



I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Scienze Agrarie e Ambientali - Produzione, Territorio, Agroenergia**

Scientist- in - charge: **Prof. Scaglia barbara**

[Shivali and Shivali]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Shivali
Name	Shivali

PRESENT OCCUPATION

Appointment	Structure
Assegno di ricerca	1 October 2022-30 September 2023 (Assegno di ricerca at Università degli Studi Niccolò Cusano, Rome ,Italy)

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	B.Tech	National Institute of Technology, Jalandhar, India	2012
Specialization	BioTechnology		
PhD	Bioenergy	Indian Institute of Technology Delhi, India	2021
Master	M.Tech Biotechnology	National Institute of Technology, Bhopal, India	2015
Degree of medical specialization	-----		
Degree of European specialization	-----		
Other	-----		



REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date registration	of	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
English	Professional

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2018	Research Excellence Travel Award (Worth 1800/- Euros) from the Institute for International Travel for Conference
2020	Research Excellence Travel Award (Worth 1800/- Euros) from the Institute for International Travel for Conference



TRAINING OR RESEARCH ACTIVITY

description of activity:
 Working as **“Assegno di Ricerca”** at Università degli Studi Niccolò Cusano, Via Don Gnocchi, 3, 00166 Roma RM on the project entitled "Study on the implementability of Biorefineries via LCA approach".

The primary aim of the BBCircle project is to valorising waste (cheese whey waste) to green energy production with value added products in a sustainable bio-refinery approach via lab scale experiments. Further, the overall comparison of conventional green energy bioprocesses with novel biorefinery approach will be assessed via lifecycle assessment methodology. Several environmental impacts will be evaluating thru LCA approach.

Prior to joining, I worked as research associate at National Institute of Bioenergy, under the Ministry of New and Renewable Energy, India on biogas production and Bio-CNG plant design and standardization project. I had completed my Ph.D. degree (December 2021) from Indian Institute of Technology, Delhi, India. The title of my PhD thesis was "Capture of hydrogen sulphide from raw biogas and production of high S-nutrient natural char and slurry for utilization in soil health enhancement". I had more than eight years of research experience in waste valorisation via biochemical processes specifically, Biogas production and upgradation Technologies and waste valorisation. My major research areas are bioenergy production, anaerobic digestion, organic waste valorisation, biomass thermochemical conversion, green biorefineries with circular economy and lifecycle assessment of bioprocesses. Till now, I had authored more than 10 publications and book chapters (over 500 citations) in high-impact journals and books published by Elsevier, Springer, CRC press and Academic Press.

PROJECT ACTIVITY

Year	Project
July 2022-present	"Study on the implementability of Biorefineries via LCA approach". The primary aim of the BBCircle project is to valorising waste (cheese whey waste) to green energy production with value added products in a sustainable bio-refinery approach via lab scale experiments. Further, the overall comparison of conventional green energy bioprocesses with novel biorefinery approach will be assessed via lifecycle assessment methodology. Several environmental impacts will be evaluating thru LCA approach.
August 2021- July 2022	Biogas Plant design and standardization

PATENTS

Patent-----



CONGRESSES AND SEMINARS

Contributed as a session chair 2nd International Conference on “Innovations in Clean Energy Technologies (ICET 2023)” held on 08th to 10th April 2023 in hybrid mode at Energy Centre, Maulana Azad National Institute of Technology, Bhopal, India.

> Presented paper entitled “Utilization of Biogas Digested Slurry (BDS) for biogas desulfurization and nutrient value enrichment: A Preliminary Study” in 3rd International Conference on 'Recent Advances in Bio-energy Research' ICRABR-2022 held on 09-11 March 2022 (Virtual) organised by Sardar Swaran Singh National Institute of Bio-Energy (An Autonomous Institution of Ministry of New and Renewable Energy, GOI) Kapurthala, Punjab- 144 601 (India).

> Presented poster(Virtual) entitled “Development of Low Cost Desulfurization Systems for Biogas Purification: A Unique Economic-Based Alternative” in

e-EUBCE 2020 virtual, 28th European Biomass Conference & Exhibition held on 06-09 July 2020 at Marseille Chanot Exhibition and Convention Centre, Marseille - France.

> Presented paper entitled “Development of low cost desulfurization system for potential Hydrogen Sulfide removal from raw biogas : Evaluation of efficiency and mechanisms” in International Conference on Waste Management ,RECYCLE-2020 held on 13-14 February 2020 at Indian Institute of Technology Guwahati, Guwahati, India.

> Presented paper entitled “Leaf waste based Biochar as a promising adsorbent for effectual H₂S Removal from biogas” in 1st International Conference on Clean and Renewable Energy, ICCARE-2019 held on 10-12 July 2019 at National Institute of Technology Durgapur, West Bengal, India.

> Attended workshop on "Catalysis for Clean Energy and Sustainable Future" and presented a poster on “Leaf waste based Biochar as a promising adsorbent for effectual desulfurization of biogas” held on 31st May-1st June 2019 at Indian Institute of Technology Delhi.

