Researchgate Webpage: https://www.researchgate.net/profile/Anshuman_Patra

Name : Designation :	Prof. Anshuman Patra Assistant Professor			
Auuress.	Demonstration of Matellines is all and Materials			
a) Present :	Department of Metallurgical and Materials			
	Engineering National Institute of Technology			
Rourkela, Rourkela– 769008, Odisha, India				
b) Permanent: Rabindranagar, Chandmari Road, Howrah				
	Howrah- 711109, West Bengal, India	-		
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ACADEMIC QUALIFICATION

Degree	Institute/ Board	Period	Branch	Specialization	CGPA/
					%Marks
Ph. D	NIT, Rourkela	2014-2017	Metallurgical and Materials Engineering	Oxide dispersion strengthened W alloys	9.54/10
M. Tech	IIT Kharagpur	2007- 2009	Metallurgical and Materials Engineering	Oxidation resistant W alloys	9.48/10
B. E	Bengal Engineering and Science University, Shibpur	2002-2006	Metallurgical and Materials Engineering	Al2O3 reinforced Cu alloys	81.45%

PROFESSIONAL EXPERIENCE

Employer	Position	Period	Nature of Work
National Institute of	Assistant Professor	28.05.2014 to	Teaching & Research work
Technology, Rourkela		till date	
Hindalco Industries Limited	Assistant Manager	25.07.2011 to	Qualit y control &
		25.05.2014	development of rolled
			products
Electrosteel Castings Limited	Assistant Manager	01.07.2009 to	Production & Quality Control
		18.07.2011	of centrifugally casted Ductile
			Iron pipes
Cognizant Technology	Programmer Analyst	21.08.2006 to	Production support and
Solutions		13.07.2007	abend control.

RESEARCH AREAS

- Nanostructured Materials : Synthesis and Characterization
- Nonconventional consolidation and sintering.
- High Temperature Materials.
- Oxide dispersed strengthened alloys.
- High entropy alloys

COURSES TAUGHT

- Iron Making (UG, PG)
- Steel Making (UG, PG)
- Principle and Practice of Heat Treatments (UG, Int. M. Sc)
- Casting and solidification (UG)
- Manufacturing Process (UG)

LABORATORY COURSES TAUGHT

- Thermodynamics and Kinetics Laboratory (PG).
- Product Development Laboratory (UG).
- Thermodynamic Modeling of Metallic Materials Laboratory (UG)
- Computational Metallurgy Laboratory (UG)
- Mineral Dressing Laboratory (UG)

THESIS SUPERVISON

Ph. D

Sl. No.	Name	Current Status
1	Sambit Swain	Ongoing
2	Atiqur Rahman Khan	Ongoing

M. Tech

Sl. No.	Name	Year
1	Akhil M	2021-22
2	Ahmed Faraaz Manzoor Ahmed Siddiqui	2020-21
3	Bappa Das	2019-20
4	Gotivada Maheswara Rao	2018-19

5	Vikram Rambhau Talekar	2017-18
6	Rasmiranjan Sahoo	2016-17
7	Rishabh Saxena	2015-16

B. Tech, B.Tech and M Tech Dual Degree

Sl. No.	Name	Degree	Year
1	Ashish Kumar Mallick	B. Tech	2021-22
	Sumit Kumar		
	Thangavel Lokesh		
2	Nitin Srivastava	B. Tech	2020-21
	Sivarathri Pavan Kumar		
	Soumya Ranjan Behera		
3	Kanduri Surya Sreerama Mrunal	B. Tech	2019-20
	Vishal Sharma		
4	Darshan Kumar Gardia	B. Tech	2018-19
5	Rajib Sahoo	Dual Degree	2017-18
6	Gopal Krishna Behera	Dual Degree	2017-18
7	Sradha Suman Khuntia	B. Tech	2017-18
	Suprit Behera		
8	Himanshu Mohanty	B. Tech	2016-17
	Abhishek Mandal		
9	Atul Anand	B. Tech	2016-17
10	Prajnadatta Meher	B. Tech	2015-16
	T Chaitanya Kiran		
11	Sonu Kumar Prajapati	B. Tech	2014-15

AWARDS & ACHIEVEMENTS

- University Medal for 1st Rank in Metallurgical and Materials Engineering (B.E).
- State Scholarship in High Secondary.
- Qualified State Level Eligibility Test (WBJEE 2002).
- Merit Scholarship in B.E.
- Qualified National Level Test (GATE) in 2006.
- Indranil Award From Mineral Geological & Metallurgical Institute of India (MGMI)
- M.H.R.D scholarship in Master of Technology (M. Tech).
- Gold Certification from Aditya Birla Gyanodaya.
- Zero Abnormality Monitoring (ZAM) and Kaizen Award from Hindalco Industries Ltd.

