

Dr SANDEEP NARAYAN KUNDU

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PROFESSOR, EDUCATOR AND ADMINISTRATOR

I am a Professor, Educator and Administrator with broad experience both in multiple verticals and multiple geographies. As an able Project manager, I have managed several multimillion dollar complex cross continental projects worth over 5 million each in the field of Marine Survey for telecommunication & power cables. As an educator, I have taught at National University of Singapore (NUS) which is the top Asian university. As an administrator I have led the One World Digital Data Project at BHP Billiton, the petroleum Minor program at NUS, Singapore and managed projects at Fugro Singapore. As an expert of Digital technology and Data Science, I believe I can make a huge difference in implementing Industry 4.0 at any workplace in a leadership role.

CORE COMPETENCIES

Project Management	Organizational Leadership	Enterprise Data Management
Strategic Planning	Client Deliverables	Team Building and Mentoring
Business Development	Client Relationship	Digital Transformation

TECHNICAL SKILLS

GIS & Digitalization	Network Planning	Hotspot Analysis	Multicriterial Analysis
Image Processing	Machine Learning	Spatial Dashboards	Database (Oracle, SQL)
Statistical Analyst,	Spatial logistics	Data Management	Web-GIS Development

EDUCATION

- Ph.D (GIS Applications in Geosciences), Utkal University, India (awarded in 2012)
- M.Sc. (GIS), University of Leicester, UK (awarded in 1999)
- M.Sc.Tech. Indian Institute of Technology – Indian School of Mines, India (awarded in 1997)
- B.Sc. Hons (Geology), Ravenshaw College, Cuttack India (awarded in 1994)

PROFESSIONAL EXPERIENCE

Ravenshaw University (NAAC A+ +)

Professor & Former Head (Department (Geology)

Cuttack, India

May 2022 – to date

- Manage UG/PG Education and Post Graduate Research
- Principal Investigator of for SERB-SURE Project
- Proctor, Ravenshaw University
- Chairman, Website Advisory Committee, Ravenshaw University
- Industry & Consultancy Interface, R & D Cell, Ravenshaw University
- Geo-consulting on Spatial statistics, Spatial Network Planning, Multicriteria Spatial Analysis
- R&D in Spatial Geosciences, Earth Observational Geoscience.

Fugro Singapore Marine Pte Ltd**Singapore**

Project Manager & Digital Geoscience Expert

July 2018 – May 2022

- Manager Submarine Cable Route Desktop Studies and Hydrographic/Geophysical Surveys
- Manage Stakeholder relationships with Clients and Contractors
- Manage Cross-continental Marine Survey projects valued between 1 & 10 million USD
- Scientific Reporting and Client Deliverable Management
- Cloud-based SharePoint portals and GIS interface management.

National University of Singapore (NUS)**Singapore**

Adjunct A/Professor

Jan 2019 – June 2021

- Deliver lectures on Spatial Big Data Analytics (GE5228) & Exploration Geoscience (OT5401)
- Mentor research in Spatial Big Data using ML and AI techniques.

Senior Lecturer

Jan 2014 – Dec 2017

- Deliver lectures in GIS and Exploration Geoscience
- Develop Augmented Reality (AR) Sandbox for Hydrological Modeling
- Mentor Research of Environmental Science, Geography and Design and Environment students.

BHP Billiton Marketing Asia**Singapore**

Geodata Analyst & Leader - One World Project

Feb 2011 – Sep 2013

- Manage Greenfield Exploration Geodata for global Exploration Operations
- GIS SME for One Earth Digital Transformation Project.
- Subsurface Modelling (3D GIS) using Geosoft (Oasis Montag) and Leapfrog
- SAP-RE GIS integration for Land Record Management

Reliance Industries Limited**Mumbai, India**

Deputy Manager – Geo-Information Management

Aug 2007 – Feb 2011

- Manager Global Exploration and Production Data
- Develop WebGIS solutions for Geodata visualization, modeling and exploration planning
- Subsurface Modelling (3D GIS) using GoCAD and Petrel

Fugro Survey India Pvt Ltd**Mumbai, India**

GIS Database Manager

Mar 2006 – Aug 2007

- Manage Survey GIS data and develop Client deliverables on Spatial Data
- Geohazards mapping and modelling (Seismic, Side Scan and MBES)
- GIS Application development for Automated vessel tracking and Anchor pattern mapping.
- ArcIMS WebGIS portal development

AND Data India Private Limited**Pune, India**

Project Manager

Jul 2005 – Jan 2006

- Manage Global GIS Data Delivery Projects
- Manage resources across 5 departments (100+ employees)
- Innovate processes and test new products
- Satellite Data Integration and GIS analysis for new markets

