

Dr. Arushdeep Sidana

B.Sc. Medical (2008)

M.Sc. Microbial and Food Technology (2010)

Ph.D. Microbiology (2016)



Date of joining CIAB: 09-03-2020

Current Designation: Research Associate III

Work experience:

- 1) Worked as a Research Associate in Biochemistry and Biotechnology Area of CSIR-Indian Institute of Petroleum, Dehradun (22-02-2018 to 06-03-2020).
- 2) Worked as Assistant Professor, Microbiology in the Department of Biological and Paramedical Sciences in RIMT University, Mandi Gobindgarh, Punjab (01-08-2016 to 10-11-2017).
- 3) Worked as a Senior Research Fellow in the Dept. of Microbiology, Indira Gandhi Medical College and Hospital, Shimla (03-12-2015 to 23-07-2016).

Qualified National Level Exam

1. GATE-2015 Life Sciences (Microbiology & Food technology)
2. ASRB NET-2021 (Agricultural Microbiology)

Journal Publications

- 1) Sidana, A., Kaur, S. and Yadav, S.K., 2022. Assessment of the ability of *Meyerozyma guilliermondii* P14 to produce second-generation bioethanol from giant reed (*Arundo donax*) biomass. *Biomass Conversion and Biorefinery*, pp.1-13.
- 2) Dasgupta, D., Sidana, A., Sarkar, B., More, S., Ghosh, D., Bhaskar, T. and Ray, A., 2022. Process development for crystalline xylitol production from corncob biomass by *Pichia caribbica*. *Food and Bioproducts Processing*, 133, pp.45-56.
- 3) Dasgupta, D., Sidana, A., Ghosh, P., Sharma, T., Singh, J., Prabhune, A., More, S., Bhaskar, T. and Ghosh, D., 2021. Energy and life cycle impact assessment for xylitol production from corncob. *Journal of Cleaner Production*, 278, p.123217.
- 4) Mehta, D., Chaturvedi, K., Sidana, A., Shivhare, U.S. and Yadav, S.K., 2022. Processing treatment of atmospheric-and vacuum-cold plasma improved physical properties, glucose diffusion and fermentability of dietary fibers extracted from de-oiled rice and corn bran. *Bioactive Carbohydrates and Dietary Fibre*, p.100326.
- 5) Bandhu, S., Bansal, N., Dasgupta, D., Junghare, V., Sidana, A., Kalyan, G., Hazra, S. and Ghosh, D. 2019. Overproduction of single cell oil from xylose rich sugarcane bagasse hydrolysate by an engineered oleaginous yeast *Rhodotorula mucilaginosa* IIP32. *Fuel*, 254: 115653.

- 6) Sidana, A., Kaushal, S. and Farooq, U. 2018. Evaluation of antileishmanial potential of *Gentiana kurroo* Royle by *in vitro* and *in silico* methods. *Journal of Applied Pharmaceutical Science*, 8(2): 143-49.
- 7) Sidana, A., Negi, A.K. and Farooq, U. 2017. *In vitro* assessment of antileishmanial activity of natamycin and nystatin. *Brazilian Archives of Biology and Technology*, 60: e17160368.
- 8) Sidana, A., Alam, A. and Farooq, U. 2017. Soy protein isolate: A substitute of fetal bovine serum for the *in vitro* cultivation of *Leishmania donovani*. *Legume Research*, 40(6): 1-4.
- 9) Sidana, A. and Farooq, U. 2015. Evaluation of antileishmanial activity of plants used in Indian traditional medicine. *Bangladesh Journal of Pharmacology*, 10:423-26.

Review article:

- 1) Sidana, A. and Yadav, S.K., 2021. Recent developments in lignocellulosic biomass pretreatment with a focus on eco-friendly, non-conventional methods. *Journal of Cleaner Production*, p.130286.

Book chapter:

- 1) Dasgupta, D. and Sidana, A., 2022. Biorefinery involving terrestrial and marine lignocellulosics: concept, potential, and current status. In *Handbook of Biofuels* (pp. 167-188). Academic Press.

Magazine Articles:

- 1) Sidana A. 2014. Cutaneous Leishmaniasis in Rampur Bushahr: Lack of awareness could be dangerous. *Science Reporter*, 51(5): 9.
- 2) Sidana A. 2016. Abnormal body movements in children: Acute Bacterial Meningitis. *Science Reporter*, 53(07): 11.
- 3) Sidana A. 2017. Antibiotic Resistance-Making Antibiotics Useless. *Scientific India Magazine*, 5(4): 20-21.

1) Patents filed:

A novel process for xylitol production from lignocellulosic biomass with high purity

Reviewer of Scholarly Journals:

1. "Biocatalysis and Agricultural Biotechnology" by Elsevier B.V., Radarweg 29, 1043 NX Amsterdam, Netherlands.
2. "3 Biotech" by Springer International Publishing.
3. "Indian Journal of Experimental Biology" by NISCAIR, CSIR, India.

Awards and Prizes:

1. Awarded best poster prize in 60th Annual Conference of The Association of Microbiologists of India (AMI- 2019) held on 15-18 November, 2019 at Central University of Haryana, Mahendergarh.

2. "Best Teacher Award" for the year 2016-2017 in the department of biological and paramedical sciences, RIMT University, Punjab.
3. Awarded Silver Medal (Second Prize) for poster making on Diabetes in HP-RSSDI-2016, organized by the Department of Medicine, Indira Gandhi Medical College, Shimla, H.P. on 7th-8th May, 2016.
4. Awarded first prize for oral presentation on Isolation, Biotransformation and Evaluation of Antibacterial Activity of Embelin from *Embelia ribes* in 11th Symposium on "Phytochemistry and Ayurveda: Potential and Prospects" organized by Universities' Journal of Phytochemistry and Ayurvedic Heights on 22nd December, 2012.

Membership of Scientific societies:

1. Life member of "Indian Science Congress Association" (Membership no. L37662)
2. Life member of "Association of Microbiologists of India" (Membership no. 4931-2019)

Technical Expertise:

- Analytical HPLC (Manual injection and Auto-sampler)
- Mini and Pilot scale Biomass Digester
- 3L to 50L fermenters
- UV-Visible Spectrophotometer
- DNA Isolation, Gel Electrophoresis, End-point PCR, RFLP, Phylogenetic analysis
- Protein-Ligand Docking
- Natural Compounds Isolation and Purification
- Microbial Biotransformation