Name **Dr. Siddhartha Sankar Biswas**
Date of birth 02.02.1991
Designation Scientist Sr. Scale
Qualification Ph. D (Soil Science and Agricultural Chemistry)
Email id. siddhartha.biswas91@icar.org.in, siddssac20475@gmail.com

Educational Qualifications

- PhD (Soil Science and Agricultural Chemistry) Indian Agricultural Research Institute, New Delhi, India (2021)
- M.Sc. (Soil Science and Agricultural Chemistry) Indian Agricultural Research Institute, New Delhi, India (2015)
- B.Sc. Agriculture (Hons.) Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, W.B., India (2013)

Professional Experience

- Scientist (Sr. scale) at ICAR-NBSS&LUP, RC Kolkata from 23-01-2026 to till date
- Scientist (Sr. scale) at ICAR-NRCO, Pakyong, Sikkim from 02-07-2022 to 22-01-2026.
- Scientist at ICAR-NRCO, Pakyong, Sikkim, from 10/10/2018 to 01-07-2022
- Scientist at ICAR-NAARM, Hyderabad from 02/07/2018 to 29-09-2018

Research Areas

- Soil fertility dynamics and nutrient management — including nitrogen mineralization, phosphorus fixation, potassium dynamics, and utilization of alternative nutrient sources for sustainable crop production.
- Advanced fertilizer technologies and precision nutrition — development and evaluation of controlled-release fertilizers, nutrient-enriched composts, and integrated nutrient management strategies for field crops and orchids.
- 7.5 years of experience in the field of orchid nutrition and potting media research
- Orchid genetic improvement and breeding
- Orchid production, protection, and precision cultivation
- Conservation biology and biodiversity management of orchids
- Orchid value chain, stakeholder capacity building, and commercialization

International Experience - Nil

Awards

- **Zonal Award** from the North Zone of India by the Indian Society of Soil Science, for best presentation of M.Sc. dissertation (2016), at the C.S. Azad university of Agriculture and Technology, Kanpur.
- **Rajiv Gandhi National Fellowship** by University Grants Commission, for the year 2015-16 to pursue my Ph.D. Degree
- **Junior Research Fellowship** by Indian Council of Agricultural Research in Soil Science for Master's Degree Programme
- **Scheme of Scholarship for College and University Students** by Government of India, Ministry of Human resource development, Department of higher education during B.Sc.(Ag.) Hons
- **Best poster Award** by International plant nutrition institute at international conference on "Advances in potassium research for efficient soiland crop management" at NASC complex, New Delhi, on 28th and 29th August 2017
- **Best poster Award** by Uttar Banga Krishi Viswavidyalaya, during National seminar on 'Horticulture for sustainable Development, Nutritional &livelihood Security' during 26th-27thMay, 2022

- **Best poster presentation Award** by Indian Society of Soil Science during 82nd Annual Convention of the Society on 13th December 2017 at Kolkata
- **Best Poster Presentation Award** during 10th Indian Horticulture Congress- at College of Veterinary Science Campus, Assam Agricultural University, Khanapara, Guwahati, Assam, 06-09th November, 202**3**
- Ranked first in the Indian Agricultural Research Institute Entrance Examination for the Discipline of Soil Science and Agricultural Chemistry for the Doctoral Degree Programme.

Honours/Recognitions

- Acted as vigilance officer of ICAR-NRC for Orchid during 2025-2026.
- Reviewer of Journal of Soil Science and Plant Nutrition, Scientific Reports etc.
- Acted as Member of Ph.D. Co-guide of a student of Sikkim University.
- Acted as Supervisor of institute orientation training of two of ICAR-NRCO during 2022 and 2025. .
- Acted as Assistant Centre Coordinator to conduct online exam for Combined NET-2025 and Preliminary Examination for ARS, SMS (T-6) and STO (T-6) – 2025 at Gangtok centre
- Acted as Observer to conduct online exam for Online NET-2023, SMS (T-6) and STO (T-6) Examination-2023 at Gangtok centre

