European Curriculum Vitae

Il sottoscritto Sisti Mattia, consapevole che le dichiarazioni false comportano l'applicazione delle sanzioni penali previste dall'art. 76 del D.P.R. 445/2000, dichiara che le informazioni riportate nel seguente curriculum vitae, redatto in formato europeo, corrispondono a verità.

Personal Informations

Name: **MATTIA SISTI**

Work address: Università degli Studi di Modena e Reggio Emilia, Dipartimento di Scienze Chimiche e Geologiche, Via G. Campi, 103 – 41125 Modena (Italy)

Address: Via Radici in Monte, 146/c - 42014 Castellarano (RE, Italy)

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Work e-mail: mattia.sisti@unimore.it

Personal e-mail: sistimattia@gmail.com

PEC: mattia.sisti@arubapec.it

Gender: Male

Date of birth: 01/10/1998

Nationality: Italian

Work experiences

01/11/2023 – Present

PhD Student (PhD Course in "Models and Methods for Material and Environmental Sciences")

Università degli Studi di Modena e Reggio Emilia, Dipartimento di Scienze Chimiche e Geologiche, Via G. Campi, 103 – 41125 Modena (Italy)

Title of the project: "Innovation in stoneware tile production: the aid of mineralogy to win the raw material challenge".

Tutor: Prof.ssa Rossella Arletti

The project is carried out in collaboration with Marazzi Group S.r.l. and it consists in the use of chemical, mineralogical and microstructural techniques to analyse old and new ceramic materials with the aim of understanding what changes have occurred in the body

formulations after the Ukrainian crisis and how these changes have affected the technological properties of the porcelain stoneware tiles.

16/01/2023 – 31/10/2023 **Research fellow**

Università degli Studi di Modena e Reggio Emilia, Dipartimento di Scienze Chimiche e Geologiche, Via G. Campi, 103 – 41125 Modena (Italy)

Title of the project: "Development and characterization of ceramic products with low environmental impact".

Tutor: Prof.ssa Rossella Arletti

April 2022 – August 2022 **Curricular internship**

Marazzi Group S.r.l., Via Regina Pacis, 39/a – 41049 Sassuolo (MO, Italy)

Preparation of ceramic engobes, glazes and ceramic raw materials and subsequent chemical, mineralogical and thermal analyses with the aim to obtain a complete characterization and to be able to observe the differences that they present from a chemical and mineralogical point of view.

February 2020 – May 2020 **Curricular internship**

Università degli Studi di Modena e Reggio Emilia, Dipartimento di Scienze Chimiche e Geologiche, Via G. Campi, 103 – 41125 Modena (Italy)

Creation of a database of data relating to the 87Sr/86Sr isotope ratio for the following purpose of realizing an Italian map of the variation of the 87Sr/86Sr ratio.

January 2017 – January 2017 **Trainee student**

System Ceramics Spa, Via Ghiarola Vecchia, 73 – 41042 Fiorano (MO, Italy)

Introduction to digital decoration: use of digital printing machines to test products coming from color factories and intended to ceramic use.

May 2020 - Present **Volleyball coach and social media manager**

Volley Roteglia, Via Radici in Monte, 133 – 42014 Castellarano (RE, Italy)

Coach and assistant coach in teams Under 16, Under 18, Third Division, Second Division and First Division and social media manager for the sport club "Volley Roteglia".

Education and Training

Academic year 2020/2021 – 2021/2022	**Master's degree in Geosciences, Georisks and Georesources** Università degli Studi di Modena e Reggio Emilia, Dipartimento di Scienze Chimiche e Geologiche, Via G. Campi, 103 – 41125 Modena (Italy) Thesis title: "Chemical and mineralogical characterization of ceramic engobes and glazes aimed at understanding the stress states generated inside the large glazed slabs" Degree grade: 110/110 cum laude
Academic year 2017/2018 – 2019/2020	**Bachelor's degree in Geological Sciences** Università degli Studi di Modena e Reggio Emilia, Dipartimento di Scienze Chimiche e Geologiche, Via G. Campi, 103 – 41125 Modena (Italy) Thesis title: "Italian strontium isoscape for provenance studies" Degree grade: 110/110 cum laude
2012/2013 – 2016/2017	**High school diploma in Chemistry, Materials and Biotechnology** Istituto di Istruzione Superiore "Alessandro Volta", Piazza Giovanni Falcone e Paolo Borsellino, 5 – 41049 Sassuolo (MO, Italy) Final grade: 100/100

