CV

Dr. Mohammed Rajik Khan

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Areas of Interest

- *Innovative Product Design, Rehabilitation and Assistive Devices for Elderly, Physical Ergonomics, Occupational Health and MSDs.*
- *Geometric Modeling for Design, Engineering & Manufacturing, Biomechanical, CAD, etc.*

Education

- ***Ph.D. (Mechanical Engineering)***, PDPM – Indian Institute of Information Technology, Design & Manufacturing Jabalpur, India (August 2007 to September 2011).

  Thesis Title: **Geometric Modeling, Design & Analysis of Custom-Engineered Milling Cutters.**

  Thesis Supervisor: Prof. Puneet Tandon (ME)

Year of Passing	Name of Examination	School/College/ /Institute	Board/University	Branch of Study	Marks(%) or CGPA(-/-)	Academic Awards
2011	Ph.D.	PDPM-IIITDM Jabalpur, M.P., India	Central Govt. Deemed University	Mechanical Engineering (Computer-Aided Design)	**9.6/10**	**Bagged Silver medal for best thesis**
2006	M. Tech.	NIT Kurukshetra, India	Central Govt. Deemed University	Mechanical Engineering	**9.49/10**	**Distinction**
2001	B. E.	MITS Gwalior, M.P., India	RGPV, Bhopal, India	Mechanical Engineering	**76%**	**Honours**
1996	12th level	Nirmal Higher Secondary School	M.P. Board of Sec. Edu., Bhopal, M.P.	Maths-Science	71.1%	
1994	10th level	Nirmal Higher Secondary School	M.P. Board of Sec. Edu., Bhopal, M.P.	Maths-Science	74.6%	

Working Experience

Total Work Experience: 15+ Years (Approx.) / **12 Years at NIT Rourkela**

- Working as a **Professor**, Department of Industrial Design, NIT Rourkela, from **March 29, 2023** to till date.
- Working as an **Associate Professor**, Department of Industrial Design, NIT Rourkela, from **February 02, 2018** to **March 28, 2023**.
- Working as an **Assistant Professor**, Department of Industrial Design, NIT Rourkela, from July 01, 2011 to February 01, 2018.
- **Academic Visitor**, School of Mechanical and Manufacturing Engineering, **Loughborough University, UK**, from May 31st to June 23rd, 2014
- Worked as **Senior Lecturer**, Mechanical Engineering, Chhattrapati Shivaji Institute of Technology, Durg, C.G. from July 2006 to Aug 2007
- Worked as **Lecturer**, Mechanical Engineering, C.S.I.T. Durg (Nov 2002 to June 2006, study leave from Aug 2004 to Dec 2005)

Professional Accomplishments

Projects / Consultancy

- **Principal Investigator**, CRG, SERB, (File Number: CRG/2021/001945) **Development of customized Sit-to-Stand (S2) trajectory-based mobility assistive device**, Duration: 24 months (28.12.2021-27.12.2023). Status – Running (Rs. **28,64,400** INR)
- Principal Investigator, ICMR, New Delhi Adhoc project (sanction letter no. 5/3/8/318/2016-ITR) - **Design and fabrication of a novel scoop stretcher for full body Immobilization during causality transfer** at NIT Rourkela, Approved on 2015, Duration: 02 years, (Amount: Rs.**19,96,216**), (1st year fund received on April 2017): Status – Completed.
- **Principal Investigator**, ATC, BRNS R/Project (2015013407RP00729_BRNS) – **Electromagnetic welding (EMW) coil design & characterization from mechanical and metallurgical aspects for tubular jobs of ODS alloy with other materials** at NIT Rourkela, 2015, Duration: 03 years. (Amount: Rs. **21,49,650**): Status - Completed.
- **Member**, CoE-Orthopaedic Tissue Engineering and Rehabilitation
- Research Scholar, DST Project – **Geometric Modeling, Analysis and Design for Generic Definitions of Custom-Engineered Cutting Tools** at IIIT-DM Jabalpur, (PI: Prof. Puneet Tandon). Period 2008-11 (Amount: Rs.25.259 lakhs).

Patents

- Indian Patent – 01 (Granted)

  Title: **Multi-Dimensional Clamping Fixture**; Patent No.: **364820**;

  Application No. **201631008308;** Filing Date: **10.03.2016**; Publication Date: **08/04/2016**; Date of Certificate Issue**: 16/04/2021**

Major Board Positions

a. **Reviewer**, Frontiers in Bioengineering and Biotechnology, 2022.
b. **Reviewer**, Journal of Pain Research, 2022.
c. **Reviewer,** ASME 2022 International Mechanical Engineering Congress & Exposition (IMECE2022) conference
d. **External Examiner** for evaluating the thesis and conducting the "Oral Examination" in the case of Mr. SUSAI MANICKAM P in connection with his thesis submitted for Ph.D Degree in the Department of Mechanical Engineering, Faculty of Engineering and Technology, SRM Institute of science and Technology.
e. **Reviewer,** International conference, Humanizing Work and Work Environment (HWWE), 2021.
f. **Reviewer,** Journal of International Medical Research, 2021.
g. **Reviewer,** Journal of Engineering and Technological Sciences, 2021.
h. **Reviewer,** Progress in Nuclear Energy, Elsevier, 2020.
i. **Reviewer,** Malaysian Journal of Medicine and Health Sciences, 2020.
j. **Reviewer,** Toxicology and Industrial Health, Sage, 2020.
k. **Member,** Scientific Advisory Board, 16th & 17th International Design Conference (DESIGN 2020 & 2022) Croatia.
l. **Reviewer,** 15th & 16th International Design Conference (DESIGN 2019 & 2020) Croatia.
m. **Reviewer,** Informatics in Medicine, Elsevier, 2019.
n. **Advisory Committee Member,** International Conference on Advances in Mechanical Engineering & Electrical Engineering (ICAMEE 2019) (24th to 25th August 2019), Raisoni College of Engineering &Technology Nagpur, India.
o. **Reviewer,** Journal of Engineering, Design and Technology, Emerald, 2019.
p. **Reviewer,** Journal of the Brazilian Society of Mechanical Sciences and Engineering, Springer, 2019
q. **Reviewer,** Medical & Biological Engineering & Computing, Springer, 2019
r. **Reviewer,** International Conference on Applied Mechanical Engineering Research (IC-AMER2019), NIT Warangal.