- Research Grant from TEQIP, NIT Rourkela.
- Biographical note listed in Asia Pacific who's who.

PROFESSIONAL AFFILATIONS

- Life Member of Indian Institute of Metals (IIM)
- Life Member of Powder Metallurgical Association of India (PMAI).
- Life Member of Indian Science Congress (ISCA).

JOURNAL REVIEWER

- Materials and Design
- Journal of Alloys and Compounds
- Materials Chemistry and Physics
- Ceramic International
- Journal of Materials Engineering and Performance
- JOM
- Transactions of Indian Institute of Metals

ACADEMIC AND ADMINISTRATIVE RESPONSIBILITY

- Faculty advisor of B. Tech and B. Tech+ M. Tech Dual degree.
- Member of departmental promotional activities.
- PIC of departmental student society.
- Member of department purchase committee
- Member of department fund allocation committee
- Member of Accreditation and Ranking Committee, NIT Rourkela

LABORATORY DEVELOPMENT

Developed a nanomaterials research laboratory for synthesis of commercial powders and consolidation by powder metallurgy route.

OTHER ASSIGNMENTS AND ACADEMIC OUTREACH

- 1. Coordinator of Vedanta Aluminium and NIT, Rourkela Campus Connect event, (2021).
- 2. Coordinator of online Diamond Jubilee event (18-19th September, 2021) organized by Metallurgical and Materials Engineering, NIT Rourkela.
- 3. Co-Convener of Conference on Processing and Characterization of Materials (CPCM 2020) at NIT Rourkela.
- 4. One of the top ranking reviewers Certified by Transactions of Indian Institute of Metals, Springer.

- 5. Co-Convener of 2nd International Conference on Processing and Characterization of Materials
- 6. (ICPCM 2019) at NIT Rourkela.
- 7. Co-Coordinator of 5 days short term course on "Short Term Course on Powder Metallurgy: Fundamentals, Applications and Advancement" from 1st- 5th July 2019 at NIT Rourkela.
- 8. Treasurer of 1st International Conference on Processing and Characterization of Materials
- 9. (ICPCM 2018) at NIT Rourkela.
- 10. Outstanding Reviewer for Ceramic International and Journal of alloys and Compounds, Certified by Elsevier.
- 11. Technical Committee member of 6th National Conference on Processing and Characterization of Materials (NCPCM 2016) at NIT Rourkela.

INVITED TALKS

- 1. Invited Speaker at International Conference on "Reducing Carbon Footprint in Metal Industries", during 3-4th February 2023, organized by IIM Rourkela Chapter in association with SAIL-RSP and NIT Rourkela.
- 2. Invited Speaker at Short-Term Course on "Fundamentals and Advances in Powder Metallurgy (15th-20th March, 2021) organized by Metallurgy Engineering and Materials Science, IIT Indore.
- 3. Invited Speaker at Short-Term Course on "Fundamentals and Advances in Powder Metallurgy (8th-10th December, 2020) organized by Metallurgy Engineering and Materials Science, IIT Indore.
- 4. Invited speaker at ICN:3I-2017 at IIT Roorkee and Session Chairperson for Synthesis and Characterization.

RESEARCH PUBLICATIONS

- G. M. Rao, M. Akhil, B. Das, A.R. Khan, A. Patra, D. Chaira, Development and Characterization of Nano-Al₂O₃, Cr₂O₃, and TiO₂ Dispersed Mo Alloys Fabricated by Powder Metallurgy, J. Mater. Eng. Perform., 32 (2023) 1683–1706.
- 2. A. R. Khan, **A. Patra**, B. Majumdar, Synthesis of nano Y₂O₃, TiO₂, ZrO₂ dispersed W-Ni-Nb-Mo alloys by mechanical alloying, International Journal of Refractory Metals and Hard Materials, 103 (2022) 105753.
- G. K. Behera, A. Patra, Stepwise Microstructure Development and Investigation of Mechanical Behavior of Pure Mo, Mo-Ni, and Nano-Y₂O₃-Dispersed Mo-Ni Alloys Fabricated by Mechanical Alloying and Pressureless Sintering, Journal of Materials Engineering and Performance, 30 (2021) 6039–6048
- V. R. Talekar, A. Patra, S.K. Sahoo, Oxidation Behavior of Oxide Dispersion-Strengthened W– Ni Alloys, Oxidation of Metals, 93 (2020) 17-28.

