Profile

ANKUSH ANAND

Present Position: (**June 2005**– Present)
Dr. ANKUSH ANAND
Associate Professor,
Faculty of Engineering,
School of Mechanical Engineering,
Shri Mata Vaishno Devi University,
Katra – 182 320 (J&K), India
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Educational Qualification:

* **Ph.D.** (Mechanical Engineering), Shri Mata Vaishno Devi University, Katra – 182 320 (J&K), India

* **Bachelor of Engineering (Production): Ist with Distinction**, Nagpur University, Maharashtra, India.

Ph.D. Thesis: *"**Development of Design Methodology for Product Life Cycle Engineering**"*.
Shri Mata Vaishno Devi University, Katra – 182 320 (J&K), India.
Adviser: Prof. M.F Wani, Department of Mechanical Engineering, National Institute of Technology, Srinagar, Kashmir, India.

Teaching and Research Experience:

Presently Faculty of Mechanical Engineering at Shri Mata Vaishno Devi University, (www.smvdu.ac.in), Katra 182121 (J&K), India, **Since June 2005.**

Major Tasks Undertaken:

Development of various Laboratories Since June 2005:
- Central Workshop
- Mechanical Vibrations Lab.
- Theory of Machines Lab.
- Tribology Lab.
- Additive Manufacturing (3D Printer)

Major Achievements:

[1] Research Work published in ASME (American Society for Mechanical Engineers), World's highest accreditation body in the field of Mechanical Engineering.

[2] 1 *PATENT* under the Process of Revision.

[3] Organized a National Seminar on "Mechanical Engineering – Research Opportunities and Challenges", April 2017.

[4] Reviewer of J. of Concurrent Engineering, J. of Cleaner Production, Industrial Tribology and Lubrication, J. of Computer Integrated Manufacturing, etc.

[5] Invited as a Session Chair in Materials and Biomaterials Conference in China 2017.

[6] Session Chairman and Invited Reviewer for National and International Conferences.

Countries Visited:

- ✪ United States of America (USA)
- ✪ United Kingdom (UK)
- ✪ Turkey
- ✪ Singapore
- ✪ Malaysia

Ph.D. Supervision: (06 Scholars Undergoing Ph.D)

- ✪ Mr. Sanjay Mohan Sharma, (Thesis Submitted, June 2017)
- ✪ Mr. Roaf Ahmed Khan, (Thesis Submitted, Nov. 2016)
- ✪ Mir Irfan Ul Haq (Work in Process)
- ✪ Ankush Raina (Work in Process)
- ✪ Amit Kumar Sinha (Work in Process)
- ✪ Rajiv Kumar (Work in Process)

Patent (in process):

1. Life Cycle Model for an Engineering System

P.G Thesis Supervision: 05

U.G Project Supervision: 12

Membership of Professional Societies:

- Member: **ASME (American Society for Mechanical Engineers)**
  ASME- New York, USA.
  Member No. : 100181365

- Member**: KES (Sustainable Design and Manufacturing)**

- Member: **PMSI (Powder Metallurgy Society of India)**
  Member No. : 100181365

- Member: **International Association of Computer Science and Information Technology**
  IACSIT- Singapore.
  Member No. : 80342574

- Member**: Society of Automotive Engineers** (**SAE INDIA**)

- Member: **Indian Society for Technical Education**
  ISTE – New Delhi
  Member No. : LM 52602 (Life Member)

Research Interests:

* Sustainable Design.
* Life Cycle Engineering.
* Design Optimization
* Tribo Systems.
* Bio – Tribology.

Administrative Experience: Director, School of Mechanical Engineering, SMVD University **(from 15/04/2014 to 19/01/2017)**

Expert Lectures Delivered:

1. Recent Trends in Mechanical Engineering Design at Govt. College of Engineering and Technology, Jammu (April 2014).

2. As Invited Speaker, Delivered a talk on **"Role of Graph Theory as a Tool in Solving various Problems of Engineering and Technology",** March 2017.

3. Manufacturing Science in Industrial Environment at Yoganannda College of Engineering and Technology (YCET), Jammu (Nov. 2017).

Member of Committees: Served as a member of various committees of the University from time to time (Academic Council, Faculty In-charge PG Admissions, Dy. In-charge UG Admissions (JEE), Ph. D Coordinator, Mechanical Engineering, Board of Studies, School Technical Committee, Prospectus Committee, Faculty Advisor Training and Placements, Faculty Advisor ATV (Design and Fabrication, Member Academic Affairs Committee, etc.)