> Attended short course on “Surface area in porous materials characterization” organized by Aton-Paar at Department of Chemical Engineering, IIT Delhi, held on 12 March 2019

> Presented poster entitled “Removal of Hydrogen Sulfide from Biogas by Leaf Waste Based biochar: New Adsorbent Material” in Biogas Science 2018 an International Conference on Anaerobic Digestion held on September 17-19, 2018 at Lingotto Conference Center, Torino, Italy (International)

> Presented on the topic entitled “Biochar: An Insight into its Multitudinal benefits to the environment” in a Workshop on " Carbon Neutrality- Meenangadi and Beyond" on 29 August 2018 at Meenangadi, Kerala.

> Delivered Talk on “Utilization of Leaf Waste Biochar as an Adsorbent for Hydrogen Sulfide Removal from Biogas” workshop on Bioprocessing for Energy And Carbon from Agro Residues (BECAR 2018) held on January 23rd - 24th 2018, IIT Mandi, (India).

> Presented paper entitled “Utilization of Black Carbon as an adsorbent for Hydrogen sulfide removal from biogas.” in International Conference on Waste Management , RECYCLE-2018 held on 22-24 February 2018 at Indian Institute of Technology Guwahati, Guwahati, India.

> Presented paper entitled “Leaf waste based biochar for cost effective hydrogen sulphide adsorption for biogas upgradation and as a soil conditioner” in the International Conference on “Emerging Trends in Biotechnology for Waste Conversion (ETBWC - 2017)” held on 8th-10th October 2017, CSIR-NEERI, Nagpur, (India).

> Presented paper entitled "Adoption of Activated Carbon as an Adsorbent for Hydrogen Sulphide Removal



from Biogas" in the International Conference on "Strategies for Environmental Protection and Management" December 2016

> Presented Paper entitled "Review on Hydrogen Sulfide technologies from raw biogas" in Second International Conference on 'Recent Advances in Bio-energy Research' ICRABR-2016 held on 25th to 27th February 2016 at Kapurthala, Punjab, India

> Presented Paper entitled "Biological pretreatment of Water hyacinth (*Eichhornia crassipes*) for biofuel production-A Mini Review" in first International Conference on 'Recent Advances in Bio-energy Research' ICRABR-2015

> Presented Paper Entitled "Recent advancement in biological pre-treatment of lignocellulosic waste and production of bio-energy" in ICIREMPS-2015

> Participated in 2nd International Conference on "Emerging Trends in Agriculture, Horticulture and Environmental Engineering" November 2014

PUBLICATIONS

Journal Publications:

- **Sahota, Shivali**, Goldy Shah, Pooja Ghosh, Rimika Kapoor, Subhanjan Sengupta, Priyanka Singh, Vandit Vijay, Arunaditya Sahay, Virendra Kumar Vijay, and Indu Shekhar Thakur. "Review of trends in biogas upgradation technologies and future perspectives." *Bioresource Technology Reports* 1 (2018): 79-88.
- **Sahota, Shivali**, Virendra Kumar Vijay, P. M. V. Subbarao, Ram Chandra, Pooja Ghosh, Goldy Shah, Rimika Kapoor, Vandit Vijay, Vaibhav Koutu, and Indu Shekhar Thakur. "Characterization of leaf waste based biochar for cost effective hydrogen sulphide removal from biogas." *Bioresource technology* 250 (2018): 635-641.
- Ghosh, Pooja, Goldy Shah, Ram Chandra, **Shivali Sahota**, Himanshu Kumar, Virendra Kumar Vijay, and Indu Shekhar Thakur. "Assessment of methane emissions and energy recovery potential from the municipal solid waste landfills of Delhi, India." *Bioresource technology* 272 (2019): 611-615.



- Kapoor, Rimika, P. M. V. Subbarao, Virendra Kumar Vijay, Goldy Shah, **Shivali Sahota**, Dhruv Singh, and Mahesh Verma. "Factors affecting methane loss from a water scrubbing based biogas upgrading system." *Applied Energy* 208 (2017): 1379-1388.

Book Chapters:

- Tyagi, B., **Sahota, S.**, Thakur, I.S. and Ghosh, P., 2022. Microbial transformation of methane to biofuels and biomaterials. In *Biomass, Biofuels, Biochemicals* (pp. 203-230). Elsevier.
- Shah, G., **Sahota, S.**, Vijay, V.K., Pant, K.K. and Ghosh, P., 2021. Recent developments in pressure swing adsorption for biomethane production. In *Emerging Technologies and Biological Systems for Biogas Upgrading* (pp. 93-116). Academic Press.
- Ghosh, P., Shah, G., **Sahota, S.**, Singh, L. and Vijay, V.K., 2020. Biogas production from waste: Technical overview, progress, and challenges. *Bioreactors*, pp.89-104.
- Shah, G., Singh, D., **Sahota, S.** and Ghosh, P., 2020. Towards Waste Valorization: A Promising and Sustainable Approach of Waste Management. In *Environmental Microbiology and Biotechnology* (pp. 19-34). Springer, Singapore.
- Verma, M.L., **Sahota, S.** and Jana, A.K., 2020. Potential Applications of Nanobiocatalysis for Sustainable Biofuels Production. In *Pure and Functionalized Carbon Based Nanomaterials: Analytical, Biomedical, Civil and Environmental Engineering Applications* (pp. 125-146). CRC Press.

OTHER INFORMATION

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

Please DO NOT SIGN this form.

Place and date: Rome, 28/11/2023