

## Resume of Prof. Siddhartha S. Mukhopadhyay, Ph. D.



- **Date of birth and Citizenship:** 25 November 1955, Indian
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  - 212-C, Rajguru Nagar, Ludhiana 141012, Punjab, India.
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- **Academic Record**
  - B.Sc. Ag. Hons. Ist Division (1978; Kalyani, India)
  - M.Sc. Ag. Soil Science (Ist Division, 1980) & Ph.D. Soil Science (1987); both from GBPUA&T, Pantnagar, India
- **Scholarships/Fellowships during academic career**
  - Recipient of National Science Talent Search Scholarship (1972-82) during B.Sc. (Ag.) Hons., M.Sc. (Ag.) and part of Ph.D. [*This places the candidate's standing amongst top 0.001 students in India*].
  - Recipient of Senior Research Fellowship (A), Dept. of Atomic Energy, Govt. of India, Bombay during Ph.D. (1982-86).
- **Professional field of expertise**
  - Soil Science - Pedology; Soil Survey & Taxonomy, Soil Mineralogy; Geomorphology; Geochemistry
  - Nanotechnology
  - Agriculture
  - Science Writing and Editing.
- **Professional Experience**
  - Served the Punjab Agricultural University (PAU), Ludhiana, India for > 28 years as a faculty member including ~9½ years as Senior Pedologist/ Professor and hold Director, Electron Microscopy & Nanoscience Lab (EMNL) for > 4 yr 8 months.

- Served as Hony. Adjunct Professor and formerly Professor Eminence (10 August 2017 – 09 April 2018) at the Centurion University of Technology & Management, Paralakhemundi, Odisha, India.
- Also served Palampur (1987-88; 1 year) and Pantnagar (5 months) as faculty member
- **Administration and institute building**
  - ✚ Raised EMN Lab of PAU, Ludhiana to global standard of state of art Lab.
  - ✚ Got > 5 faculty posts and corresponding supporting staffs.
  - ✚ Developed curricula for M.Sc. (Nanotechnology) program.
  - ✚ Organized 3 national level training programs, apart from several others.
  - ✚ Raised grants from external sources by submitting > 20 research projects, grants for new instruments, and sustenance of Lab.
- **Teaching**
  - ✚ Taught courses on soil science, especially on soil mineralogy, geochemistry, pedology, and electron microscopy at under graduate, graduate and doctoral levels for more than 30 years.
  - ✚ Formulated under-graduate and graduate curricula for Nanotechnology, for courses on pedology, environmental science, watershed management etc. and as PI developed research project on curricula building for disciplines of agriculture and home science.
- **Research output**
  - ✚ Google Scholar h-index 15 (01 January 2025).
  - ✚ Google Scholar Citations 1244; i-10: 19 (01 January 2025).
  - ✚ Peer Reviewed Research papers published: 34 (14 International; 20 national)
  - ✚ Books, Chapters published: 16 (9 International; 7 national).
  - ✚ Patent granted - 4; PCT filing - 3.
- **Patent Granted - 4**
  - ✚ Mukhopadhyay, S.S.; Inventor. Assignee: Indian Council of Agricultural Research, New Delhi. Beneficiation of phosphate rock for the segregation of phosphorus containing heavy metal free minerals. **Indian Patent # 301187 (Granted with priority dt. Apr 16, 2014)**. PCT International Patent Pub. No. WO/2015/159140; International Application No.: PCT/IB2015/000437; Publ. Date: 22.10.2015.; International Filing Date: 02.04. 2015.
  - ✚ Mukhopadhyay, S.S.; Inventor. Assignee: Indian Council of Agricultural Research, New Delhi. Nanofabrication of phosphorus on kaolin mineral receptacles. **Indian Patent # 316692 (Granted with priority dt. Apr 07, 2014)**. PCT

International Patent Pub. No. WO/2015/155585; International Application No.: PCT/IB2015/000439; Publ. Date: 15.10.2015; International Filing Date: 02.04.2015.

- ✚ Singh, M., Mukhopadhyay, S.S., Kiran-Jeet, Kaur, R., and Sharma, S. Inventors; Indian Council of Agricultural Research (New Delhi) assignee. Zinc in clay-mineral receptacles in nanofoms for their use as advanced materials including novel fertilizer. **Indian Patent # 354498 (Granted with priority dt. 11 July 2013)**. Patent Pub. No. 20925; The Indian Patent Office Journal Publ. Date: 16.01.2015.
- ✚ Mukhopadhyay, S.S. Inventor; Indian Council of Agricultural Research (New Delhi) assignee. Nanofabrication process involving clay minerals as receptacles for manufacturing advanced nanomaterials including novel fertilizers. **Indian Patent # 372346 (Granted with priority dt. 02 April 2014)**. PCT International Patent Pub. No. WO/2015/150903; International Application No.: PCT/IB2015/000433; Publ. Date: 08.10.2015; International Filing Date: 01.04.2015.
- ✚ The International Preliminary Report of Patentability (International PCT Patent Applications) has acknowledged novelty, industrial applicability and inventive steps of nanofabrication process and novelty and industrial applicability for nanofabrication and P-beneficiation process, which is rare.