s. **Reviewer,** European Journal of Applied Engineering and Scientific Research, 2017
t. **Reviewer,** Engineering Computations International Journal for computer-aided engineering and software, Emerald Group Publishing, United Kingdom, 2016.
u. **Reviewer,** Steel and Composite Structures, An International Journal, Techno-Press, Korea, 2016.
v. **Reviewer,** DST SERB Imprint Project Proposals (2018-19).
w. **Reviewer,** DST SERB Sponsored Proposals (2016-19).
x. **Reviewer,** International Conference on Research into Design 2017, 2019, 2021 (ICoRD'17, ICoRD'19, ICoRD'21, ICoRD'23), IISc Bangalore, India.
y. **Reviewer,** Gandhian Young Technological Innovation (GYTI) awards, SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions), India (2015, 2016).
z. **Member,** International Advisory Board, ICoRD 2017, 2019, 2021, 2023, IISc Bangalore, India.
aa. **Member, Advisory Board**, National conference on 'Recent Development, Future Challenges and Opportunities for Rural Development in Globalized Environment' MMCT Durg, India, August 2014.
bb. **Member**, Life time, International Association of Engineers (IAENG) Society of Mechanical Engineering
cc. **Member**, Life time, International Association of Engineers (IAENG) Society of Industrial Engineering

Publications

- Published **26** papers in International peer referred journals of repute, **23** in International conferences and **12** Book chapters. Besides, **11** papers were presented in peer reviewed International conferences.

Research Supervision

- **Ph.D. Supervision - Awarded: 03**
- **M.Tech.** Students research guidance - **23**.
- Established successfully an in house ***electromagnetic welding (EMW) facility*** of capacity 108 µF, 20kV, 200kA, 20 kHz (Short circuit) in collaboration with BARC Mumbai.
- Developed and established laboratories like ***Computer-Aided Design Lab, Ergonomics & Simulation Lab, Digital Fabrication Lab, Product Design & Development Laboratory, Art, Design & Aesthetics Lab***, etc. in Industrial Design department at NIT Rourkela.
- Taught & developed a number of courses (***Product Design, Advanced Product Design & Development, Geometric and Solid Modeling, Rapid Product Development Technologies, CAD, Design Workshop, Industrial Design Project, etc.***).
- Establishment of new department "***Industrial Design***" at NIT Rourkela.
- Framed the course curriculum of new B.Tech. and M.Tech. in Industrial Design at NIT Rourkela.
- Being the **1st PhD scholar of IIITDM Jabalpur**, has the exposure and contribution towards the establishment of various laboratories and equipment.

CAD/CAM/CAE Skills

CAD: Platforms: CATIA V5, V6, MIMICS 18.0, Siemens NX, SolidWorks and AutoCAD.

CAE: Platforms: ANSYS and ABACUS.

CAM: Rapid Prototyping – Stratasys FDM 400, Dimension 1200es, Mojo 3DPrinter and Polyjet 30 3D printer

HUMAN SIMULATION: CATIA, 6D-ETS (Electromagnetic Tracking System) (Liberty, Polhemus) and Infrared motion capture cameras (Qualysis Oqus 3+).

REVERSE ENGINEERING: Equipment Roland 3D Laser Scanner (PICZA), 7-Axis Laser Scanner (FARO Arm).

Conferences / Workshops Organized

- **Co-Coordinator**, **GIAN course** on "Vibration Problems in Rotating Machines: Diagnosis and Rectification (171030L02)", 18-02-2019 to 01-03-2019, Department of Industrial Design, NIT Rourkela

- **Coordinator**, **GIAN course** on "Automotive Design Approaches (171030A02)", 04-12-2017 to 09-12-2017, Department of Industrial Design, NIT Rourkela (*Approved but cancelled due to personal reasons of the expert*)
- Chairman, Curriculum Workshop and Academic Audit held from 24.03.2017 to 25.03.2017 at the department of Industrial Design, NIT Rourkela
- Convenor, 1st Curriculum Development Committee (CDC) workshop held on 11.11.2013 at the department of Industrial Design, NIT Rourkela

International Exposure

a. Visited Wolfson School of Mechanical and Manufacturing Engineering, **Loughborough University, UK** from **May 31-June 23, 2014** for collaborative research work and for MoU establishment with NIT Rourkela.
b. Attended and presented paper in International Conference of Manufacturing Engineering and Engineering Management (ICMEEM'13), **Imperial College London, U.K., July 3-5, 2013.**
c. Attended and presented paper in International Conference on Manufacturing Science and Technology (ICMST 2011), **Singapore, September 16-18, 2011.**
d. Attended and presented paper in International CAD conference and Exhibition - CAD'10, **Dubai, UAE, June 21-25, 2010.**

Invited Lectures

- Delivered an **expert lecture** on "**Assessment of physical workload and ergonomic problems (MSDs) among cleaning professionals**", in 2 week TEQIP III Sponsored Online Short Term Course (STC) on "Recent Trends in Mechanical Engineering" organized by Indira Gandhi Institute of Technology, Sarang held on 1st to 12th February **2021**.
- Delivered an **expert lecture** on "**Generic Product Development Process: Concept Generation and Selection**", in a one week FDP on "*Effective pedagogical practices in teaching mechanical engineering courses*" organized by Department of Mechanical Engineering, KL University, Guntur held on 16th to 22nd December **2020**.
- Delivered an **expert lecture** on "**Patent Application process in India**", in 2-day webinar series on "*Understanding the Dynamics of Intellectual Property Rights*" organized by North Eastern Regional Institute of Science and Technology in collaboration with Arunachal Pradesh State Council for Science and Technology held on 3rd and 4th August **2020**.
- Delivered an **expert lecture** on "**Rapid Prototyping Technologies**", at TEQIP-III sponsored short term course on "Advances in Computer Aided Design and Manufacture" at National Institute of Technology Rourkela, May 22, **2018**.
- Delivered an **expert lecture** on "**Additive Manufacturing Technologies**", at short term course on "Application of Artificial Intelligence Techniques, Robotics and Mechatronics in Various Systems of Industrial Environments" at National Institute of Technology Rourkela, November 21, **2017**.
- **Workshop** on "**Prototyping and Reverse Engineering**", at short term course on "Application of Artificial Intelligence Techniques, Robotics and Mechatronics in Various Systems of Industrial Environments" at National Institute of Technology Rourkela, November 21, **2017**.

Collaboration

- Working on the DST DFG joint call on International Research Training Groups (IRTG for Indo-German) 2022-23.
- Collaborative research work and established MoU for academic cooperation between Wolfson School of Mechanical and Manufacturing Engineering, Loughborough University, UK and Industrial Design Department, NIT Rourkela from 2014 to 2019.
- Academic exchange between Design school of Architecture, University of Lisboa, Portugal and Industrial Design Department, NIT Rourkela within the framework of Erasmus+ International Credit Mobility Program from March to June 2018.

