

CURRICULUM VITAE



PERSONAL INFORMATION

Name and Surname **Erika Sinisgalli**
Address Via Aristotile Fioravanti, 53 – 40129 Bologna (BO)
Telephone + 39 345 119 7481; + 39 348 4213 925
e-mail e.sinisgalli@crpa.it - sinisgalli.erika@gmail.com
LinkedIn: Erika Sinisgalli
ReserachGate: www.researchgate.net/profile/Erika-Sinisgalli
Orcid: 0000-0001-8666-2811
Citizenship Italian
Date of birth 7 May 1995

WORK EXPERIENCE

Date September 2019 – ongoing
Employer **CRPA Soc. Cons. p.A.**
Company name **Research Centre on Animal Production – Environmental & Energy sector**
Kind of employment Researcher
Duties and responsibilities Biological support and monitoring of real scale anaerobic digestion (AD) plants – biowaste treatment plants, biomass characterization and pretreatment technologies, management of digestate, microelements role on AD, microbiology of AD, composting process, compost characterization and stability evaluation, laboratory skills, project manager skills, drafting of scientific articles and technical reports.

These years have been critical for my career and I can say I have obtained most of my achievements. I could operate at real scale biogas facilities, monitoring the biological process and applying effective solutions to solve imbalances; I could learn how to perform mass and energy balance, and from a technical point of view, how to collect representative samples, to deeply control gas chromatography equipment and to develop new analytical lab methods. Moreover, I have collaborated in research project conceptualization and drafting, I have presented many research activities in conferences as speaker, I could teach in professional courses and participate to European Working Groups. During these years I have produced most of my articles and publications and conducted different feasibility studies for consultancy purposes. My last important achievement has been the election as member of the Technical Committee of the Italian Composting Consortium in November 2022.

Date April 2019 – June 2019
Employer **CSIC: Consejo Superior de Investigaciones Científicas**
Company name Instituto de la Grasa (CSIC) – Seville, Spain
Kind of employment Researcher – Internship
Duties and responsibilities Study and development of the extraction of phenolic compounds from agroindustrial byproducts (strawberry extrudate) and valorization of the dephenolized material for biomethane production.

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During this experience I have learnt numerous new analysis methods for substrate characterization and deepened aspects related to mechanical pre-treatment of biomass; I also have learnt to schedule and organize the workload. My achievements in this laboratory include the second publication as a co-author.

EDUCATION

Date 2016-2019
Degree **M.Sc. in Industrial and Molecular Biotechnology**
Main subjects Industrial biochemistry, biotechnological processes, biocatalysis, protein engineering, industrial microbiology, molecular biology
Institution name Alma Mater Studiorum – Università di Bologna
Vote 110/110 cum laude

Title of the thesis: *Intensification of methane production from waste frying oil in biogas-lift bioreactors.*

Internship: scientific investigation at **Centro de Engenharia Biológica – Universidade do Minho (Braga, Portugal)** on optimization of bioreactors configuration and anaerobic digestion process of waste frying oils

Internship: scientific investigation at **LABIOTEC – DICAM, Alma Mater Studiorum – Università di Bologna** on reactor optimization for anaerobic degradation of waste frying oils.

During this first experience abroad I have learnt how to perform independent research and draw an experimental plan. I have improved my communication skills and increased my curiosity towards different research branches related to anaerobic digestion. My achievements in this laboratory include my first publication as a co-author, which is the finalization of the research work I have done for my master thesis.