Schools and workshops

31/05/2024 – 8/06/2024	Participation to the "International School of Crystallography" – Ettore Majorana Foundation and Centre for Scientific Culture, Erice, Italy
8/01/2024 – 11/01/2024	New Opportunities in Diffraction Microscopy Workshop - ESRF (European Synchrotron Radiation Facility), Grenoble, France

Projects

15/10/2025 – 20/11/2025	Participation to the project: “Fibre Artificiali Vetrose per ceramici green: stabilità impasti ed engobbi”. Università degli Studi di Modena e Reggio Emilia, Dipartimento di Scienze Chimiche e Geologiche, Via G. Campi, 103 – 41125 Modena (Italy)
15/02/2024 – 15/04/2024	Participation to the project: “FAR FOMO: from waste to resource: exhausted Man-made vitreous fibers valorization for green ceramic production”. Università degli Studi di Modena e Reggio Emilia, Dipartimento di Scienze Chimiche e Geologiche, Via G. Campi, 103 – 41125 Modena (Italy)

Experiments

27/05/2025 – 02/06/2025	X-ray computed tomography and 3D X-ray diffraction experiment at ESRF (European Synchrotron Radiation Facility), Grenoble, France Title of the experiment: “Innovation in stoneware tile production: 3D diffraction to win the raw materials challenge” Code of the experiment: ES-1603 Beamline: ID11
13/07/2023 – 17/07/2023	X-ray diffraction experiment at ESRF (European Synchrotron Radiation Facility), Grenoble, France Title of the experiment: “CO_2 direct air capture (DAC) by zeolites: the importance of structural flexibility”. Code of the experiment: MA-5639 Beamline: ID22
12/06/2023 – 15/06/2023	X-ray diffraction experiment at Elettra Sincrotrone Trieste, Italy Title of the experiment: “Unravelling Fe species reactivity in composite catalysts exploited for Fenton Reaction”. Code of the experiment: 20225254 Beamline: MCX

Periods abroad

01/07/2025 – 31/07/2025	Period abroad at the Department of Mechanical Engineering of the Johns Hopkins University in Baltimore (Maryland, United States) to process the data obtained from the X-ray computed tomography and 3D X-ray diffraction experiment at ESRF (European Synchrotron Radiation Facility).
12/03/2025 – 21/05/2025	Period abroad at the Department of Glass and Ceramics of the University of Chemistry and Technology in Prague (Czech Republic) to perform measurements of the temperature dependence of Young's Modulus of silicate ceramics via the impulse excitation technique (IET).

Personal skills and competences

Madrelingua:	**Italian**
Other languages:	**English** (Understanding = B2, Speaking = B2, Writing = B2)
Certificates:	**B1 level certificate in English**, University of Cambridge, 18/04/2016
Digital skills:	Information processing = base user
	Communication = expert user
	Content creation = base user
	Safety = autonomous user
	Troubleshooting = base user
Basic computer skills:	Word processing = intermediate user
	Spreadsheets = intermediate user
	Presentation software = intermediate user
	Office suites = intermediate user
	Web Browser = expert user
	Operating systems = base user
Driver's license:	**B**

Awards

08/11/2025 **Scholarship awarded by the Francesco Manni Foundation, Maranello**

Scholarship awarded with the aim of promoting university education and academic merit to researchers of the University of Modena and Reggio Emilia for the year 2025.

19/04/2018 **Premio Lucchese XXXI edizione**

Certificate for the brilliant results obtained during the 2016 – 2017 school year at the Technical Institute "A. Volta" of Sassuolo

Pubblications

Nicola Morante, Antonello Marocco, Viviana Manfreda, Alessandro Padua, Mattia Sisti, Rossella Arletti, Diana Sannino, Michele Pansini, Serena Esposito, Vincenzo Vaiano, (2025), "Fe^0/Fe_3O_4/ultra-stable zeolite for energy-efficient solar photo-Fenton degradation and mineralization of chloramphenicol in acqueous matrices", Journal of Water Process Engineering, Volume 79, https://doi.org/10.1016/j.jwpe.2025.108938

Giulia Sorbino, Olimpia Tammaro, Alessandro Padua, Anna Basco, Stefano Scognamiglio, Mattia Sisti, Rossella Arletti, Antonello Marocco, Michele Pansini, Gianluca Landi, Serena Esposito, (2025), "Unveiling the role of Ni nanometric particles in ultra-stable hierarchically porous Y zeolite to drive methane steam reforming and CO2 hydrogenation", International Journal of Hydrogen Energy, Volume 103, https://doi.org/10.1016/j.ijhydene.2025.01.244