- Collaborative joint research in project titled "Development of comfort models to design comfortable handles for hand-held industrial products" with Prof. Keith Case, Wolfson School of Mechanical and Manufacturing Engineering, Loughborough University, UK.
- Collaborative joint research in project titled "Bio-mechanical study and FE analysis of dynamic stabilization device designed for human lumbar spine" with Jawaharlal Nehru Hospital and Research Centre, Bhilai, C.G.
- Collaborative joint research in project titled "Design and fabrication of novel scoop stretcher for full body immobilization during casualty transfer" with Suyash Institute of Medical Sciences, Raipur, C.G.
- Collaborative joint research in project titled "FE analysis of lumbar injury to backseat occupants during car crash: Consequence of unnatural sitting postures" with Asian Institute of Medical Sciences Faridabad, Haryana.
- Collaborative joint research in Electromagnetic welding with Prof. S. C. Mondal, IIEST, Shibpur.
- Collaborative joint research in project titled "Design and analysis of components fabricated using electromagnetic pulse welding and forming" with Dr. Subhanarayan Sahoo, Adani Institute of Infrastructure Engineering, Ahmedabad, Gujarat.

Administrative Experience

- **Member,** Special Swachhata Campaign 2.0, 02.10.22 to 31.10.2022.
- **Member**, Intellectual Property Innovation Centre (IPIC), NIT Rourkela from 07.09.2022 to 30.06.2024.
- **Steering Committee Member**, Foundation for Technology and Business Incubation (FTBI), NIT Rourkela from 05.08.2022 to till date.
- **Member**, Institute's Accreditation and Ranking Team, NIT Rourkela from 28.04.2022 to till date.
- **PIC/Chairman**, On Campus Business, NIT Rourkela from 20.04.2022 to 30.06.2024.
- **Secretary,** Institute Ethics Committee NIT Rourkela, 18.04.2022 to continue.
- **Member,** Skill hub initiative, NIT Rourkela, Feb 2022 to till date.
- **Member**, Institute Time Table Committee (TTC), 01.07.2021 to 30.06.2024.
- **Member**, Institute Curriculum Ranking and Accreditation Committee (CRAC), 01.07.2020 to 30.06.2022.
- **Panel Member**, Stage D under engineering category for evaluation of the poster/oral presentations of the Research Scholars' week 2019.
- **Member**, Convocation Committee (Medal), NIT Rourkela (2017-18).
- **Head**, Department of Industrial Design, NIT Rourkela (July 2015 to June 2018).
- **Senate Member (Permanent Invitee)** for representing the department in the Senate, July 2015 to June 2018
- **Chairman**, Curriculum Development Committee, Industrial Design, NIT Rourkela (July 2015 to 30.06.2018).
- **Chairman,** Departmental Purchase Committee, Industrial Design, NIT Rourkela (July 2012 to June 2015; June 2018 to June 2021).
- **Chairman**, Departmental Academic Programme Oversight Committee (15.07.2015 to 30.06.2023)
- **Chairman**, Departmental Academic Committee (15.11.2016 to 30.06.2018)
- **Chairman**, Departmental Research Committee (15.11.2016 to 30.06.2018)
- **Convenor**, Curriculum Development Committee, Industrial Design, NIT Rourkela (July 2013 to June 2015).
- **Program In-Charge (PIC)**, Human Simulation Lab (I & II) (2021 to till date).
- **Program In-Charge (PIC)**, CAD Lab, Industrial Design, NIT Rourkela (August 2011 to till date).
- **Program In-Charge (PIC),** Digital Fabrication Lab, Industrial Design, NIT Rourkela (July 2015 to till date).
- **Program In-Charge (PIC),** Ergonomics and Simulation Lab, Industrial Design, NIT Rourkela (2015 to June 2018).
- **PIC**, UG project, NIT Rourkela (15.07.2015 to 2018)

- **PIC**-Research Students (Selection, Enrolment, Progress & graduation) (15.07.2015 to 30.06.2018)
- **PIC**, Direct Purchase, Industrial Design, NIT Rourkela (15.07.2011 to 30.06.2015; July 2021 to June 2023).
- **Member**, Central Instrumentation Facility (CIF), NIT Rourkela (January 2017 to June 2018).
- **Executive Member**, IIITDM Jabalpur Alumni Association (December 2015 to 2019).
- **Member,** Major Equipment Management Committee, NIT Rourkela (December 2015 to till date).
- **Member,** Screening and professional test committee for conduction of selection test of technical staff against advt no. ES/02,03,04,05/2015, NIT Rourkela (13.3.2015)
- **Expert Member** in developing the syllabus of M. Tech. Industrial Design, NIT Rourkela (March-April 2013).
- **Member**, Convocation Committee (Stage and venue preparation), NIT Rourkela (2012-2017).
- **Faculty Advisor**, B. Tech. / M. Tech. students of the Department of Industrial Design admitted during the academic year 2012-13 and 2014-15 respectively.
- **Member**, Office Automation and Website Committee, NIT Rourkela (April 2012 to till date).
- **Member**, Expert Committee for preparing the syllabus of B. Tech, Industrial Design, NIT Rourkela (November 2011).
- **Member**, Committee for examining the computing environment needed for Industrial Design (September 2011 to till date).
- Faculty Advisor, Department of Industrial Design, Tech Fest 2011.
- **Member**, Purchase Committee, TEQIP phase – II (September 2011 to 2012).
- **Member**, High Performance Computing Committee, NIT Rourkela (August 2011 to 2013).

PUBLICATIONS

REFERRED JOURNALS

Year – 2023

1. ***Khan Mohammed Rajik***, "Experimental investigation of applying segmented scoop stretcher (S^3) for full-body immobilization of the injured patient", **Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science**, 2023, 237(5), 1015–1022 (https://doi.org/10.1177/09544062221130276) **(IF - 1.758)**

Year – 2022

2. ***Khan Mohammed Rajik***, Ambati Tejaswi, "Musculoskeletal pain symptoms in users performing smartphone texting: A preliminary study on institute environment, **International Journal of Industrial Ergonomics**, Volume 90, July 2022, 103325 (https://doi.org/10.1016/j.ergon.2022.103325) (**IF- 2.884**).
3. ***Khan Mohammed Rajik***, "A study on colour harmony and consumer perception of shampoo packages displayed on screen", **Journal of Design Research**, **2022 Sep, 20(1), 58 - 78**.
   (https://doi.org/10.1504/JDR.2022.10048144**)**
4. Jain Pushpdant & ***Khan Mohammed Rajik***, "Comparison of Novel Stabilization Device with Various Stabilization Approaches: A Finite Element based Biomechanical Analysis", **The International Journal of Artificial Organs, April 2022, 45(5), 514-522 (**https://doi.org/10.1177/03913988221088334**). (IF-1.631)**

Year – 2021

5. Jain Pushpdant & ***Khan Mohammed Rajik***, "Selection of suitable pedicle screw for degenerated cortical and cancellous bone of human lumbar spine: A finite element study", **The International Journal of Artificial Organs, 2021, 44(5), 361-366**. **(IF-1.631)** (https://doi.org/10.1177/0391398820964483)

