

CURRICULUM VITAE

Arindam Sarkar

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<http://scholar.google.com/citations?user=Bwi0Su8AAAAJ>

Permanent Address

18, Madhusudan Dutta Path
City Center
Durgapur 713216
West Bengal
India

Fields of Research Interest

Hydraulic Engineering

Fluvial hydraulics: sediment transport, local scour around hydraulic structures

Open channel hydraulics: submerged wall jets, experimental fluid mechanics, mathematical flow modeling, Simulations of flow processes

Environmental hydraulics: flow through emergent and submerged vegetation, lateral and longitudinal dispersion through emergent and submerged vegetation

Educational Degrees

PhD Department of Civil Engineering, Indian Institute of Technology, Kharagpur, 2006
Thesis: Scour downstream of an apron and characteristics of submerged horizontal jet over rough and sudden changes from smooth to rough beds

ME Department of Applied Mechanics, Bengal Engineering and Science University, Shibpur, Howrah, 2001, 82.11 %

BE Jalpaiguri Government Engineering College, Jalpaiguri, 1998, 73.39 %

Higher Secondary Bidhan Chandra Institution, Durgapur, 1993, 77 %, Board Rank-116

Secondary DSP B-Zone Boys High School, Durgapur, 1991, 81.73 %, Board Rank-81

Present Position

Assistant Professor School of Infrastructure, Indian Institute of Technology, Bhubaneswar, Orissa 751013 (May 2010 -)

Professional Experience

Assistant Professor Department of Civil Engineering, Thapar University, Patiala, Punjab 147004 (March 2007 – May 2010)

Experience in Research

Research in Technion-Israel Institute of Technology, Haifa, Israel: Worked as a Post-doctoral Research Fellow (Lady Davis Fellow) in the Department of Civil and Environmental Engineering

Research in Indian Institute of Technology, Kharagpur: Worked as a Doctoral Research Fellow in the Department of Civil Engineering

Research in Bengal Engineering College: Worked as a Post-graduate Scholar in the Department of Applied Mechanics

Member of Editorial Board of Journals

1. International Journal of Water Resources and Environmental Engineering, Academic Journals

Member of Professional / Technical Committees

1. Member, Committee on assessment of water requirement, State Pollution Control Board, Odisha

Reviewer of Journals

1. Journal of Hydraulic Engineering, ASCE, USA
2. International Journal of Sediment Research, WASER, China
3. International Journal of Water Resources and Environmental Engineering, Academic Journals
4. Journal of Hydroinformatics, IWA Publishing
5. Journal of The Institution of Engineers (India): Series A, Springer
6. Journal of Geophysical Research, Water Resources Research
7. Sadhana, Academy Proceedings in Engineering Sciences, Springer
8. Recent Trends in Civil Engineering and Technology, STM Journals
9. Environmental Fluid Mechanics, Springer

List of Publications

Journal Papers

Sarkar, A., and Dey, S. (2004). "Review on local scour due to jets." *International Journal of Sediment Research*, Vol. 19, No. 3, pp. 210-238.

Sarkar, A., and Dey, S. (2005). "Scour holes downstream of aprons caused by sluices." *Water Management Journal, Proc. of Institute of Civil Engineers, London*. Vol. 158, WM2, pp. 55-64.

Dey, S., and Sarkar, A. (2006). "Scour downstream of an apron due to submerged horizontal jets." *Journal of Hydraulic Engineering, ASCE*, Vol. 132, No. 3, pp. 246-257.

Dey, S., and Sarkar, A. (2006). "Response of velocity and turbulence in submerged wall jets to abrupt changes from smooth to rough beds and its application to scour downstream of an apron." *Journal of Fluid Mechanics*, Vol. 556, pp. 387-419.

Dey, S., and Sarkar, A. (2007). "Effect of upward seepage on scour and flow downstream of an apron due to submerged jets." *Journal of Hydraulic Engineering, ASCE*, Vol. 133, No. 1, pp. 59-69.

Sarkar, A., and Dey, S. (2007). "Effect of seepage on scour due to submerged jets and resulting flow field." *Journal of Hydraulic Research, IAHR*, Vol. 45, No. 3, pp. 357-364.

Dey, S., and Sarkar, A. (2007). "Computation of Reynolds and boundary shear stress in submerged jets on rough boundaries." *Journal of Hydro-Environment Research, Elsevier*, Vol. 1, No. 2, pp. 110-117.

Dey, S., and Sarkar, A. (2008). "Characteristics of turbulent flow in submerged jumps on rough beds." *Journal of Engineering Mechanics, ASCE*, Vol. 134, No. 1, pp. 49-59.

Dey, S., and Sarkar, A. (2008). "Characteristics of submerged jets in an evolving scour hole downstream of an apron." *Journal of Engineering Mechanics, ASCE*, Vol. 134, No. 11, pp. 927-936.

Sarkar, A. (2012). "Vortex excited transverse surface waves in an array of randomly placed circular cylinders." *Journal of Hydraulic Engineering, ASCE*, Vol. 138, No. 7, pp. 610-618.

Sarkar, A. and Ratha, D. (2011). "Characteristics of turbulent flow around submerged structures subjected to shallow submergence over plane bed." *Journal of Fluids and Structures, Elsevier (In Press)*.

Sarkar, A. and Ratha, D. (2012). "Hydraulics of backward facing step with transition." Submitted (under review).