DASK Systems Pvt Limited

GIS Consultant

Bhubaneswar, India

Jan 2004 – Jun 2005

- Lead GIS & Image Processing Projects
- Deliver GIS and Satellite image-based flood models for the proposed Suktel Hydroelectric Project.
- Advise Clients on spatial problems

Institute for Geoinformatics (IFGI)

Scientific Researcher

Muenster, Germany

Nov 2002 – Jul 2003

- Research on Web Ontology for webGIS services and applications
- Manage the deliverables of ACE-GIS (EU funded multi-partner project)
- VRML tools for e-Emergency webGIS portals

QUAM Gmbh

GIS Engineer, Telecom Radio planning

Munich, Germany

Sep 2001 – Nov 2002

- Remote Sensing & GIS based land cover and demographic modeling.
- GIS support for Radio Network Planning (3G)
- Train Radio planning Engineers in map reading and map projections

Friedrich Schiller University

Scientific Co-worker

Jena, Germany

Sep 2000 – Aug 2001

- Research on Geographical information dynamic integration into dynamic documentation systems for Environmental reporting for the Thüringen state environmental department.

Indian Institute of Technology (IIT)

Project Associate

Kanpur, India

Jan 2000 – Aug 2000

- Research on Geohazards and their impact on environment using Remote Sensing and GIS techniques

Indian Institute of Technology (IIT-ISM)

Junior Research Fellow

Dhanbad, India

May 1997 – Aug 1998

- Research on Geohazards and their geological controls in the middle Himalayas using field mapping and GIS based analyses

AWARDS AND ACHIEVEMENTS

- SEAPEX funded Senior Lecturer at NUS
- Praxis Recognition for Spatial Information Management expert
- CSIR-UGC certification for Research & Lectureship in India.
- British Chevening Award fellowship to study at Leicester, UK for M.Sc in GIS.
- UGC Scholarship for M.Sc.Tech in Applied Geology at IIT (ISM) Dhanbad, India

PROFESSIONAL MEMBERSHIP

- Life member of Odisha Environmental Society (OES)
- Life member of Society of Geoscientists and Allied Technologists (SGAT)
- Life member of Indian Society of Remote Sensing (ISRS)

PROFESSIONAL DEVELOPMENT & TRAINING

- Green Building Studio: Energy Analysis (Linkedin Learning)
- Data Science Foundations (Linkedin Learning)
- Code of Business Conduct (Fugro Academy)
- Project Financials and Cost Control (Fugro Academy)
- HSE Management (Fugro Academy)
- Business Writing (Fugro Academy)
- Project Management (Reliance Gurukul)
- ITIL Foundation (Exin, Singapore)
- ArcGIS Server & Geodatabase Administration (ESRI, New Delhi, 2008)
- Multi-beam Backscatter Data Processing, Fugro Survey, Mumbai, India
- German as Foreign language, Volkshochschule der Stadt JENA, Germany

PUBLICATIONS & OUTREACHES

Invited Talks

- Invited lecture: "Coastal Dynamics and Coastal Infrastructure". International Conference on Coastal Dynamics 2025, 08-10 January 2025. Fakir Mohan University, Balasore, India.
- Invited Lecture: "Climate Change - Theory, History, Drivers & Impacts". Refresher Course in Climate Change, Life & Livelihood", 01-14 November 2024, Malaviya Mission Teacher Training Centre- MMTTC Utkal University, Bhubaneswar India.
- Distinguished Lecture: "Green Growth – The Land-water-energy Nexus". 2024 International Conference on Renewable Energy and Ecosystem, 26-28 July 2024 , Beijing, China.
- Invited Lecture: "Field Signatures of a Petroleum System", 7th March, Indian Institute of Petroleum & Energy (IPE), Visakhapatnam, Andhra Pradesh, India.
- Keynote Lecture: "Spatial Big Data and Analytics". National workshop on Data Science and Machine Learning for Remote Sensing (DSMLRS), 23-25 January 2024, IIIT, Bhubaneswar, India.
- Invited Lecture: "Observing Environmental Change from Space". Odisha environmental Society, 04 December 2022, Bhubaneswar, India.
- Technical Lecture: "Geo-environmental Impact of Submarine Cables". 26-27 November 2022, National Seminar of Science & technology in Combating Climate Change, Sambalpur University, India.
- Keynote Lecture: "The Fourth Paradigm in Geographical Sciences". XIV IGU-India International Conference, 06-08 March, Burdwan, West Bengal, India
- Plenary Lecture: "Geospatial Technologies". 39th Annual Meet and Conference of Institute of Indian Geographers (IIG), 26-28 December, Ravenshaw College, Cuttack