Year – 2020

6. Dhananjay Singh Bisht, ***Mohammed Rajik Khan***, "Handle design of woodworking tools: Preferences and recommendations of craftsmen and design students", **International Journal of Advanced Production and Industrial Engineering (IJAPIE), 2020**, **5(2), 40-47**. (https://doi.org/10.35121/ijapie202004245)
7. Pushpdant Jain, Masud Rana, Jayanta Kumar Biswas, Mohammed Rajik Khan, "Biomechanics of Spinal Implants – A Review", **Biomedical Physics & Engineering Express, 2020**, 6(4), 042002. **(IF-1.1)** (https://doi.org/10.1088/2057-1976/ab9dd2)
8. Naik Gouri, ***Khan Mohammed Rajik,*** "Prevalence of MSDs and postural risk assessment in floor mopping activity through subjective and objective measures", **Safety and Health at Work, 2020, 11(1), 80-87.** (**IF-4.045**) (https://doi.org/10.1016/j.shaw.2019.12.005)
9. *Jain Pushpdant* & ***Khan Mohammed Rajik***, "Biomechanical Study of Lumbar Spine (L2-L4) Using Hybrid Stabilization Device - A Finite Element Analysis", **International Journal of Manufacturing, Materials, and Mechanical Engineering, (IJMMME), 2020 10(1), 20-32.** DOI: 10.4018/IJMMME.2020010102
10. ***Khan Mohammed Rajik*** & *Sonawane Atul*, "Prediction of impact response in construction safety helmet using FEA", **Journal of Engineering, Design and Technology, 2020, 18(3), 557-566.** https://doi.org/10.1108/JEDT-05-2019-0120

Year – 2019

11. Satendra Kumar, ***Mohammed Rajik Khan***, P.C. Saroj, G. K. Dey, Archana Sharma, "Experimental investigation of driver material on electro magnetic welding of alloy D9 SS tube to SS316L(N) plug", **International Journal of Advanced Manufacturing Technology**, **2019, 105(10):4225–4235** (**IF-3.563**). DOI: https://doi.org/10.1007/s00170-019-04525-0
12. *Jain Pushpdant* & ***Khan Mohammed Rajik***, "Prediction of biomechanical behaviour of lumbar vertebrae using a novel semi-rigid stabilization device", **Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2019, Vol. 233 (8),** pp.849-857. (**IF-1.763**) (https://doi.org/10.1177/0954411919856497)
13. *Bisht Dhananjay S* & ***Khan Mohammed Rajik***, "A Novel Anatomical Woodworking Chisel Handle", **Applied Ergonomics, 2019, Vol. 76, pp. 38-47**. (**IF-3.940**) (https://doi.org/10.1016/j.apergo.2018.11.010)
14. ***Khan Mohammed Rajik,*** *Md. Mosarraf Hossain, Archana Sharma & Satendra Kumar*, "Sequential Coupling of Electromagnetic-Structural Simulation for Compression Joining of Tubular Jobs", **Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2019**, 233(10), 3346–3355. (**IF-1.758**) (https://doi.org/10.1177/0954406218813445).
15. ***Khan Mohammed Rajik,*** *Md. Mosarraf Hossain, Archana Sharma & Satendra Kumar*, **"Predicting the effect of field shaper in electromagnetic welding using FEM", Arabian Journal for Science and Engineering, 2019, Vol. 44, Issue 2, pp 1129–1136**. (**IF-2.807**) (https://doi.org/10.1007/s13369-018-3430-9)

Year – 2018

16. *Digamber Shinde, Pankaj V Katariya, Kulmani Mehar,* ***Md. Rajik Khan****, Subrata K Panda, Harsh K Pandey*, "Experimental training of shape memory alloy fibres under combined thermomechanical loading", **Structural Engineering and Mechanics An International Journal**, **2018**, Vol. 68, No. 5, 519-526. (**IF-2.998**) (https://doi.org/10.12989/sem.2018.68.5.519)
17. ***Khan Mohammed Rajik*** & *Singh Nishant Kumar*, "Prevalence of musculoskeletal disorders among Indian railway sahayaks", **International Journal of Occupational and Environmental Health, 2018**, Vol. 24, Issue 1-2, pp. 27-37. (**IF-1.195**) (https://doi.org/10.1080/10773525.2018.1507187)

18. *Allaparthi Muddu*, ***Khan Mohammed Rajik*** *& Brahma Teja,* "Three-dimensional finite element dynamic analysis for micro drilling of multi-layer printed circuit board material", **Materials Today: Proceedings**, **2018**, Vol. 5, Issue 2, Part 2, pp. 7019–7028. (https://doi.org/10.1016/j.matpr.2017.11.365)
19. *Jain Pushpdant &* ***Khan Mohammed Rajik***, "Biomechanical study of fused lumbar spine considering bone degeneracy using FEA", **Arabian Journal for Science and Engineering, 2018,** 43(3):1325-1334. **(IF-2.807)** (https://doi.org/10.1007/s13369-017-2848-9)

Year – 2017 and later

20. ***Khan Mohammed Rajik*** *& Tandon Puneet,* "Mathematical modeling of a generic multi-profile form milling cutter", **Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, May 2013**, Vol. 227, No. 5, pp. 142 – 152 **(IF-1.758)**.
(https://doi.org/10.1177/0954406212455890)
21. ***Khan Mohammed Rajik*** *& Tandon Puneet,* "Parameterized Geometric Design of a Generic Form Milling Cutter", **Computer-Aided Design & Applications, 2013,** Vol. 10, No. 5, pp. 757-765.
(http://www.tandfonline.com/doi/abs/10.3722/cadaps.2013.757-765#.Uq4CAvQW1ic)
22. *Parida PK, Biswal, BB &* ***Khan MR***, "Kinematic Modeling and Analysis of a Multifingered Robotic Hand", **Advanced Materials Research, 2012,** Vols. 383-390, pp. 6684-6688.
(https://doi.org/10.4028/www.scientific.net/AMR.383-390.6684)
23. ***Khan Mohammed Rajik*** *& Tandon Puneet,* "Mathematical modeling for design of a generic custom-engineered form mill", **International Journal of Advanced Manufacturing Technology, 2011,** Vol. 54, Nos. 1-4, pp. 139-148 **(IF-3.563)**. (https://doi.org/10.1007/s00170-010-2936-4)
24. ***Khan Mohammed Rajik*** *& Tandon Puneet,* "Computer-Aided Design and Analysis of a Custom-Engineered Form Milling Cutter", **Computer-Aided Design & Applications, 2010,** Vol. 7, No. 2, pp. 213-219.(http://www.tandfonline.com/doi/abs/10.3722/cadaps.2010.213-219?journalCode=tcad20#.Uq4BEvQW1id)
25. *Tandon Puneet &* ***Khan Md. Rajik***, "Three dimensional modeling and finite element simulation of a generic end mill", **Computer-Aided Design, 2009**, Vol. 41, No. 2, pp. 106-114 (**IF-3.652**).
(https://doi.org/10.1016/j.cad.2009.01.005)

INTERNATIONAL CONFERENCES (Published)

Year – 2023

1. ***Mohammed Rajik Khan*** and Sumit Pravin Vedpathak (2023) Ergonomic evaluation of handle position and orientation in pushing cart using RULA, 9th International Conference on Research Into Design 9 - 11 January 2023, Indian Institute of Science, Bangalore, India.

