

Anup Kumar Keshri (Associate Professor)
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Anup Kumar Keshri is currently an Associate Professor in Dept. of Metallurgical and Materials Engineering at Indian Institute of Technology (IIT), Patna, India since Feb. 2022. Before joining IIT Patna, Dr. Keshri worked with Centre for Nanotechnology Group, Bharat Heavy Electricals Limited (BHEL), Corporate R&D, Hyderabad, India between April 2012-September 2013. He worked as an Associate Professor in School of Mechanical and Building Sciences at Vellore Institute of Technology (VIT), Vellore, India since April 2011. Anup Kumar

Keshri, received his Ph.D. degree in Materials Science and Engineering from Florida International University (FIU), Miami, USA in July, 2010 and worked as Postdoctoral fellow in FIU until March 2011. He has a B.E. degree in Metallurgical Engineering from Bihar Institute of Technology (BIT), Sindri, India in 2002 and a M.S. degree in Metallurgical and Materials Engineering from Indian Institute of Technology (IIT), Madras, India in 2004. He worked as Asst. Manager in Ispat Industries Limited, Mumbai (2004–2006). His main research interest lies in surface Engineering, plasma spraying, CNT/graphene reinforced metal and ceramic composite coatings, mechanical, corrosion and tribological behavior of coatings. *He has published 83 papers in peer reviewed journals*, 8 papers as conference proceedings, delivered 30 talks in international conferences and 21 invited talks in academics and industries. He has filed 5 Indian patents out of which 2 has been granted. *His h-index of 27 (total citations close to ~2500)* strongly endorses his research productivity. *He has received the sponsored research and consultancy funding of ~ 0.6 million USD (~ INR 4.5 Crores)* from various govt. and private funding agencies. Under his supervision, 4 Ph.D. students and 19 M.Tech. students have already been graduated and 09 Ph.D. and 05 M.Tech. are ongoing. He is a recipient of many awards and honors such as, Research stay grant by Humboldt Foundation, Dissertation Year Fellowship (2009–2010) from FIU, Arthur E. Focke leadership award by ASM Foundation delegate of “President’s Council of Student Advisors (PCSA)” formed by The American Ceramic Society (ACerS). Dr. Keshri also serves as reviewers for several journals in the area of coatings and thermal spray. *Recently, one of his works published in ACS Nano has been globally covered by C&EN, Harvard University, The Graphene Council, American Ceramic Society and THEWEEK Magazine and here is the link of the news.*

- **Chemical and Engineering News (C&EN), weekly magazine published by the American Chemical Society. (February 15, 2021)**
https://cen.acs.org/materials/nanomaterials/Plasma-gun-sprays-high-quality/99/web/2021/02?utm_source=LatestNews&utm_medium=LatestNews&utm_campaign=CENRSS
- **By the Harvard University (March 22, 2021)**
<https://sitn.hms.harvard.edu/flash/2021/a-cheaper-method-for-graphene-production/>
- **The Graphene Council (Feb. 18, 2021)**
<https://www.thegraphenecouncil.org/blogpost/1501180/365858/Plasma-gun-sprays-out-high-quality-graphene?hhSearchTerms=%22keshri%22&terms=>
- **The American Ceramic Society (Feb. 26, 2021)**
<https://ceramics.org/ceramic-tech-today/manufacturing/high-quality-graphene-from-ultrafast-low-cost-plasma-spray>
- **THEWEEK Magazine (Dec. 26, 2021)**
<https://www.theweek.in/theweek/specials/2021/12/16/eureka-now-what.html>

Projects	Funding Agency	Project Amount (Rs.)	Status
Fabrication of Robust Plasma Sprayed Rare Earth Oxide Hydrophobic Coating for the High Temperature and Wear Resistance Applications	SERB-DST	31.00 Lakhs	Completed
Surface modified metallic orthopedic implant for sustained drug release Co-PI: Dr. Anup Kumar Keshri (IIT Patna)	DST/TSG/AMT	92.49 Lakhs	Completed
Plasma Sprayed Carbon Nanotube reinforced Molybdenum Disulfide Anti-friction Nano Composite Coating with enhanced Mechanical and Wear Properties	Naval Research Board (NRB), India	15.05 Lakhs	Completed
Plasma Sprayed Carbon Nanotube and Graphene Reinforced Alumina Hybrid Nanocomposite Coating with Enhanced Electrical Conductivity, Corrosion and Mechanical Properties for Light Metal Alloys	Indian Space Research Organization (ISRO)	19.40 Lakhs	Completed
Development and optimization of cost effective and scalable near net shape plasma sprayed membrane with graded porosity for microfiltration application.	IMPRINT II	65.00 Lakhs	Completed
High Temperature Materials for Thermal Protection Systems (With IIT Kanpur)	IMPRINT II	45.00 Lakhs	Ongoing
Optimization of corrosion and wear properties in plasma sprayed Fe based metallic glass protective coatings (With IIT Kharagpur)	CRG-SERB	48.51 Lakhs	Ongoing
Graphene Based Membrane for Water Desalination with Improved Properties	CRG-SERB	32.18 Lakhs	Ongoing
Plasma Sprayed CNT Reinforced Graphene Coated Electrode for the Super Capacitor Applications: Towards Industrialization	Indo Hungary	28.20 Lakhs	Ongoing
Plasma Sprayed Nano-diamond reinforced NiCrBSi Nanocomposite Coatings: Substitute to Electroplated Hard Chromium	BRNS	29.51 Lakhs	Ongoing
Plasma Spraying of rare-earth niobates powder and controlling its stoichiometry and porosity for the advanced thermal barrier coating applications	AR&DB-GTMAP (DRDO)	72.5 Lakhs	Ongoing
Development of High Temperature Wear and Corrosion Resistant Graphene Nanoplatelets Reinforced Plasma Sprayed Cr ₃ C ₂ -NiCr composite Coating for thermal power plant	CPRI, Bangalore	32 Lakhs	Revision Submitted