

Personal Details

Name : Dr. Sikta Panda
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 Girija Nagar, PO: Dhanupali,
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**Academic Credentials**

<i>Educational Qualification</i>	<i>Institute Name</i>	<i>Board/ University</i>	<i>CGPA/ Percentage</i>	<i>Date of Qualification</i>
PhD (Mechanical Engineering)	National Institute of Technology, Rourkela	NIT, Rourkela	9.13	28 th August 2023
Master of Business Administration (Operations and HR)	Indian Institute of Technology, Patna	IIT, Patna	9.66	2 nd July 2026
Bachelor of Technology (Mechanical Engineering)	Veer Surendra Sai University of Technology Burla (Govt. of Odisha)	VSSUT, Burla	8.73	9 th July 2013
Higher Secondary	G. M. Junior College, Sambalpur	CHSE, Odisha	85.16	26 th May 2009
Secondary School Examination	Budharaja High School, Sambalpur	BSE, Odisha	90.90	29 th May 2007

Organizational Experience

<i>Name of the employer</i>	<i>Designation</i>	<i>From</i>	<i>To</i>	<i>Type of Organization</i>
Indira Gandhi Institute of Technology, Sarang	Guest Faculty	Mar 2026	Present	State Government
Indian Institute of Technology (Indian School of Mines) Dhanbad	Institute Post-Doctoral Fellow	Sep 2024	Mar 2026	IIT (Institute of National Repute)
Adarsha College of Engineering, At: Saradhapur, PO: Kumurisingha, Angul	Assistant Professor	Nov 2022	Sep 2024	Pvt College (Affiliated to AICTE, BPUT)
Tata Consultancy Services Limited	Assistant System Engineer (T)	Aug 2013	May 2014	IT Consultancy

Publications (Journals indexed in SCIE)

- Sikta Panda**, Chandan Kumar Biswas, Subhankar Paul, A comprehensive review on the preparation and application of calcium hydroxyapatite: A special focus on atomic doping methods for bone tissue engineering, Ceramics International, 47(20), 2021, 28122-28144, <https://doi.org/10.1016/j.ceramint.2021.07.100>. **SCIE Q1 I.F. 6**
- Sikta Panda**, Mizuki Kazama, Takahiro Kawai, Chandan Kumar Biswas, Subhankar Paul, Controlled surface modification of Ti6Al4V using biomimetic mineralization via thermo-chemical