Year – 2021

2. ***Khan M.R.***, Naik G. (2021) An Experimental Investigation on Postural Risks in Floor Mopping. In: Chakrabarti A., Poovaiah R., Bokil P., Kant V. (eds) Design for Tomorrow—Volume 1. ICoRD 2021. Smart Innovation, Systems and Technologies, Vol 221. Springer, Singapore. https://doi.org/10.1007/978-981-16-0041-8_4

Year – 2019

3. Bisht Dhananjay S & ***Khan Mohammed Rajik***, "Handle Design of Woodworking Tools: Preferences and Recommendations of Craftsmen and Design Students", **4th International Conference on Advanced Production and Industrial Engineering (ICAPIE 2019)**, Delhi Institute of Tool Engineering (DITE), Okhla, Delhi, India, December 20-21, 2019.
4. Bisht Dhananjay S & ***Khan Mohammed Rajik***, "Identification and Classification of Parameters for Woodworking Chisel Design", **17th International Conference on Humanizing Work and Work Environment HWWE-2019**, NIT Jalandhar, India, November 8-10, 2019.
5. Bisht Dhananjay S & ***Khan Mohammed Rajik***, "TWHP (TYPE-WHAT-HOW-POSE): A Novel Nomenclature for Hand Anthropometry", **1st International Conference on Innovation in Modern**

Science and Technology (ICIMSAT 2019), Siliguri Institute of Technology, West Bengal, India, September 20-21, 2019. https://doi.org/10.1007/978-3-030-42363-6_76

6. ***Khan Mohammed Rajik***, *Mishra Suman and Yadav S Prathik*, "Number Maze: Play and Learn", **7th International Conference on Research into Design (ICoRD'19)**, Indian Institute of Science, Bangalore, January 09-11, 2019, Published in Proceedings of ICoRD 2019 – Research into Design for a Connected World, Smart Innovation, Systems and Technologies 135, pp. 713-721, https://doi.org/10.1007/978-981-13-5977-4_60.
7. ***Khan Mohammed Rajik***, *Singh Nishant Kumar and Shinde Digamber*, "An Ergonomic Study: Bicycle Repairer in Rural India", **7th International Conference on Research into Design (ICoRD'19)**, Indian Institute of Science, Bangalore, January 09-11, 2019, Published in Proceedings of ICoRD 2019 – Research into Design for a Connected World, Smart Innovation, Systems and Technologies 135, pp. 509-517, https://doi.org/10.1007/978-981-13-5977-4_43.

Year – 2018

8. *Pushpdant Jain and* ***Khan Mohammed Rajik***, "Bone degeneracy a parameter to identify suitable pedicle screw for Lumbar Vertebrae: A biomechanical analysis through finite element study", 1st International Conference on Processing and Characterization of Materials (ICPCM– 2018), NIT Rourkela, December 06-08, 2018.

Year – 2017

9. ***Mohammed Rajik Khan***, *Aditya Rahul Gupta*, "Design and Development of an Automated Hand Shovel", **15th International Conference on Humanizing Work and Work Environment (HWWE 2017) Theme: Ergonomics for Improved Productivity**, December, 8-10, 2017, Aligarh Muslim University, Aligarh, India (Won best paper award in undergraduate category with 1st prize of $200 gift voucher).
10. *Allaparthi Muddu,* ***Khan Mohammed Rajik*** *& Brahma Teja,* "Three-Dimensional Finite element dynamic analysis for micro drilling of multi-layer printed circuit board material", **International Conference on Emerging Trends in Materials & Manufacturing Engineering (iMME17)**, NIT Tiruchirappalli, TN, India, March 10- 12, 2017 (Best technical paper award).

11. *Bisht Dhananjay S &* ***Khan Mohammed Rajik***, "Anatomically shaped tool handles designed for power grip", 6th **International Conference on Research into Design (ICoRD'17)**, Indian Institute of Technology Guwahati, Assam, January 09-11, 2017, Published in Proceedings of ICoRD 2017 – Research into Design for Communities, Volume 1, Smart Innovation, Systems and Technologies 65, pp.135-148, Springer India (https://doi.org/10.1007/978-981-10-3518-0_12) (Received merit award for most distinguish paper).
12. ***Mohammed Rajik Khan,*** *Biswaksen Patnaik and Sonalisa Patel*, "Design and ergonomic analysis of a novel sit-to-stand and mobility assistive device for ambulation and elderly", 6th **International Conference on Research into Design (ICoRD'17)**, Indian Institute of Technology Guwahati, Assam, January 09-11, 2017, Published in Proceedings of ICoRD 2017 – Research into Design for Communities, Volume 1, Smart Innovation, Systems and Technologies 65, pp.801-811, Springer India (https://doi.org/10.1007/978-981-10-3518-0_69).

Year – 2016

13. ***Khan Mohammed Rajik,*** *Alok Raj, Md. Mosarraf Hossain, Satendra Kumar & Archana Sharma,* "Distribution of electromagnetic field and pressure of single turn circular coil for magnetic pulse welding using FEM", Proceedings of the 6th **International and 27th All India Manufacturing Technology, Design & Research Conference – 27thAIMTDR,** College of Engineering, Pune, India, December 16-18, 2016, pp. 126-130, ISBN: 978-93-86256-27-0 (https://doi.org/10.1007/978-981-13-0378-4_9)
14. *Allaparthi Muddu,* ***Khan Mohammed Rajik*** *& A. Shyamnarayan,* "FE Modal and Harmonic Analysis of Micro Drill with Ultrasonic Horn", **The 1st International Conference on Materials Design and Applications (MDA 2016),** Porto, Portugal, 30 June - 1 July 2016 (Published in Advanced Structured Materials 65, pp. 281-293, https://doi.org/10.1007/978-3-319-50784-2_21 (Springer)

Year – 2015

15. ***Khan Mohammed Rajik,*** *Purohit Pranit Kumar & Ghadai Sambit*, "Development of a Continuous Passive Motion (CPM) rehabilitation device adopting human knee gait pattern", **International Conference on Computer Aided Engineering (CAE-2015),** GITAM University, Hyderabad, India, December 10-12, 2015, Published in the Proceedings of the International Conference on Computer Aided Engineering 2015, pp. 370-375.
16. ***Khan Mohammed Rajik,*** *Giri Preeti & Kumar Pawan*, "Redesign and Ergonomic Analysis of Scoop Stretcher for Full Body Immobilization during Casualties", **5th International Conference on Research into Design (ICoRD'15)**, Indian Institute of Science, Bangalore, India, January 7-9, 2015, Published in ICoRD'15 – Research into Design Across Boundaries Volume 1, pp.411-420, Springer India (https://doi.org/10.1007/978-81-322-2232-3_36).