- V. R. Talekar, A. Patra, S. K. Sahoo, S. K. Karak, B. Mishra, Fabrication and characterization of nano-Y₂O₃, Al₂O₃, La₂O₃ dispersed mechanically alloyed and liquid phase sintered W-Ni for structural application, International Journal of Refractory Metals and Hard Materials, 82 (2019) 183-198.
- 6. Anand Babu Kotta, **Anshuman** Patra, Mithilesh Kumar, Swapan Kumar Karak, Effect of molasses binder on the physical and mechanical properties of iron ore pellets, International Journal of Minerals, Metallurgy, and Materials, 26 (1) (2019) 41-51.
- R. Saxena, A. Patra, S.K. Karak, L. Ciupinski, Fabrication and characterization of nano- Y₂O₃ dispersed W-Ni-Nb alloys, International Journal of Refractory Metals and Hard Materials, 71 (2018) 70-81.
- A. Patra, R. Saxena, R. R. Sahoo, S. K. Karak, T. Laha, Evaluation of Thermal, Fracture, and High Temperature Behavior of Mechanically Alloyed and Spark Plasma Sintered Nano- Y₂O₃ Dispersed W-Ni-Mo and W-Ni-Ti-Nb Alloys, Materials Performance and Characterization, 7(1) (2018) 515-531.
- S. K. Karak, A. Patra, F. Dąbrowski, L. Ciupinski, S. Sarkar, Development of nano-Y₂O₃ dispersed Zr alloys synthesized by mechanical alloying and consolidated by pulse plasma sintering, Materials Characterization, 136 (2018) 337-345.
- A. Patra, R.R. Sahoo, S. K. Karak, S. K. Sahoo, Effect of nano Y₂O₃ dispersion on thermal, microstructure, mechanical and high temperature oxidation behavior of mechanically alloyed W-Ni-Mo-Ti, International Journal of Refractory Metals and Hard Materials, 70 (2018) 134-154.
- 11. A. Patra, R. Saxena, S.K. Karak, T. Laha, S.K. Sahoo, Fabrication and characterization of nano-Y₂O₃ dispersed W-Ni-Mo and W-Ni-Ti-Nb alloys by mechanical alloying and spark plasma sintering, Journal of Alloys Compounds, 707 (2017) 245-250.
- 12. A. Patra, R Saxena, S K Karak, Combined effect of Ni and nano- Y₂O₃ addition on microstructure, mechanical and high temperature behavior of mechanically alloyed W- Mo, International Journal of Refractory Metals and Hard Materials, 60 (2016) 131-146.
- A. Patra, Md. Meraj, S. Pal, N. Yedla and S. K. Karak, Experimental and atomistic simulation based study of W based alloys synthesized by mechanical alloying, International Journal of Refractory Metals and Hard Materials, 58 (2016) 57–67.
- 14. A. Patra, S. K. Karak, S.Pal, Effects of mechanical alloying on solid solubility, Advanced Engineering Forum, 15 (2016) 17-24. DOI: www.scientific.net/AEF.15.17.

15. Suresh Telu, A. Patra, M. Sankaranarayana, R. Mitra and S. K. Pabi, Microstructure and Cyclic Oxidation Behavior of W-Cr Alloys Prepared by Sintering of Mechanically Alloyed Nanocrystalline Powders, International Journal of Refractory Metals and Hard Materials, 36 (2013) 191-203.