- route improves bioactivity, *Ceramics International*, 48 (8), 2022, 11286-11297, <https://doi.org/10.1016/j.ceramint.2021.12.351>. **SCIE Q1 I.F. 6**
3. **Sikta Panda**, Bishnu Prasad Behera, Sujit Kumar Bhutia, Chandan Kumar Biswas, Subhankar Paul, Rare transition metal doped hydroxyapatite coating prepared via microwave irradiation improved corrosion resistance, biocompatibility and anti-biofilm property of titanium alloy, *Journal of Alloys and Compounds*, 918, 2022, 165662, <https://doi.org/10.1016/j.jallcom.2022.165662>. **SCIE Q1 I.F. 6.7**
 4. **Sikta Panda**, Tanmay Bharadwaj, Devendra Verma, Chandan Kumar Biswas, Subhankar Paul, Influence of strontium and niobium on the physical and biological performance of hydroxyapatite as a bioactive coating on implant materials, *Ceramics International*, 48 (22), 2022, 33256-33266, <https://doi.org/10.1016/j.ceramint.2022.07.268>. **SCIE Q1 I.F. 6**
 5. **Sikta Panda**, Gaurab Kumar Ghosh, Ritesh Kumar Patel, Sandeep Bhoi, Subrata Kumar Ghosh (2025) Formulation of In-situ synthesized TiO₂-Jatropha oil bio-nanolubricants- A green alternative for petroleum-based lubricant, *Journal of Tribology*, 147(8): 084602, *Journal of Tribology*, <https://doi.org/10.1115/1.4067835>, **SCIE, Q2 I.F.: 2.8**
 6. **Sikta Panda**, Gaurab Kumar Ghosh, Subrata Kumar Ghosh, Forecasting the viscosity of Bio-Nano Oils Using the Best Fit Algorithm for Artificial Neural Network, *Journal of Tribology* (2025): 1-34. *Journal of Tribology*, 147(10): 10210, <https://doi.org/10.1115/1.4069084>, **SCIE Q2 I.F.: 2.8**
 7. **Sikta Panda**, Chandan Kumar Biswas, Subhankar Paul, Microwave-Assisted Niobium Reinforced Hydroxyapatite Coating on Ti-Alloy via Multi Response Optimization Technique Using Experimentally Obtained Parameters. *Proceedings of the National Academy of Sciences, India Section A: Physical Sciences*, (2026), 96 (1), 1-21, <https://doi.org/10.1007/s40010-026-01031-3>, **SCIE Q4 I.F.: 1.3**
 8. **Sikta Panda**, Gaurab Kumar Ghosh, Subrata Kumar Ghosh, Hybrid nanoparticle-enhanced green bio-oils: Experimental evaluation and mathematical modelling for cleaner lubrication, *Particuology*, Elsevier. **SCIE Q2 I.F. 4.7**
 9. Gaurab Kumar Ghosh, **Sikta Panda**, Niranjana Kumar, Subrata Kumar Ghosh, Ankit Kotia, Thermodynamic Formulation of Specific Heat Capacity Considering Steady-state Heat Transfer Across Solid-Liquid Interface in Nanolubricants, *Heat Transfer Research*, 56 (9), 15-35, doi: 10.1615/HeatTransRes.2025055789, **SCIE Q3 I.F. 1.5**
 10. Gaurab Kumar Ghosh, **Sikta Panda**, Ankit Kotia, Niranjana Kumar, Subrata Kumar Ghosh (2024). The conjoint effect of lab-grown nano-graphene dispersant and omega-9 fatty acid surfactant on performance of CI engine. *Journal of Dispersion Science and Technology*, 1-14. <https://doi.org/10.1080/01932691.2024.2376692>. **SCIE Q4 I.F. 2.2**
 11. Gaurab Kumar Ghosh, Ankit Kotia, Niranjana Kumar, Subrata Kumar Ghosh, **Sikta Panda**, Comparative measurement of super-lubricity behavior elucidated by HEMM gear oil based nanolubricants followed by field training on FZG test rig. *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*. 2025;0(0). doi:10.1177/13506501251361669, **SCIE Q3 I.F. 2.1**
 12. Gaurab Kumar Ghosh, **Sikta Panda**, Ritesh Kumar Patel, Ankit Kotia, Niranjana Kumar, Subrata Kumar Ghosh (2024) Evaluation of tribological efficacy and EP lubricity properties of gear oil (EP90) energized with molybdenum disulfide (MoS₂) nano-additives, *Journal of Dispersion Science and Technology*, <https://doi.org/10.1080/01932691.2024.2303329>. 46(6), 875-885, **SCIE Q4 I.F. 2.2**
 13. Gaurab Kumar Ghosh, Niranjana Kumar, Subrata Kumar Ghosh, Ankit Kotia, **Sikta Panda**, (2026). CFD-Driven Insights into load independent Loss of a hydraulic gearbox with Nanolubricants. *International Journal for Multiscale Computational Engineering*, Volume 24, Issue 3, 2026, pp. 1-20, 10.1615/IntJMultCompEng.2026062317, **SCIE Q3, I.F. 1.1**

14. Sonali Mohanty, **Sikta Panda**, U. Devadharshini, Subhankar Paul, Proteins and their functionalization for finding therapeutic avenues in cancer: Current status and future prospective, *Biochimica et Biophysica Acta (BBA) - Reviews on Cancer*, 1878(2), 2023, 188862, <https://doi.org/10.1016/j.bbcan.2023.188862>. **SCIE Q1 I.F. 11.2**
15. Gaurab Kumar Ghosh, **Sikta Panda**, Niranjan Kumar, Subrata Kumar Ghosh, Ankit Kotia, Jayant Giri, Mohammad Kanan, T. Sathish, A multi-faceted review on industrial grade nanolubricants: Applications and rheological insights with global market forecast, *Results in Engineering*, 25, 2025, 103628, <https://doi.org/10.1016/j.rineng.2024.103628>. **ESCI Q1 I.F. 9.4**