Year – 2014 and later

17. *Allaparthi Muddu and* ***Khan Mohammed Rajik***, "Recent Advances in Burr Height Minimization in Micro-Machining", Proceedings of the 5th **International and 26th All India Manufacturing Technology, Design & Research Conference – 26thAIMTDR**, IIT Guwahati, India, December 12-14, 2014, pp.386-1-6 (ISBN: 978-8-19274-612-8).
18. *Bisht Dhananjay S &* ***Khan Mohammed Rajik***, "Ergonomic Assessment Methods for the Evaluation of Hand Held Industrial Products: A Review", **The 2013 International Conference of Manufacturing Engineering and Engineering Management (ICMEEM'13),** Imperial College London, U.K., July 3-5, 2013. Published in the Proceedings of the World Congress on Engineering 2013 Vol I, pp.559-564.
    (http://www.iaeng.org/publication/WCE2013/WCE2013_pp559-564.pdf)
19. ***Khan Mohammed Rajik*** *& Tandon Puneet*, "Development of the Geometry and its Redesigning for a Special Shaped Milling Cutter", **The 2013 International Conference of Manufacturing Engineering and Engineering Management (ICMEEM'13),** Imperial College London, U.K., July 3-5, 2013. Published in the Proceedings of the World Congress on Engineering 2013 Vol I, pp.526-531.
    (http://www.iaeng.org/publication/WCE2013/WCE2013_pp526-531.pdf)
20. ***Khan Mohammed Rajik*** *& Tandon Puneet*, "Parameterized Geometric Design of a Generic Form Milling Cutter", **International CAD Conference and Exhibition - CAD'12**, **Niagara Falls, Canada,** June 11-14, 2012. Published in Computer-Aided Design & Applications, 2013, Vol. 10 (5), pp. 757-765.
    (http://www.tandfonline.com/doi/pdf/10.3722/cadaps.2013.757-765)
21. *Parida PK, Biswal, BB &* ***Khan Mohammed Rajik***, "Kinematic Modeling and Analysis of a Multifingered Robotic Hand", **The International Conference on Manufacturing Science and Technology (ICMST 2011),** Singapore Institute of Electronics and International Association of Computer Science and Information Technology, Singapore, September 16-18, 2011, Published in Advanced Materials Research, 2012, Vols. 383-390, pp. 6684-6688.
    (http://www.scientific.net/AMR.383-390.6684)
22. ***Khan Mohammed Rajik*** *& Tandon Puneet*, "Design of a Novel Multi-Radius Form Milling Cutter", Proceedings of the **3rd International & 24th All India Manufacturing Technology, Design & Research Conference – 24th AIMTDR-2010**, A. U. College of Engineering, Visakhapatnam, India, December 13-15, 2010, Vol. 1, pp.465-470.
23. ***Khan Mohammed Rajik*** *& Tandon Puneet*, "Computer-Aided Design and Analysis of a Custom-Engineered Form Milling Cutter", **International CAD Conference and Exhibition - CAD'10**, **Dubai, UAE,** June 21-25, 2010, Published in Computer-Aided Design & Applications, 2010, Vol. 7 (2), pp. 213-219 (http://www.tandfonline.com/doi/pdf/10.3722/cadaps.2010.213-219).
24. ***Khan Md. Rajik*** *& Tandon Puneet*, "Geometric Modeling and Analysis of Three Dimensional Generic End Mill Cutter", Proceedings of the **2nd International and 23rd All India Manufacturing Technology, Design & Research Conference – 23rd AIMTDR**, IIT Madras, India, December 15-17, 2008, Vol. 2, pp.1029-1034.

Book Chapters

Year – 2021

1. ***Khan Mohammed Rajik***, Naik Gouri, "An experimental investigation on postural risks in floor mopping", In: Chakrabarti A., Poovaiah R., Bokil P., Kant V. (eds.), Design for Tomorrow-Volume 1, Smart Innovation, Systems and Technologies Vol 221, pp. 39-50, 2021, **Springer Nature Singapore Pte Ltd.** https://doi.org/10.1007/978-981-16-0041-8_4.
2. ***Khan Mohammed Rajik,*** Gupta A.R., "Design and development of an automated hand shovel**",** In: Muzammil M., Khan A.A., Hasan F. (eds) **Ergonomics for Improved Productivity. Design Science and Innovation, pp. 525-532, 2021, Springer, Singapore.** https://doi.org/10.1007/978-981-15-9054-2_59

Year – 2020

3. *Bisht Dhananjay S &* ***Khan Mohammed Rajik***, "TWHP (TYPE-WHAT-HOW-POSE): A Novel Nomenclature for Hand Anthropometry", In: Dawn S., Balas V., Esposito A., Gope S. (eds) **Intelligent Techniques and Applications in Science and Technology**, pp. 650-658, **2020**. ICIMSAT 2019. Learning and Analytics in Intelligent Systems, Vol 12, **Springer, Cham.** https://doi.org/10.1007/978-3-030-42363-6_76

Year – 2019

4. ***Khan Mohammed Rajik****, Mishra Suman and Yadav S Prathik*, "Number Maze: Play and Learn", In: A. Chakrabarti (ed.), Research into Design for a Connected World, Smart Innovation, Systems and Technologies, Vol 135, pp. 713-721, **2019, Springer Nature Singapore Pte Ltd.** https://doi.org/10.1007/978-981-13-5977-4_60
5. ***Khan Mohammed Rajik,*** *Singh Nishant Kumar and Shinde Digamber*, "An Ergonomic Study: Bicycle Repairer in Rural India". In: A. Chakrabarti (ed.), Research into Design for a Connected World, Smart Innovation, Systems and Technologies, Vol 135, pp. 509-517, **2019, Springer Nature Singapore Pte Ltd.** https://doi.org/10.1007/978-981-13-5977-4_43
6. ***Khan M.R.****, Raj A., Hossain M.M., Kumar S., Sharma A.* Distribution of Electromagnetic Field and Pressure of Single-Turn Circular Coil for Magnetic Pulse Welding Using FEM. In: Dixit U., Narayanan R. (eds) Strengthening and Joining by Plastic Deformation. Lecture Notes on Multidisciplinary Industrial Engineering. pp 201-215, **2019**, Springer, Singapore, ISBN: 978-981-13-0377-7, https://doi.org/10.1007/978-981-13-0378-4_9.