Date 2013-2016
Degree **B.Sc. in Biology**
Main subjects Chemistry, physics, biochemistry, molecular genetics, microbiology, molecular biology, biocatalysis, evolution and biodiversity.
Institution name Alma Mater Studiorum – Università di Bologna
Vote 104/110

Title of the thesis: *Conseguenze funzionali causate da mutazioni in geni coinvolti in disturbi neurodegenerativi quali atrofia ottica dominante (DOA)* – Functional consequences caused by mutations of genes involved in neurodegenerative disease as dominant optic atrophy (DOA)

Internship of three months at Istituto IRCCS – Ospedale Bellaria (Bologna, BO)

Date 2008-2013
Degree Scientific Diploma
Main subjects Mathematics, chemistry, biology, physics, earth science
Institution name Scientific High School G. Galilei, Potenza (PZ)
Vote 95/100

MOTHER TONGUE **Italian**

OTHERS **English** Listening **C1** - Speaking **C1** - Writing **C1**

Spanish Listening **C1** - Speaking **C1** - Writing **C1**

Portuguese Listening **B1** - Speaking **A2** - Writing **A2**

INFORMATIC - Deep knowledge of Microsoft applications and Office package (Excel, Word,

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SKILLS	<ul style="list-style-type: none"> Power Point) - On-line sharing tools (i.e. Dropbox, Google Drive, others...) - Bibliographic research tools - OriginLab for data analysis
TECHNICAL SKILLS IN SCIENTIFIC AREA	<ul style="list-style-type: none"> - Chemico-physical analysis (characterization analysis i.e. total solids, volatile solids, nitrogen, ammonia nitrogen, COD, etc., gas chromatography, liquid chromatography, PCR, Western Blot, microscopy, techniques for semi-quantitative analysis of chemical compounds) - Rheological analysis (viscosity, granulometry) - Biochemical Methane Potential (BMP) batch and continuous tests; - Monitoring of anaerobic digestion process at real scale; knowledge of aerobic composting processes; - Measurement of aerobic stability of fertilizer materials through Oxygen Uptake Rate Test (OUR).
ARTICLES, SCIENTIFIC PUBLICATIONS	<ul style="list-style-type: none"> - E. Sinisgalli, M. Garuti, M. Soldano, S. Piccinini, Digestate from OFMSW: stability evaluation of new fertilizing materials (Digestato da FORSU: valutazione della stabilità di nuovi materiali fertilizzanti) Conference Paper, <i>Atti Ecomondo 2022</i> - E. Sinisgalli, M. Garuti, Fuelling renewables with hydrogen and biomethane, (Alimentiamo le energie rinnovabili con idrogeno e biometano), <i>Biogas Informa N. 39/2022</i> - E. Sinisgalli, M. Soldano, M. Garuti, S. Piccinini, G. Pinotti, L.L. Macavei, L. Maistrello, Insects and biogas: an interesting synergy, (Biogas e mosche soldato, sinergia interessante), <i>L'Informatore Agrario 25/2022</i> - M. Garuti, E. Sinisgalli, M. Soldano, F. G. Feroso, A. J. Rodriguez, M. Carnevale, F. Gallucci, Mechanical pretreatments of different agri-based feedstock in full-scale biogas plants under real operational conditions, <i>Biomass and Bioenergy</i>, Volume 158, 2022, 106352 - M. Garuti, E. Sinisgalli, F. Tesoro, Foaming in agricultural biogas plants, (Formazione di schiuma negli impianti di biogas agro-zootecnici), <i>Biogas Informa N. 34/2021</i> - Á. Trujillo-Reyes, É. Sinisgalli, J. Cubero-Cardoso, A. Pérez, A. Serrano, R. Borja, F. Feroso, Assesment of different mechanical treatments for improving the anaerobic biodegradability of raspberry waste, <i>Waste Management, Volume 139, 15 February 2022, Pages 190-198;</i> - E. Sinisgalli, M. Soldano, M. Garuti, S. Piccinini, Study on digestate stability (Studio sulla stabilità dei digestati), <i>Atti Ecomondo 2021, 168-173, Maggioli Editore (2021);</i> - M.Salomé Duarte, Erika Sinisgalli, Ana J. Cavaleiro, Lorenzo Bertin, M. Madalena Alves, M. Alcina Pereira - Intensification of methane production from waste frying oil in a biogas-lift bioreactor, <i>Renewable Energy, Volume 168, May 2021, Pages 1141-1148;</i> - M. Soldano, M. Garuti, E. Sinisgalli, S. Piccinini, Whey and olive pomace for biomethane: analytical evaluation to address and regulate their choice (Siero e sanse di oliva per il biometano: valutazione analitica per indirizzare e regolarne la scelta), <i>Atti Ecomondo 2020, 71-76, Maggioli Editore (2020);</i> - E. Sinisgalli, N. Labartino, M. Garuti, S. Piccinini, Oxygen Uptake Rate determination on compost and digestates (Determinazione dell'Oxygen Uptake Rate su compost e digestati), <i>Atti Ecomondo 2020, 250-255, Maggioli Editore (2020);</i> - M. Garuti, E. Sinisgalli, M. Soldano, C. Fabbri – I know my AD plant by monitoring the residual potential of biogas production (Conosco il mio impianto monitorando il potenziale residuo di biogas), <i>Biogas Informa N.30/2019 (2019)</i>