Publications From Conference

1. **Panda S**, Biswas CK, Paul S, Coating of Ti-6Al-4V alloy with chitosan and BSA for enhanced biocompatibility, *Materials Today: Proceedings*, 33(8), 2020, 5577-5581, <https://doi.org/10.1016/j.matpr.2020.03.565>.
2. Abhishek Kumar, **Sikta Panda**, Gaurab Kumar Ghosh, Ritesh Kumar Patel, Numerical simulation of weld nugget in resistance spot welding process, *Materials Today: Proceedings*, 27(3), 2020, 2958-2963, <https://doi.org/10.1016/j.matpr.2020.04.901>. International conference on Materials and Manufacturing Methods, 13-15 July 2019
3. **Panda S**, Biswas CK, Paul S. Development of Chitosan Coating on Ti-6Al-4V Alloy for Bone Implants. In *Proceedings of the 5th International Conference on Mechatronics and Robotics Engineering* 2019 Feb 16, Rome, Italy (pp. 1-4). <https://doi.org/10.1145/3314493.3314505>
4. **Panda S**, Nayak S, Ghosh GK. Comparative study on mechanical properties of Luffa Cylindrica and Jute fibre reinforced epoxy with graphene nanoparticles, **AIJR Abstracts**. 2021 Feb 6:48.

Book Chapters

1. **Panda S**, Biswas CK, Paul S, *Anodization of implantable metal and alloy surfaces: Purpose and Scope*, *Surface Engineering: Methods and Application*, CRC Press-Taylor & Francis 2022, 169-189, <https://doi.org/10.1201/9781003319375>, ISBN: 9781003319375
2. **Panda S**, Biswas CK, Paul S, *Techniques of Biopolymer and Bio-ceramic Coatings on Prosthetic Implants*, *Mechanical Engineering in Biomedical Application: Bio-Materials, Implant Design, Bio-3D Printing, Computational, Tissue & Biofluid Mechanics*, Scrivener Publishing, Wiley 2024, 231-259, <https://doi.org/10.1002/9781394175109.ch8> ISBN 9781394174522
3. **Panda S**, Biswas CK, Paul S, *Production of Biodiesel from Industrial Sludge: Recent Progress, Challenges, Perspective*, *Recent trends in management and utilization of industrial sludge*, Springer Nature 2024, 337-357, https://doi.org/10.1007/978-3-031-58456-5_12, ISBN: 978-3-031-58456-5
4. **Panda S**, Ghosh GK, *Fouling and Corrosion Mechanisms and Monitoring Techniques*, *Advanced Applications in Heat Exchanger Technologies: AI, Machine Learning, and Additive Manufacturing*, Taylor & Francis, 272-288, CRC Press, 10.1201/9781003509837-10 ISBN 9781003509837

Conferences Attended (India and Abroad)

1. **International Conference on Mechatronics and Robotics Engineering**, ICMRE, 14th-16th Feb 2019, **Rome (Italy)**.
2. **Research and Developments in Material Processing, Modeling and Characterization (RDMPMC)**, 26-27th Aug 2020, National Institute of Technology, **Jamshedpur (India)**.
3. **International Conference on Processing and Characterization of Materials**, ICPCM, 12th-14th December 2019, National Institute of Technology, **Rourkela (India)**.
4. **International Conference on Future and Recent Advances in Mechanical Engineering**, 15th-

17th, Oct 2024, National Institute of Technology, **Kurukshetra (India)**.