Year – 2017

7. *Allaparthi Muddu,* ***Khan Mohammed Rajik*** *& A. Shyamnarayan*, "FE Modal and Harmonic Analysis f Micro Drill with Ultrasonic Horn", In: Silva L. (eds) Materials Design and Applications. Advanced Structured Materials, vol 65, pp. 281-293, **2017, Springer, Cham (ISBN: 978-3-319-50784-2),** https://doi.org/10.1007/978-3-319-50784-2_21
8. ***Mohammed Rajik Khan,*** *Biswaksen Patnaik and Sonalisa Patel*, "Design and ergonomic analysis of a novel sit-to-stand and mobility assistive device for ambulation and elderly", **A. Chakrabarti and D. Chakrabarti (eds.), Research into Design for Communities, Volume 1, Smart Innovation, Systems, and Technologies** 65, pp. 801-811, **2017**, **Springer Nature Singapore Pte Ltd.** (ISBN: 978-981-10-3518-0), https://doi.org/10.1007/978-981-10-3518-0_69.
9. *Bisht Dhananjay S &* ***Khan Mohammed Rajik****,* "Anatomically shaped tool handles designed for power grip", **A. Chakrabarti and D. Chakrabarti (eds.), Research into Design for Communities,**

Volume 1, Smart Innovation, Systems, and Technologies 65, pp. 135-148, **2017**, **Springer Nature Singapore Pte Ltd.** (ISBN: 978-981-10-3518-0) https://doi.org/10.1007/978-981-10-3518-0_12.

Year – 2015 and later

10. ***Mohammed Rajik Khan****, Preeti Giri & Pawan Kumar*, "Redesign and Ergonomic Analysis of Scoop Stretcher for Full Body Immobilization during Casualties", **A. Chakrabarti (ed.), Research into Design Across Boundaries Volume 1, Smart Innovation, Systems and Technologies** 34, pp. 411-420, **2015, Springer India, (ISBN: 978-81-322-2232-3),** DOI 10.1007/978-81-322-2232-3_36.
11. ***Khan, M.R.*** *and Tandon, Puneet*, "Development of the geometry and its redesigning for a special shaped milling cutter", **Newswood Limited 2013, Lecture Notes in Engineering and Computer Science** (LNECS), **2013**, Vol. 1, pp. 526-531
12. ***Khan Mohammed Rajik*** *& Bisht Dhananjay S.*, "Ergonomic Assessment Methods for the Evaluation of Hand Held Industrial Products: A Review", **Newswood Limited 2013,** S. I. Ao, Len Gelman, David WL Hukins, Andrew Hunter and A. M. Korsunsky (eds.), **Lecture Notes in Engineering and Computer Science (LNECS), 2013**, Vol. 1, pp. 559-564.

Doctoral Thesis Supervision

1. Pushpdant Jain, Design and FE Analysis of Novel Semi - Rigid Stabilization Device for Human Lumbar Spine. [Awarded: March 2020]
2. Dhananjay Singh Bisht, Conceptual Design Approach for Woodworking Chisel Handle, NIT Rourkela. [Awarded: February 2019]
3. Muddu Allaparthi, Three-Dimensional Finite Element Analysis of Conventional and Ultrasonic Vibration Assisted Micro-Drilling on PCB. [Awarded: December 2018]

'*Master of Technology by Research*' (M.Tech. (R)) Thesis Supervision

1. Md. Mosarraf Hossain, Investigation on Electromagnetic Welding (EMW) for Tubular Jobs using FEA, NIT Rourkela. [Awarded: October 2018]

'*Master of Technology*' (M.Tech.) Thesis Supervision

1. Gauresh R. Khanolkar, 2014-15, Simulation of Magnetic Pulse Welding with varying Air Gap in Tubular Jobs using FEM, NIT Rourkela.
2. Rishikant Sahani, 2014-15, Finite element analysis of human lumbar vertebrae in pedicle screw fixation, NIT Rourkela.
3. Bhavesh koustubh, 2014-15, Subjective assessment to determine an improved hand arm posture of operator during hand drilling, NIT Rourkela.
4. Syam Narayana Addepalli, 2015-16, Design and Analysis of Ultrasonic Horn for Micro Drilling, NIT Rourkela.
5. Alok Raj, 2015-16, FE Simulation of Electromagnetic Welding for Tubular Jobs, NIT Rourkela.
6. Brahma Teja, 2015-16, Finite element dynamic analysis of ultrasonic vibration assisted micro drilling in PCB, NIT Rourkela.
7. Aditya Gupta, 2016-17, Design & Fabrication of a Novel Continuous Passive Motion (CPM) Device for Gait Rehabilitation, NIT Rourkela.
8. Narendra Singh, 2016-17, Numerical Simulation for Ultrasonic Vibration Assisted Drilling of Al6061-T6, NIT Rourkela.

9. Nishant Kumar Singh, 2017-18, Development of Bio-Fidelic Lumbar Spine (L1-L5) FE Model, NIT Rourkela.
10. Atul Sonwane, 2017-18, Impact Analysis of Construction Helmet with Ventilation Slots, NIT Rourkela.
11. Abhilash P., 2017-18, Finite Element Simulation of a Bitter Coil for Electromagnetic Compression Welding, NIT Rourkela.
12. Baliram Digambar Shinde, 2017-18, Thermomechanical Analysis of Shape Memory Alloy Fiber: An Experimental Approach, NIT Rourkela.
13. Gouri Naik, 2018-19, Postural Comfort and Ergonomic Risk Assessment during Floor Mopping, NIT Rourkela.
14. A. Pavani, 2018-19, Prevalence of MSDs and Ergonomic Risk Factors among University Professors, NIT Rourkela.
15. Sagar Behera, 2018-19, Subjective Assessment of Floor Mopping Professionals, NIT Rourkela.
16. Shivam Shrivastava, 2019-20, Conceptual Design and Virtual Ergonomic Analysis of Material Handling Device, NIT Rourkela.
17. Jyoti Verma, Assessment of comfortable handle position in push movement task using RULA, NIT Rourkela.
18. Rajashekar Aloori, 2020-21, Enhancing the life of the diaphragm in a three-way water valve, NIT Rourkela.
19. Tushar Tiwari, 2020-21, Simulation of Magnetic Field and Force with Varying Shapes of an Electromagnetic Forming Coil having Different Core Materials using FEA, NIT Rourkela.
20. Tejaswi Ambati, 2020-21, Ergonomic risk assessment on university students during mobile texting, NIT Rourkela.
21. Chitralekha Patidar, 2020-21, Assessment of postural and muscle strain in lower extremity among individuals during transition from floor sitting to walk, NIT Rourkela.
22. Kalapad Rahul Samadhan, 2020-21, Effect of dynamic knee support in a cane on lower extremity muscles of healthy individuals during the sit-to-stand transition, NIT Rourkela.
23. Neha Hanuman More, 2020-21, Effect of adjustable handle inclinations in a cane convertible to walking pole on hand-arm-shoulder muscles of healthy individuals during the sit-to-stand transition, NIT Rourkela.