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CONTRIBUTION IN CONFERENCES

- Contribution to regional and international research projects.
Last contributions:
 - ECOSISTER (PNRR project): valorization and transformation of waste into new materials/products.
 - AGROENER: energy from agriculture - MiPAAF, D.D n. 26329 1st April 2016 (until 2022)
 - DIGESTATO&EMISSIONI (PSR 2014-2020) – Emissions reduction in the management of digestate
 - FLIES4FEED (PSR 2014-2020) – New insect feed for livestock valorizing agro industrial byproducts and biogas plants; contribution in the dissemination task as lecturer in training courses
- Will participate to **European Biomass Conference** in June 2023, Bologna, with the speech “Digestate from OFMSW: stability evaluation of new fertilizing materials” (E. Sinisgalli)
- **Anaerobic digestion of second crops and agro industrial by-products: a focus on the Italian Biogasdoneright® model**, Erika Sinisgalli WIRE 1st Working Group Workshop, Naples 6-7th October 2022
- **The optimal management of livestock effluents: an issue becoming a resource**, E, Sinisgalli, 11th Oct 2022
- **Digestate from OFMSW: stability evaluation of new fertilizing materials**, E. Sinisgalli, ECOMONDO 2022
- **Study on digestate stability**, E. Sinisgalli, ECOMONDO 2021
- **Exploiting the biomethane production of grape pomace with hydrodynamic cavitation**, International Online Conference "PROGRESS IN BIOGAS V", University of Hohenheim, Sept 22-24, 2021;
- Webinar *Digestato&Emissioni* –**The potential of small biogas plant fed with cattle slurry**, E. Sinisgalli

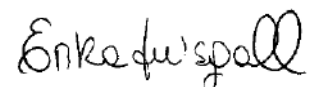
RELEVANT POSITIONS AND TRAINING COURSES

- From November 2022, Member of the **Technical Committee of the Italian Composting Consortium**
- From September 2020, **Member of the European CEN/TC 223/WG 4 - Soil improvers and Growing media** and **co-Project Leader for Residual Biogas Potential analysis on digestates (RBP test)** standard method
- Member of WG2 and WG3 of the **European COST Action CA20127 - Waste biorefinery technologies for accelerating sustainable energy processes** – from February 2022
- Participated to International Winter School SMART FEED **"Insects and microalgae as novel feed for sustainable livestock production"** organized by Università degli Studi di Milano and Consorzio Italbiotec – February 2022
- Increasing industrial researchers skills of the Emilia-Romagna High Technology Network – “Learn to Grow” – ART-ER (2020)
- Online Workshop on **Renewable Hydrogen**, 22 April 2020 by FSR (Florence School of Regulation)
- DEMOSOFC Webinair FCH2-JU PROJECT – 20th May 2020 “Biogas cleaning system for deep contaminants removal”, 3rd June 2020 “How to integrate SOFC system in a biogas plant”, 10th June “Performance of the SOFC modules during the DEMOSOFC Project”, 17th June “Economics and market analysis of the SOFC technology”

DRIVING LICENCE

B

Bologna, April 2023



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