5. International Conference on Innovations in Fluid Power IFP'26, 24th–25th, Jan 2026, Indian Institute of Technology (ISM) Dhanbad
6. **4th International Conference on Friction Based Processes 2025**, 6-8 September 2025, Indian Institute of Technology, Tirupati, India

Patents

S. No	Title of IPR	Regd. ID	Date of registration/filing	Date of publication	Patent No and Date of grant	Name of Applicant	Name of Inventor(s)
1.	Novel gear oil-based nanolubricants and their application thereof	202531011416	11/02/2025	21/02/2025	570512 09/09/2025	Indian Institute of Technology (Indian School of Mines), Dhanbad	Gaurab Kumar Ghosh, Dr. Sikta Panda , Niranjan Kumar, Prof. Subrata Kumar Ghosh
2	Hybrid Bio-Nano oils for Improved Lubrication Efficiency	202531128227	17/12/2025	09/01/2026		Indian Institute of Technology (Indian School of Mines), Dhanbad	Sikta Panda , Gaurab Kumar Ghosh, Prof. Subrata Kumar Ghosh

Equipment Handled

1. UV-Vis spectrophotometer
2. Raman Spectrometer
3. Bacteria culture facility
4. Tribometer
5. Stabinger viscometer
6. Pour point, flash point, and fire point apparatus

Details of STC/FDP Attended

Sl. No	Name of Course	Organized by	Duration	Sponsored by
1	Concepts and Applications of Composite Materials (CACM-2021)	IGIT Sarang	One Week 23 rd -27 th Feb 2021	TEQIP-III
2	Recent Trends in Mechanical Engineering (RTME-2021)	IGIT Sarang	Two Weeks 01 st -12 th Feb 2021	TEQIP-III
3	Vibration Analysis and Condition monitoring for rotating machines	IGIT Sarang	One Week 5 th -9 th Oct 2020	TEQIP-III
4	Recent Advancements in Manufacturing and Materials Processing	VSSUT Burla	One week 10 th -14 th Sep 2020	TEQIP-III
5	Solid Modeling and Motion Studies Using SolidWorks	NIT Rourkela	One Week 18 th -22 nd June 2018	TEQIP-III
6	Garage One	VSSUT Burla	September 2011	SAE BAJA

Training and Project Details

- Hands-on training on **Raman Spectroscopy** at IIT (ISM) Dhanbad in July 2025

- 1-month Industrial Training at “**Bhillai Steel Plant**” in May-June 2011.
- 1-month Course on **Catia** and Project on “**Manufacturing of Hand Injection Mould**” at **CTTC, Bhubaneswar** in Dec 2011.
- One month project titled “**Study of Carbon related materials and their thermal properties**” at **VSSUT, Burla** in June 2012.
- One month course in **C++** conducted by Excel Micro Systems, DOEACC Accredited center, Sambalpur.
- One-year **PGDCA** course at Koshal Computer Academy, Sambalpur

Achievements

1. Successfully conducted a 2-days FDP on “Advanced materials for sustainable mechanical and mining applications” as coordinator.
2. Completed NPTEL Course on Advanced Machining Processes, Aug-Oct 2021, Conducted by IIT Guwahati, Completed with a score of 82 (Top 5%)
3. Reviewer of Journal of Tribology, Scientific Reports, Biomedical Materials & Devices, and Materials Today: Proceedings
4. Bestowed with “**Best Presentation**” award at International Conference on Mechatronics and Robotics Engineering (ICMRE) held in Rome, Italy during 16-19 February 2019
5. Qualified OJEE 2009 (Rank-715), and GATE-2015
6. Bestowed with “Empowering Women Award” at ACMS-2026 organized by CEIE, Kolkata at Jadavpur University Campus.

Professional Ids

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References

1. **Prof. Chandan Kumar Biswas**, Professor, Department of Mechanical Engineering, Production Laboratory, National Institute of Technology Rourkela, Orissa, India-769008, Phone:+91-9438210277. E-mail: ckbiswasr@gmail.com
2. **Prof. Subrata Kumar Ghosh**, Professor, Department of Mechanical Engineering, Tribology Laboratory, IIT (ISM) Dhanbad, Jharkhand, India- 826004, Phone: +91-9264436805, E-mail: subrata@iitism.ac.in
3. **Prof. Subhankar Paul**, Professor, Department of Biotechnology and Medical Engineering, Structural Biology & Nanomedicine Laboratory, National Institute of Technology Rourkela, Orissa, India-769008, Phone: 0661-2462284 (O), 0661-2463284, (Res.), +91-9438211334 (M). E-mail: spaul@nitrkl.ac.in



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