Few Course Projects Supervised under the Course Product Design

1. A **real-time digital therapeutic (RT^2D) solution** to help patients in their physiotherapeutic activity.
2. Design and development of a **creative cervical (C^2) supporter** for mobile users.
3. Design and development of an **automated sit-to-stand cum walking assistive (AS^2) device**.
4. Design and development of an **automated hand shovel.**
5. Development of number maze (**Game board for children**).
6. Development of a **novel automobile clutch pedal extender.**
7. Development of a **novel continuous passive motion (CPM) device** for gait rehabilitation
8. Ergonomic tool handle design for power grip
9. Design and development of a **novel scoop stretcher**
10. Design and development of portable **multi-dimensional clamping fixture**.
11. Design and fabrication of an experimental kit to assess drivers' comfort in lower segment cars
12. Design and fabrication of a hands free walking assistive device for a person with single disabled lower limb
13. Design of culinary ware (anti-spill spoon) for elderly people
14. Design of a lawn mower blade
15. Interior design of Indian railway coach

16. 8D LCD Stand
17. Multipurpose inverted umbrella
18. Portable water – tank with varying storage capacity
19. Ergonomically designed comfort chair for offices
20. Multipurpose lamp inspired via analogy of a kangaroo
21. Design of an innovative cycle rickshaw for carrying school children
22. Design of a mobile device for serving snacks & food in railway coaches and platforms
23. Development of toys for logical interaction of children aged 0-3 years
24. Design of a multipurpose arm brace to aid orthopedic fractures of the human arm
25. Finite element analysis of disc brake material using nano fibre reinforcement
26. Portable stove cum charger with thermo electric generator
27. Design of airport trolley
28. Design of an intelligent, interactive playground
29. Design of a study table convertible to a briefcase
30. USB based mobile coffee maker
31. Multi-utility tool vice
32. 6-D reading table
33. Design of modified laptop bag
34. Lifting mechanism for monitor
35. Portable modular table lamp
36. Students study essentials
37. Eco friendly reusable tetra pack
38. Utensil holder for dining table
39. Orientable compact table
40. Tricycle cum trolley design
41. Multipurpose container for tea and coffee dispenser in railway coaches
42. Design of furniture for the primary school kids in rural India
43. Multi-purpose interactive cradle design, etc.

Awards & Recognition

- Received an **award for the MTech project** "Simulation of Magnetic Field and Force with Varying Shapes of an Electromagnetic Forming Coil having Different Core Materials using FEA" co-authored by **Tushar Tiwari**, ***Mohammed Rajik Khan*** under **Student Project Program-2022** conducted by InSc International Publications (IIP), Karnataka.
- Qualified for the final round of participation by my UG students' team (Parwin Akhtari and Siddhartha Sharma, 3rd year, Industrial Design, NIT Rourkela) under my supervision in Dr. Reddy's Digital Health Hackathon 2022, Hyderabad for the project work, "**A real-time digital therapeutic (RT^2D) solution to help patients in their physiotherapeutic activity**".
- Received **Best poster presentation** of the Institute on research work entitled "Biomechanical analysis of rigid and novel dynamic stabilization system used for lumbar spine - A finite element study" co-authored by Pushpdant Jain & ***Mohammed Rajik Khan*** **in Research Scholar Week (2017-18)** at NIT Rourkela.
- Received **Gold Medal** for best Postgraduate (M.Tech. and Dual Degree) project (2016-17) for developing "Design & Fabrication of a Novel Continuous Passive Motion (CPM) Device for Gait Rehabilitation" by Aditya Gupta supervised by ***Mohammed Rajik Khan*** at NIT Rourkela.
- Received **Shanta Jain Award-2016** for the best Product Oriented Project (2016-17) for developing "Design & Fabrication of a Novel Continuous Passive Motion (CPM) Device for Gait Rehabilitation" by Aditya Gupta supervised by ***Mohammed Rajik Khan*** at NIT Rourkela.
- **Won best paper award in undergraduate category with 1st prize of $200 gift voucher** for the research paper "Design and development of an automated hand shovel" co-authored by ***Mohammed Rajik Khan*** & Aditya Rahul Gupta at 15th International Conference on Humanizing Work and Work Environment (HWWE2017), AMU, Aligarh, India, December, 8-10, 2017
- Received **best technical paper award** for the research paper "Three-Dimensional Finite element dynamic analysis for micro drilling of multi-layer printed circuit board material" co-authored by

Allaparthi Muddu, ***Khan Mohammed Rajik*** & Brahma Teja at International Conference on Emerging Trends in Materials & Manufacturing Engineering (**iMME17**), NIT Tiruchirappalli, India, March 10- 12, 2017.

- Received **merit award and a gift voucher of EUR 150 for most distinguish paper** for the research paper "Anatomically shaped tool handles designed for power grip" co-authored by Bisht Dhananjay S & ***Khan Mohammed Rajik*** at 6th International Conference on Research into Design **(ICoRD'17)** at IIT Guwahati, Assam, January 09-11, 2017.
- Received **Gold Medal** for B.Tech. project (2015-16) for developing "Automated Sit-To-Stand cum mobility assistive device" by Sonalisa Patel, supervised by ***Mohammed Rajik Khan*** at NIT Rourkela.
- Chosen for **Marquis Who's who in the World, 2012.**
- **Awarded Design & Manufacturing Proficiency prize** for the best thesis in Mechanical Engineering Discipline in the Graduating class of doctoral programme (Ph.D.), 2012, IIITDM Jabalpur, India.
- One of my Research paper "Three dimensional modeling and finite element simulation of a generic end mill", Computer-Aided Design, 2009, Vol. 41, No. 2, pp. 106-114, has been mentioned **4th position** under Science Direct, hottest 25 articles, Computer Science, Computer-Aided Design, January to March 2009. (http://top25.sciencedirect.com/subject/engineering/12/journal/computeraided-design/00104485/archive/21/)
- **Received financial grant** under International Travel Support Scheme from Department of Science and Technology (**DST**), SERC Division, Govt. of India, New Delhi under Young Scientist category for attending and presenting paper at International CAD conference and Exhibition - CAD'10, Dubai, UAE, June 21-25, 2010.

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