Mattia Sisti, Davide Guidetti, Fabiana Altimari, Fernanda Andreola, Luisa Barbieri, Lara Casini, Francesco Colombo, Rossella Arletti, Riccardo Fantini, Alessandro Francesco Gualtieri, (2024), "Sustainable glazes for ceramic tiles: Exploiting inertized man-made vitreous fibres waste as a resource", Ceramics International, Volume 51, https://doi.org/10.1016/j.ceramint.2024.11.396

Sonia Conte, Luca Nodari, Lara Casini, Mattia Sisti, Riccardo Fantini, Alessandro Francesco Gualtieri, Chiara Molinari, Chiara Zanelli, Daniele Giordano, Michele Dondi, Rossella Arletti, (2024), "Role of iron-rich clays on sintering of porcelain stoneware tiles", Journal of the European Ceramic Society, Volume 45, https://doi.org/10.1016/j.jeurceramsoc.2024.116947

Alessandro Francesco Gualtieri, Simona Marchetti Dori, Daniele Malferrari, Tommaso Giovanardi, Riccardo Fantini, Mattia Sisti, Francesco Colombo, Rossella Arletti, Maria Cristina Gamberini, Eleonora Braschi, Andrea Orlando, Enrico Mugnaioli, (2024), "When detection and quantification of mineral fibres in natural raw materials are at their limit. The case of a clay from Gomsiqe-Puka mining area (Albania)", European Journal of Mineralogy, Volume 36, https://doi.org/10.5194/ejm-36-749-2024

Riccardo Fantini, Mattia Sisti, Rossella Arletti, Daniele Malferrari, Maria Cristina Gamberini, Mauro Zapparoli, Filippo Da Val, Alessandro Cavallo, Alessandro Francesco Gualtieri, (2024), "Identification and quantification protocol of hazardous-metal bearing minerals: Ni in serpentinite rocks from Valmalenco (Sondrio, Central Alps, Northern Italy)", Journal of Hazardous Materials, Volume 476, https://doi.org/10.1016/j.jhazmat.2024.134928

Riccardo Fantini, Sonia Conte, Alessandro Francesco Gualtieri, Michele Dondi, Francesco Colombo, Mattia Sisti, Chiara Molinari, Chiara Zanelli, Rossella Arletti, (2024), "Reappraisal of red clays in porcelain stoneware production: Compositional and technological characterization", Applied Clay Science, Volume 250, https://doi.org/10.1016/j.clay.2024.107291

Conference contributions

Oral presentations

Mattia Sisti, Fernanda Andreola, Luisa Barbieri, Davide Guidetti, Rossella Arletti, Alessandro F. Gualtieri, "Sustainable glazes for ceramic tiles: exploiting inertized rock and glass wool waste as resources", XIXth ECerS Conference, Dresden, August 31st – September 4th 2025
https://www.ecers2025.org/

Sonia Conte, Mattia Sisti, "Materie prime di recupero per la produzione di impasti e smalti: le potenzialità di Re.Wo", Conferenza "Materie prime per piastrelle ceramiche", Sassuolo, Giovedì 13 Febbraio 2025

Mattia Sisti, Fabiana Altimari, "Smalti ceramici sostenibili a partire da rifiuti derivanti da fibre artificiali vetrose (FAV)", ECOMONDO – The green technology expo 2024, "LIFE Re.Wo project: REcycling mineral WOol waste into high-value products", Rimini, Mercoledì 6 Novembre 2024 https://www.ecomondo.com/eventi/palinsesto-convegnistico/seminari-e-convegni/e29068840/life-re.wo-project-recycling-mineral-wool-waste-into-high-value-products.html

Mattia Sisti, Fabiana Altimari, "Smalti ceramici sostenibili a partire da rifiuti derivanti da fibre artificiali vetrose (FAV)", CERSAIE 2024, "Ecosistema Territoriale di Innovazione dell'Emilia-Romagna – PNRR – Missione 4: casi studio nel settore ceramico", Bologna, Mercoledì 25 Settembre 2024, https://www.cersaie.it/it/k_calendario_2024.php

Mattia Sisti, Fernanda Andreola, Luisa Barbieri, Davide Guidetti, Alessandro F. Gualtieri, Riccardo Fantini, Francesco Colombo, Rossella Arletti, "Sustainable Development in Traditional Ceramic Glazes: Harnessing MMVF Waste for Environmental Innovation", Congresso congiunto SGI-SIMP, "Geology for a sustainable management of our planet", Bari, 3-5 September 2024, https://www.geoscienze.org/bari2024/

Mattia Sisti, Fernanda Andreola, Luisa Barbieri, Davide Guidetti, Alessandro F. Gualtieri, Riccardo Fantini, Francesco Colombo, Rossella Arletti, "Resource Optimization in Ceramics: Integrating MMVF Waste for Sustainable Glaze Innovations", 4th European Mineralogical Conference, Dublin, 18-23 August 2024 https://emc-2024.org/

