

STUDENT SECRETARIAT UNIVERSITY OF CAMERINO

Part-time job as front office employee in the student secretariat.

13/09/2018 – 30/06/2019 Camerino, Italy
TUTOR UNIVERSITY OF CAMERINO

- Intermediary between teachers and students.
- Organization of educational meetings
- Communications to students

24/01/2020 – 04/07/2020 Camerino, Italy
STUDENT SECRETARIAT UNIVERSITY OF CAMERINO

Part-time job as front office employee in the student secretariat.

19/11/2018 – 30/06/2019 Camerino, Italy
EDUCATOR CUS CAMERINO

Physical education teacher. Sports activities for students of different ages.

Camerino, Italy
NATIONAL CIVIL SERVICE UNIVERSITY OF CAMERINO

Front Office of the student secretariat:

- Online practices (immatriculations, requests...)
- Archival Work
- Foreigner students desk
- Assistance for disabled students
- Orientation activities

31/10/2018 – 25/11/2018 Sarnano, Italy
AUXILIARY TECHNICAL AND ADMINISTRATIVE STAFF IIS A.GENTILI

School secretariat

● LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
FRENCH	B1	B1	B1	B1	B1

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

● HONOURS AND AWARDS

08/01/2020
Scholarship – EOS s.p.a.

Scholarship for worthy students of scientific master degree courses

31/08/2019
Trieste Next Scholarship – Goodnet

Partecipation to the 3 days event: "Trieste Next".

● DIGITAL SKILLS

Microsoft Word | Microsoft Excel | Microsoft Powerpoint | C,C++ | Arduino (basics) | Labview | Latex | Origin | Linux | Python | Adobe (Adobe Photoshop, Adobe Lightroom, Adobe Premiere, Adobe Bridge, Adobe)