Sarkar, A. (2012). "Turbulent flow in submerged jumps over smooth and rough beds." Submitted (under review).

Sarkar, A. (2013). "Scour and flow around submerged structures." *Water Management Journal*, Institution of Civil Engineers, London, Vol. 166, No. WM1, pp. 1-14.

Patnaik, R., Chakraborty, P. and Sarkar, A. (2013). "Drag force due to vortex excited transverse surface waves in an array of randomly placed circular cylinders." *Journal of Engineering Mechanics*, ASCE (under review).

List of Conference Papers

Sarkar, A., and Dey, S. (2002). "Downstream scour due to submerged jets: A review." *Hydro-2002 Conference on Hydraulics, Water Resources and Ocean Engineering*. IIT Mumbai.

Dey, S., and Sarkar, A. (2005). "Local scour downstream of an apron caused by submerged horizontal jet." *Second International Conference on Scour and Erosion*, Singapore, pp. 293-300.

Sarkar, A., and Dey, S. (2005). "Scour hole characteristics downstream of an apron due to submerged horizontal jets." *National Conference on Advances in Water Engineering For Sustainable Development, NCAWESD-2005*, IIT Chennai, pp. 33-41.

Dey, S., and Sarkar, A. (2006). "Turbulent flow in submerged jumps on rough beds." *Second International Conference on Application of Fluid Mechanics in Industry and Environment, ICAFMIE-06*, ISI, Kolkata, pp. 166-172.

Sarkar, A. (2011). "Simulation of turbulent flow in submerged jumps on smooth and rough beds." *7th IAHR Symposium on River, Coastal and Estuarine Morphodynamics, RCEM 2011*, Beijing, pp. 879-889.

Sarkar, A. and Ratha, D. (2012). "Flow separation over backward facing step with transitions." *International Congress on Computational Mechanics and Simulation, ICCMS*, IIT Hyderabad, pp. 1-9.

Sarkar, A. (2013). "Time variation of maximum equilibrium scour depth around submerged structures." *Workshop on Indian Water Management in 21st Century and Symposium on Sustainable Infrastructure Development, IWMSID 2013*, Bhubaneswar, pp. 442-449.

Keynote Lecture Delivered

Short Term Course on "Hydrological Modeling: Recent Advances", NIT Silchar, 2013.

Faculty Development Programme on "Advance Topics in Fluid Flow and Heat Transfer", Thapar University, Patiala, 2013

Thesis Guided

PhD thesis

Flow through submerged and emergent vegetation (Ongoing)

Workshop Organized

“Indian Water Management in 21st Century (IWM-2011)”, School of Infrastructure, Indian Institute of Technology Bhubaneswar, 27th-29th December, 2011

“Workshop on Indian Water Management and Symposium on Sustainable Infrastructure Development (IWMSID-2013)”, School of Infrastructure, Indian Institute of Technology Bhubaneswar, 7th-9th February, 2013

Workshop Attended

“Flood and Drought Proofing in Orissa through Water Resources Development-Challenges and Strategies”, Organised by Central Water Commission on 3rd-4th February, 2011

"Capacity Assessment and Training needs of Minor Irrigation Organization and State Project Unit", Organised by Orissa Community Tank Management Society on 22nd March, 2011

Course Attended

International Advanced Course on Water Resources Data Analysis: Data Processing, Interpreting and Design, Istanbul, Turkey (July 2003)

Research Projects

“Hydraulics of submerged structures subject to shallow submergence”, Fast Track proposals for Young Scientists Scheme under DST, 13.64 lakhs, PI. (Completed)

“Flow field around group of submerged structures and its application to sediment transport”, DST-SERB, 43 Lakhs, PI. (Ongoing)

“Impact Assessment of Climate Change on Hydro-meteorological processes and Water Resources of Mahanadi River Basin”, Ministry of Water Resources, Co-PI. (Reviewed and resubmitted)

Consultancy Projects

“Design of rainwater harvesting and groundwater recharge system at Samana, Punjab”, Samana Municipal Corporation.

“Design of drainage network at Patran, Punjab”, Patran Municipal Corporation.

“Design of chimney and pad foundations for OPTCL 220KV Budhipadar to Burla DC Transmission line towers, Orissa”, HINDALCO

“Proof checking of design of river bed pile foundations for location no. 10, 12 and 15 of 220 KV transmission line from Bidanasi Grid substation to Cuttack Grid substation”, OPTCL

“Proof checking of design of pile foundations for location no. 16A and 24 of 220 KV transmission line tower from Bidanasi (Cuttack) near the bank of Kathajodi to Nuapada (Cuttack), in the spill zone”, OPTCL

“Design of rock socketed pile foundations for 220kv transmission line towers between Kantapali to Hindalco in the Mahanadi river”, HINDALCO

“Proof checking of design and drawing of three nos. Box bridges under railway loading in connection with construction of railway siding to serve Koderma thermal power plant (2×500MW) of DVC”, RITES Ltd.

Awards

Awarded the Lady Davis Fellowship for post-doctoral studies at Technion-Israel Institute of Technology, Haifa, Israel in the Department of Civil and Environmental Engineering for 1 year

Membership of Scientific / Engineering Bodies

1. Member, Indian Society for Hydraulics (ISH)
2. Member, Institution of Engineers (India)

Personal

Date of birth: August 27, 1974

Place of birth: Durgapur, West Bengal, India

Spouse: Subhasri

Son: Abhirup