Mattia Sisti, Fernanda Andreola, Luisa Barbieri, Davide Guidetti, Alessandro F. Gualtieri, Rossella Arletti, "Economia Circolare e Piastrelle Ceramiche: valorizzare gli scarti per la produzione di smalti ceramici", Linee di ricerca e primi risultati per la filiera ceramica nel progetto Ecosister, Venerdì 1° Dicembre 2023

Mattia Sisti, Daniele Giovanelli, Matteo Mazzieri, Michela Pifferi, Riccardo Fantini, Alessandro Gualtieri, Rossella Arletti, "Evaluation of residual tension in enamelled large porcelain stoneware slabs through chemical and mineralogical phase evolution and SEM microstructural analysis", BeGEO2023 - "Sustainability and Risks: BeGeoScientists on the road to the future", Napoli, 3-6 October 2023
www.begeos.it/conference/

Mattia Sisti, Daniele Giovanelli, Matteo Mazzieri, Michela Pifferi, Riccardo Fantini, Alessandro Gualtieri, Rossella Arletti, "Evaluation of residual tension in enamelled large porcelain stoneware slabs through chemical and mineralogical phase evolution and SEM microstructural analysis", The Geoscience paradigm: Resources, Risks and future perspectives - Congresso congiunto SIMP, SGI, SOGEI, AIV, Potenza, 19-21 Settembre 2023
www.geoscienze.org/potenza2023/

Fantini R., Sisti M., Arletti R., Malferrari D., Cavallo A. & Gualtieri A.F., "Identification and quantification of Ni occurrence in serpentinites from the Valmalenco mining area (Sondrio, Central Alps, Northern Italy)", The Geoscience paradigm: Resources, Risks and future perspectives - Congresso congiunto SIMP, SGI, SOGEI, AIV, Potenza, 19-21 Settembre 2023
www.geoscienze.org/potenza2023/

Poster presentations

Mattia Sisti, Daniele Giovanelli, Michela Pifferi, Riccardo Fantini, Alessandro F. Gualtieri, Francesco Colombo, Rossella Arletti, "Understanding tensions in porcelain stoneware tiles: exploiting quantitative phase analysis for enhanced production", 18th European Powder Diffraction Conference (Epdic18), Padova, 30 August – 2 September 2024, https://epdic18.org/

Mattia Sisti, Fernanda Andreola, Luisa Barbieri, Davide Guidetti, Alessandro F. Gualtieri, Riccardo Fantini, Francesco Colombo, Rossella Arletti, "Resource Optimization in Ceramics: Integrating MMVF Waste for Sustainable Glaze Innovations", 4th European Mineralogical Conference, Dublin, 18-23 August 2024
https://emc-2024.org/

Mattia Sisti, Nora Maria Fernanda Andreola, Luisa Barbieri, Davide Guidetti, Alessandro F. Gualtieri, Riccardo Fantini, Rossella Arletti, "Recycling the Product of Thermal Inertization of Man-Made Vitreous Fibres (MMVF) as secondary raw material for the Production of Ceramic Glazes", BeGEO2023 - "Sustainability and Risks: BeGeoScientists on the road to the future", Napoli, 3-6 October 2023
www.begeos.it/conference/

Mattia Sisti, Daniele Giovanelli, Matteo Mazzieri, Michela Pifferi, Riccardo Fantini, Alessandro Gualtieri, Rossella Arletti, "Evaluation of residual tension in enamelled large porcelain stoneware slabs through chemical and mineralogical phase evolution", XVIIIth EcerS Conference & Exhibition of the European Ceramic Society, Lyon, 2-6 July 2023
www.ecers2023.org/

Michael Fischer, Riccardo Fantini, Lorenzo Mino, Mattia Sisti, "Elucidating host-guest interactions in UV filter-zeolite composites by combining IR spectroscopy and DFT calculations", 31th annual meeting of the German Crystallographic Society (DGK) - March 2023
Francesco Colombo, Giorgia Confalonieri, Mattia Sisti, Gianluca Malavasi, Rossella Arletti, "Moving toward circular economy: REE recovery from spent fluorescent lamps exploiting NH4 – 13X zeolite cation exchange properties", AIZ Day 2022 - Workshop on Zeolites Science and Technology
Riccardo Fantini, Lorenzo Mino, Mattia Sisti, Michael Fischer, "Structural and computation study of zeolite – Encapsulated UV filters ", AIZ Day 2022 - Workshop on Zeolites Science and Technology