SELECTED CONFERENCE PROCEEDINGS

- 1. Bappa Das, **Anshuman Patra**, Fabrication of nano-La₂O₃ dispersed W-Zr alloy by mechanical alloying and conventional sintering, Materials Today: Proceedings, 62 (Part 10) (2022) 6055-6060.
- D. K. Gardia, A. R. Khan, A. Patra, Microstructure, mechanical and wear properties of mechanically alloyed and conventionally sintered Nb-W and Nb-Mo alloys, Materials Today: Proceedings, 62 (10) (2022) 6204-6209.
- 3. Bappa Das, **A. Patra**, Fabrication of W-Ti-Mo alloys and its microstructure, mechanical properties prepared by mechanical alloying, Materials Today: Proceedings, 26 (Part 2) (2020) 2845-2852.
- 4. Bappa Das, **A. Patra**, Fabrication and characterization of nano-Cr₂O₃ dispersed mechanically alloyed and conventional sintered W-Zr alloys, Materials Today: Proceedings, 33 (Part 8) (2020) 5109-5115.
- P. Meher, C. Kiran, A. Patra, R. Saxena, S. K. Karak, Effect of Ni on microstructure, mechanical property of mechanically alloyed W-Ni-Nb, Materials Today: Proceedings, 18 (Part 3) (2019) 765-773.
- V. R. Talekar, A. Patra, S. K. Karak, Fabrication and characterization of nano Y₂O₃ and Al₂O₃ dispersed W-Ni alloys by mechanical alloying and pressureless conventional sintering, IOP Conf. Series: Materials Science and Engineering, 338 (2018) 012037, DOI: 10.1088/1757-899X/338/1/012037.
- 7. A. Patra, S. K. Karak, R. Saxena, Fabrication and characterization of nano-ZrO₂ dispersed Wbased alloy by mechanical allo ying and conventional sintering, Materials Today: Proceedings, 4(2A) (2017) 3891-3902.
- R. R. Sahoo, A. Patra, S. K. Karak, Fabrication of nano ZrO₂ dispersed novel W₇₉Ni₁₀Ti₅Nb₅ alloy by mechanical alloying and pressureless sintering, IOP Conf. Series: Materials Science and Engineering, 178 (2017) 012015, DOI:10.1088/1757-899X/178/1/012015.
- R. Saxena, A. Patra, S. K. Karak, A. Pattanaik, S. C. Mishra, Fabrication and Characterization of novel W₈₀Ni₁₀Nb₁₀ alloy produced by mechanical alloying, IOP Conf. Series: Materials Science and Engineering, 115 (2016) 012026, DOI:10.1088/1757-899X/115/1/012026.

- Anshuman Patra, Swapan Kumar Karak and Shyamal Kumar Pabi, "Synthesis and Characterization of Nanostructured Tungsten-30 atomic % Chromium produced by Mechanical attrition and Hydrogen sintering", Materials Science Forum, Vols. 830-831 (2015)59-62.
- A. Patra, S. K. Karak, S. Pal, "Synthesis and Characterization of W₈₀Ni₁₀Nb₁₀ alloy produced by mechanical alloying", IOP Conf. Series: Materials Science and Engineering, 75 (2015) 012032, DOI:10.1088/1757-899X/75/1/012032.

TECHNICAL REPORTS

- 1. Atul Anand, **Anshuman Patra**, Swapan Kumar Karak, Characterization of novel W-Ni-Ti ternary alloys by XRD and SEM, Microscopy and analysis, John Wiley & Sons Ltd., 31 (6) (2017) 22-27.
- Anshuman Patra, Swapan Kumar Karak, Snehanshu Pal, "Evolution of phase and mechanical, high temperature properties of nano tungsten-5 wt. % molybdenum alloy by mechanical alloying and argon purged Sintering", Microscopy and analysis, John Wiley & Sons Ltd, 29 (4), (2015) 18-22 (EU).
- 3. Anshuman Patra, "Prospect of Unleashing Value Engineering for Industrial Growth", International Journal of Advanced Research, 2(11), (2014) 80-90.
- 4. Anshuman Patra, Sandipan Chatterjee, Indranil Ganguly, "Unleashing Innovation across the value chain-A motto for Growth", Journal of Innovation and Sustainability, 4 (2) (2013) 47-59.
- Anshuman Patra, "Improvement of Oxidation Resistance of Nanostructured Tungsten by Alloying: Analysis by SEM, TEM and XRD", Microscopy and Analysis, John Wiley & Sons Ltd, 26(5) (2012) 14-19.

BOOK PUBLISHED

- 1. Anshuman Patra, Oxide Dispersion Strengthened Refractory Alloys, CRC Press, (2022), ISBN : 9781003201007.
- 2. S. Pal, A. Patra, P. R. Padhee, Process Modeling for Steel Industry, IK International Publishing, (2018), ISBN : 9789385909399.
- 3. Anshuman Patra, Aluminium Alloys: From Casting to Customer, Studium Press (2017), ISBN: 978-93-85046-00-1.

BOOK CHAPTER PUBLISHED

 A. Patra, S. K. Karak, T. Laha, Synthesis and Characterization of Oxide Dispersion Strengthened W-based Nanocomposite, In: S. Sidhu, P. Bains, R. Zitoune, M. Yazdani, (eds) Futuristic Composites. Materials Horizons: From Nature to Nanomaterials, (2018), Springer, Singapore.

SPONSORED PROJECTS

Title	Sponsoring Agency	РІ/Со-РІ	Sanction Amount (Lakhs)	Duration (in months)	Status
Fabrication of Nano-Oxide Dispersed Tungsten Alloys by Mechanical Alloying for Armaments Application	ARMREB (DRDO)	Principal Investigator (P.I)	42.76254	48	Completed