- Keynote Address: "Space Technology & Disaster Management". 24th International Conference on Research in Science and Technology (ICRST), 10-11 Nov 2017, Nanyang Technological University, Nanyang Executive Centre, Singapore.
- Keynote Address: "Spatial Cognition in Science Education". In PEOPLE: International Journal of Social Sciences (ISSN 2454-5899). Nanyang Technological University, Nanyang Executive Centre, Singapore, 2016
- Keynote Address: "Incorporating Behavioral Aspects in Educating". In PEOPLE: International Journal of Social Sciences (ISSN 2454-5899). Nanyang Technological University, Nanyang Executive Centre, Singapore. 2015
- Masterclass: Complex E&P Data Management Systems. In 3rd Global Praxis Interactive Technology Workshop. Abu Dhabi, UAE, 2014.

Books/Book Chapters

- Kundu, S. N. (2023). Geoscience for Petroleum Engineers, Springer Nature. DOI <https://doi.org/10.1007/978-981-19-7640-7>
- Kundu, S.N. (2022). Geospatial Data Analytics and Urban Applications, Springer Nature. DOI <https://doi.org/10.1007/978-981-16-7649-9>
- Kundu, S.N., (2022), The Fourth Paradigm in Geographical Sciences, in Advances in Geographical and Environmental Sciences, Narayan Chandra Jana et al. (Eds): Livelihood Enhancement Through Agriculture, Tourism and Health, 978-981-16-7309-2
- Kundu, S. N. and Nawaz, M., (2019). Sustainable Energy and Environment: An Earth System Approach, Apple Academic Press / CRC Press
- Kundu, S. N. (2017). Geohazard Modeling Using Remote Sensing and GIS. In D. Sengupta, & S. Agrahari (Eds.), Modelling Trends in Solid and Hazardous Waste Management (pp. 127-139). doi:10.1007/978-981-10-2410-8_7

Scientific Journal Articles

- Kundu, S. N., & Bei, T. J. (2016). Multi-Temporal Land Cover Change Analysis of the Sambas Watershed, West Kalimantan, East Malaysia: Implications for Tropical Erosion. In 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS) (pp. 5193-5196). Beijing, CHINA: IEEE. doi:10.1109/IGARSS.2016.7730353
- Kundu, S. N. (2016). GRACE, Climate Change and Future Needs: A Brief Review. Journal of Climatology & Weather Forecasting, 04(03). doi:10.4172/2332-2594.1000179
- Kundu, S. N. (2015). Climate Change: Balancing Persistent and Catastrophic Drivers. Journal of Earth Science & Climatic Change, 06(08). doi:10.4172/2157-7617.1000294
- Kundu, S. N., & Pattanaik, D. S. (2014). Geomorphic characterization of seafloor using Digital Elevation Model derivatives - a case study around Bombay High, Western Indian offshore. GEOCARTO INTERNATIONAL, 29(2), 185-197. doi:10.1080/10106049.2012.753954

- Kundu, S. N., & Pattanaik, D. S. (2011). Mapping onland river channels up to the seafloor along the west coast of India. CURRENT SCIENCE, 101(7), 958-961. Retrieved from <http://gateway.webofknowledge.com/>
- Kundu, S. N., Sahoo, A. K., Mohapatra, S., & Singh, R. P. (2001). Change analysis using IRS-P4 OCM data after the Orissa super cyclone. INTERNATIONAL JOURNAL OF REMOTE SENSING, 22(7), 1383-1389. doi:10.1080/01431160119932

Conference Presentations

- 2016 - Kundu, S.N. & Tan, J. B., Multi-Temporal Land Cover Change Analysis of The Sambas Watershed, West Kalimantan: Implications for Tropical Erosion, IGARSS 2016 (10-15th July 2016)
- 2015 - Kundu, S.N., Role of Information & Communications Technology (ICT) in building an effective Virtual Field Trips (VFTs) for teaching Geoscience, First Asia Pacific Conference on Contemporary Research (APCCR-2015), ISBN: 978 0 994365699 (www.apiar.org.au)
- 2014 - Kundu, S.N., Oliver, G. J. H., Cao, K., Factors Influencing Spatial Thinking capabilities in a Geoscience classroom, International Conference on teaching & learning in Higher Education, TLHE 2014
- 2014 - Dayal, S., Pattnaik, D.S., Kundu, S.N., Evaluation and assessment of Kosi River flood disaster using remote sensing and GIS techniques, 3rd International Conference on Earth Science and Climate Change, July 28-30, San Francisco, USA
- 2003 - Kundu, S. N. & Pradhan, B., Surface Area Processing in GIS, Mapasia 2003, Kuala Lumpur, Malaysia 2014