#### ➤ **Contribution as Editor**

- ✚ Chief Editor, Clay Research (2019 onwards)
- ✚ Brar, M.S. and Mukhopadhyay, S.S. (Editors) 2010. Volume I (Invited Lectures): Proceedings of the IPI-OUAT-IPNI International Symposium on Potassium Role and Benefits in Improving Nutrient Management for Food Production, Quality and Environmental Damages” during 5-7 November 2009. International Potash Institute, Horgen, Switzerland, pp. 638.
- ✚ Brar, M.S. and Mukhopadhyay, S.S. (Editors) 2010. Volume 2: Extended Abstracts: Proceedings of the IPI-OUAT-IPNI International Symposium on Potassium Role and Benefits in Improving Nutrient Management for Food Production, Quality and Environmental Damages” during 5-7 November 2009. International Potash Institute, Horgen, Switzerland, pp. 396.
- ✚ Mukhopadhyay, S.S., M.S. Brar and P. Sharma (Ed.). 2006. International Symposium on Balanced Fertilization held on 22-25 November, 2006 at the Punjab Agricultural University, Ludhiana, Volume II: Extended Abstracts. International Potash Institute, Berne. 615 pp.
- ✚ Editor, 3 separate volumes on Proceedings of the Annual Conventions (2001, 2002, and 2003), Indian Society of Soil Science, New Delhi.
- ✚ Editor - J. Indian Soc. Soil Sci. (2010-12), Indian J. Ecology (2003-13), Indian Soc. Soil Survey & LUP (2007-09); and J. Crop & Weed (2009-2018).

## □ **Awards, Honours, and Recognitions**

- Fellow (2015) and Hon. Member (2019), Clay Minerals Society of India.
- Fellow, Crop and Weed Science Society, India (2018).
- Certificate of Appreciation by the US Department of Agriculture, 1993.
- Received Best Paper Award by the Potash Research Institute of India, 1992.
- Consulted by FAO, Rome on Prospects of Nanosci. and Nanotech. Ventures in the Williams Soil and Agronomy Museum, Moscow Resources (2016).
- Consulted for United Nations Policy Analysis Branch on applications of nanotechnology in agriculture (UNO 12872 Policy Brief, 2016).
- Served Govt. of France for reviewing Research Grants Proposal
- Prestigious Lecture Awards: 7 [23<sup>rd</sup> B.V. Mehta ISSS Lect.(2019), 5<sup>th</sup> Prof S.K. Mukherjee Foundation Lect. (2018), International Plenary Lect. BITS-Pilani (2017), Centenary Lect. of Prof S.K. Mukherjee (2013), Esteem Speaker - Bangalore Nano (2012), International Dignitary, Faisalabad (2012), N.R. Dhar Memorial Lecture (2011)]
- Plenary/ Keynote/ Invitational lectures: 34 [International 10, National 24]
- Chaired sessions at 10 International Conferences (BITS-Pilani 2017; CUTM 2017; Guwahati 2017; Nagpur 2016, Kalyani 2017, 2014 & 2007; U. Faisalabad, Pakistan 2012; Panjab University 2012, Jaipur 2008), and at > 10 National Conferences (Hissar, 2016; Bihar Agricultural University, Sabor, 2016; Viswa Bharati on International Year of Soils 2015; Brainstorming Session on Nanotechnology at Pantnagar, 2013; Clay Minerals Soc. of India Conventions, 2013, 2012, & 2010; Nano-agriculture Convention at TNAU, Coimbatore, 2011; Annual Convention, Crop & Weed Science Society, 2009).
- Conducted Interactive Workshop on the Prospect of Nanomaterials for Agricultural Applications with technology team and management at the Corporate Office of M/S Coromandel International, Hyderabad on the 28 May 2019.

## □ **Corporate and outreach accomplishments**

- ✚ Externally funded Research Projects held: 10.
- ✚ Full paper archived by the US National Institute of Health [Link PubMed: <http://www.ncbi.nlm.nih.gov/pubmed/25187699>]. Also Canadian IH.
- ✚ Science published my comments on its editorial “The next century of ecology” by David W. Inouye (7 August 2015: Vol. 349 no. 6248 p. 565; DOI: 10. 1126/science.aab1685).  
<<http://comments.sciencemag.org/content/10.1126/science.aab1685>>.
- ✚ Expert of the Research Council of Oman, and Govt. of France.

- ✚ Life Members of Professional Societies: 8
- ✚ One of the pioneer researchers on nanotechnology aiming agricultural applications.
- ✚ Served (2012-17) Advisory Committee of the National Fund BSFAR (ICAR) granted project on nanotechnology (Lead centre: IARI, New Delhi).
- ✚ Interviewed by Ms. Melissa Pandika (San Francisco) on 15 July 2016 for OZY Daily Digital Magazine (USA).
- ✚ Reviewed papers and book proposals for international and national journals including J. Arid Environment, Frontiers of Life Sciences, and Springer.
- ✚ Provided 3-months training to Dr. Ruma Das, ARS Scientist, Div. of Soil Sci. & Ag. Chem, Indian Agril. Res. Inst. (ICAR), New Delhi during May-August 2015.
- ✚ Evaluated > 18 doctoral and masters' thesis of the NDRI, BITS-Pilani, Indian Agricultural Research Institute, New Delhi; TNAU, Coimbatore; SKAU, Jammu; UAS, Dharwar; and CCS-HAU, Hissar, GBPUA&T, Pantnagar, IGAU - Raipur and also conducted various examinations related to thesis evaluation and oral comprehensive examination at IARI, New Delhi; CCS-HAU, Hissar; and GBPUA&T, Pantnagar.
- ✚ Nature precedings: 9 papers/ presentations
- ✚ Paper setter of ICAR JRF, YSPUHF, Solan, and Nagaland University, and evaluated ARS answer scripts (ICAR).
- ✚ Member National Organizing Committees (Clay Minerals Soc. of India Conventions, 2017-2019; 2014, 2013, 2012, 2010; 2014, Sabour, Pantnagar).
- ✚ Member (2002-03), Executive Committee of the Indian Society of Soil Science.
- ✚ Member (2005-08), Executive Committee of the Clay Minerals Soc. of India.