

## Profile Page



Name : Dr Mukesh Bajya  
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### Research Interests :

Protective textile, high performance fibres, composites, bullet resistance jacket, shear thickening fluid, fabric structures, nonwoven, cross ply laminates structures

### Journal Publications :

Year	Journal	Publication
2022	Materials Chemistry and Physics	Bajya, Mukesh, Majumdar, Abhijit, Butola, Bhupendra Singh, Jasra, Raksh Vir "Exploration of disentangled UHMWPE tape as a soft body armour material"
2022	Journal of Natural Fibers	Majumdar, Abhijit, Jindal, Aman, Arora, Sanchi, Bajya, Mukesh "Hybrid Neuro-Genetic Machine Learning Models for the Engineering of Ring-spun Cotton Yarns"
2022	Journal of Thermoplastic Composite Materials	Bajya, Mukesh, Majumdar, Abhijit, Butola, Bhupendra Singh, Jasra, Raksh Vir "Orthotropic vs quasi-isotropic: How the tape orientation influence the performance of disentangled polyethylene laminates"
2022	Journal of Thermoplastic Composite Materials	Bajya, Mukesh, Majumdar, Abhijit, Butola, Bhupendra Singh, Jasra, Raksh Vir "Efficacy of various structural forms of disentangled polyethylene laminates against low velocity impact"
2022	Journal of Industrial Textiles	Bajya, Mukesh, Majumdar, Abhijit, Butola, Bhupendra Singh, Mawkhlieng, Unsanhame, Bhattacharjee, Debarati "Parametric optimisation of shear thickening fluid treatment for ultra-high molecular weight polyethylene woven fabric"
2021	Composites Communications	Bajya, Mukesh, Majumdar, Abhijit, Butola, Bhupendra Singh "Criticality of inter-yarn friction in high-performance fabrics for the design of soft body armour"
2021	Applied Composite Materials	Bajya, Mukesh, Majumdar, Abhijit, Butola, Bhupendra Singh, Jasra, Raksh Vir "Mitigating the Blunt Trauma of Soft Armour Panels using Polycarbonate Sheets: A Cost-effective Solution"
2021	Composite Structures	Bajya, Mukesh, Majumdar, Abhijit, Butola, Bhupendra Singh, Arora, Sanchi, Bhattacharjee, Debarati "Ballistic performance and failure modes of woven and unidirectional fabric based soft armour panels"

2020	Composites Part B	Bajya, Mukesh, Majumdar, Abhijit, Butola, Bhupendra Singh, Verma, Sanjeev Kumar, Bhattacharjee, Debarati "Design strategy for optimising weight and ballistic performance of soft body armour reinforced with shear thickening fluid"
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## Patents :

Name	Reg./Ref. No.	Date of Award/Filing	Organization	Status
DYNAMIC YARN PULL-OUT TESTING DEVICE AND METHOD OF TESTING THERE OF	202011042269	01-04-2022	Indian patent	Filed
A SMART BULLET PROOF CLOTHING CAPABLE OF TRANSMITTING SIGNAL TO A CONTROL ROOM	201911015711	02-09-2022	Indian patent	Filed
Armour vest with smart material	202211014887	17-03-2022	Indian patent	filed

## Award and Honours :

Title	Activity	Given by	Year
RETA (Research Excellence Travel Award)- meritorious PhD scholar-2022	Travel grant	IIT Delhi	2022
Gandhian Young Technological Innovation (GYTI)	Development of cost effective soft body armour	PSA-Govt of India	2021
National Innovation Budding Award 2021 (Cash prize INR 1,00,000)	National level award for the development of shear thickening fluid-based soft body armour by using indigenous technology	National Research Development Corporation (NRDC)	2021
First prize-INNOTEX 2021 (Cash prize INR 50,000) shared with Unsanhame Mawkhlieng	National level award for the development of shear thickening fluid-based soft body armour by using indigenous technology	Kusumgar Corporates and VJTI	2021
RSTA (Research Scholar Travel award)	International conference travel grant	IIT Delhi	2019
Prime Minister Doctoral Research Fellowship (PMDRF) from May-2018-May 2022	Development of Indigenous soft body armour	Prestigious fellowship award by SERB, FICCI and Reliance Industries Ltd	2018
First prize (INR 10,000 cash) in Poster Presentation	Shear thickening fluid based soft body armour	6th International Conference on Technical Textile and Nonwovens (ICTN) in 2018	2018
HEMSI Group Award for meritorious work in 2016	Meritorious group work at TBRL Chandigarh	DRDO	2016