Ten Best Research Papers along with NAAS Rating-2026

Sl. No.	Publication	NAAS Ratin
1.	**Biswas, S.S.*,** Biswas, D.R., Ghosh, A., Sarkar, A., Saha, M., Roy, T., Ghosh, G.K., Das, A. and Basak, B.B., 2026. Redefining P Fertilization in Wheat, Soil P Biogeochemistry and Ecosystem Resilience With PSB-Activated Low Grade Rock Phosphate. Journal of Environmental Chemical Engineering, p.121342.	**13.2**
2.	**Biswas, S.S.*,** Natta, S., De, L.C. and Das, S.P., 2024. Maximizing Zygopetalum maculatum orchid yield through calcium nutrition: Unveiling calcium content and dynamics across different plant parts at different growth stages of the orchid. Scientia Horticulturae, 333, p.113244.	**10.2**
3.	**Biswas, S.S.*,** Natta, S., Kalaivanan, N.S., Chandan Gowda, H., De, L.C. and Das, S.P., 2025. Potassium application enhances vegetative and reproductive yield of Zygopetalum maculatum and reduces post-flowering K depletion from storage organs of the orchid. Scientific Reports, 15(1), p.10907.	**9.90**
4.	**Biswas, S.S.*,** Natta, S., Kalaivanan, N.S., De, L.C., Ghosh, A., Sarkar, A. and Das, S.P., 2025. Enhanced Cymbidium 'PCMV'hybrid orchid yield through calcium nutrition: Deep insight into ca dynamics among different plant parts at its various growth stages. Journal of Soil Science and Plant Nutrition, 25(1), pp.680-692.	**9.10**
5.	**Biswas, S.S.*,** Biswas, D.R., Sarkar, A. and Ghosh, A., 2023. Oxalic-acid-treated waste mica, a potent natural supplement to K fertilizers for growing wheat and rice in inceptisol. Journal of Soil Science and Plant Nutrition, 23(1), pp.581-593.	**9.10**
6.	**Biswas, S.S**.*, Biswas, D.R., Ghosh, A., Sarkar, A., Das, A. and Roy, T., 2022. Phosphate solubilizing bacteria inoculated low-grade rock phosphate can supplement P fertilizer to grow wheat in sub-tropical inceptisol. Rhizosphere, 23, p.100556.	**9.50**
7.	Ghosh, A., Kumar, S., Manna, M.C., Singh, A.K., Sharma, P., Sarkar, A., Saha, M., Bhattacharyya, R., Misra, S., **Biswas, S.S.** and Biswas, D.R., 2019. Long-term in situ moisture conservation in horti-pasture system improves biological health of degraded land. Journal of environmental management, 248, p.109339.	**14.4**
8.	Sarkar, A., Biswas, D.R., Datta, S.C., Roy, T., Moharana, P.C., **Biswas, S.S.** and Ghosh, A., 2018. Polymer coated novel controlled release rock phosphate formulations for improving phosphorus use efficiency by wheat in an	**12.8**

	Inceptisol. Soil and Tillage Research, 180, pp.48-62.	
9.	Singhal, V.K., Ghosh, A., Singh, A.K., Singh, Y., **Biswas, S.S.,** Ojha, D. and Bhattacharyya, R., 2025. How grasses stabilize soil organic carbon in aggregates of semi-arid ecologically restored land: Evidence from 13C natural abundance. Catena, 249, p.108627.	**11.7**
10.	Ghosh, A., Biswas, D.R., Bhattacharyya, R., Das, S., Das, T.K., Lal, K., Saha, S., Alam, K., Sarkar, A. and **Biswas, S.S**., 2023. Recycling rice straw enhances the solubilisation and plant acquisition of soil phosphorus by altering rhizosphere environment of wheat. Soil and Tillage Research, 228, p.105647.	**12.8**

➢ Other important achievements

- **Co-developer of five registered orchid genetic stocks with high nutraceutical value**, formally documented under national accession systems, and **INGR number-Indian National Germplasm Registration number** (INGR24076, INGR24077, INGR24075, INGR24078, INGR25102).
- **Co-developer of 22 officially released orchid hybrids** (7 *Paphiopedilum*, 8 *Cymbidium*, 1 *Dendrobium*, 6 *Phalaenopsis*) through ICAR-NRC for Orchids and approved by the State Variety Release Committee (SVRC),

Total Publications (Peer-reviewed journals only): 40
International:33
National:07

Google Scholar link:

https://scholar.google.co.in/citations?hl=en&user=BVxlzD4AAAAJ&view_op=list_works&sortby=pubdate

Research Gate link:

https://www.researchgate.net/profile/Siddhartha-Biswas-9?ev=hdr_xprf