Projects Submitted:

1. A Major Research Project Submitted to SERB, DST, 2017.

2. Research Project Submitted to DRDO, 2017

3. A Major Research Project (MRP) submitted to UGC, 2014.

4. *In addition to the above, an **All Terrain Vehicle (ATV)** with a design cost of 6.5 Lacs. has been designed and Fabricated in SMVDU campus in the year 2013-2014. The Team SMVDU participated in SAE BAJA Event at Indore and cleared all Technical rounds. The only team from state of J&K.*

Publications: Papers published in International Journal (SCI & Scopus)

1. **A. Anand** and M.F Wani, Product Life-Cycle Modeling and Evaluation at the Conceptual Design Stage: A Digraph and Matrix Approach, *Trans. ASME J. of Mechanical Design,* **132** (9), pp. 09101-9, (2010). (SCI)

2. **Anand, A.,** Khan, R.A and Wani, M.F. 2016. Development of Sustainability Risk Assessment index of a Mechanical System at Conceptual Design Stage. J. of Cleaner Production, Vol. 139, pp. 258-266. (SCI)

3. M.F Wani and **A. Anand,** Life-Cycle Assessment Modelling and Life- Cycle Assessment Evaluation of a Triboelement, *Proc. IMechE, Part J, Journal of Engineering Tribology, Vol.* **224 ,** pp. 1209-1120, (2010). (SCI)

4. Khan, R.A., **Anand, A** and Wani, M.F. 2018. A Holistic Framework for Environment Conscious Based Product Risk Assessment and Modeling using Multi Criteria Decision Making. J. of Cleaner Production, Vol. 174, pp. 965-965. (SCI)

5. Sinha, A.K. and **Anand, A**., 2017. Towards fuzzy preference relationship based on decision making approach to access the performance of suppliers in environmental conscious manufacturing domain. *Computers & Industrial Engineering*, *105*, pp.39-54. (SCI)

6. Mir Irfan Ul Haq, and **Ankush Anand**. "Dry Sliding Friction and Wear Behaviour of AA7075-Si_3N_4 Composite", Silicon (Accepted Paper: To appear online 2018). (SCI)

7. Sharma, Sanjay Mohan, and **Ankush Anand**. "Effect of Speed on the Tribological Behavior of Fe–Cu–C Based Self Lubricating Composite." *Transactions of the Indian Institute of Metals* (2017): 1-9. (SCI)

8. **Anand, Ankush**, and Sanjay Mohan Sharma. "High Temperature Friction and Wear Characteristics of Fe–Cu–C Based Self-Lubricating Material." *Transactions of the Indian Institute of Metals* 70.10 (2017): 2641-2650. (SCI)

9. Sharma, Sanjay Mohan and **Ankush Anand** "Friction and wear behaviour of Fe-Cu-C based self lubricating material with CaF2 as solid lubricant." *Industrial Lubrication and Tribology* 69.5 (2017): 715-722. (SCI)

10. Raina, A. and **Anand, A**., 2017. Tribological investigation of diamond nanoparticles for steel/steel contacts in boundary lubrication regime. *Applied Nanoscience*, *7*(7), pp.371-388. (SCI)

11. Sharma, S. M., and **A. Anand**. "Solid Lubrication in Iron Based Materials--A Review." *Tribology in Industry* 38.3 (2016).

12. **Ankush Anand**, Mir Irfan Ul Haq, Karan Vohra, Ankush Raina, M. F. Wani, (2017), "Role of Green Tribology in Sustainability of Mechanical Systems: A State of the Art Survey". Materials Today: Proceedings 4 (2017) 3659–3665. (SCOPUS)

13. **A. Anand,** K. Vohra, Mir Irfan Ul Haq, Ankush Raina, "Tribological considerations of Cutting Fluids in a Machining Environment: A Review", *Tribology in Industry* . 2016, ***Vol. 38 Issue 3, p 318-331.*** (SCOPUS)

14. K. Vohra, **A. Anand**, Mir Irfan Ul Haq, (2016), "Wear and Friction Behavior of Self-Lubricating Polytetrafluoroethylene Under Dry Conditions", *Materials Focus* (www.aspbs.com/mat), an American Scientific Publishers journal.

15. K. Vohra, A. **Anand**, Mir Irfan Ul Haq, Ankush Raina, MF Wani, (2016), "Tribological Characterization of a Self Lubricating PTFE Under Lubricated Conditions", *Materials Focus* (www.aspbs.com/mat), an American Scientific Publishers journal.

16. M Bairagi, A Sinha, **A Anand**, "Guillotine side trimming shear machine: A case study of plate mill in Bhilai steel plant", *Engineering Solid Mechanics*, 2016, 4 (4), 226-234 (SCOPUS)

17. A Sinha, P Swati, **A Anand**, "Responsive supply chain: Modeling and Simulation", 2016, *Management Science Letters* 5 (6), 639-650

Papers in Conferences/Symposium/Workshop/Seminars:

18. **Ankush Anand** , Mir Irfan Ul Haq , Ankush Raina, M.F.Wani, "A holistic Framework for Selection of Biomaterials for Biotribological Applications", ICoBT, Imperial College London, United Kingdom (2016). ***[Also Presented the Paper].***

19. Mohd Farooq Wani, **Ankush Anand**, "Sustainability Modelling and Sustainability Evaluation of a triboelement" 2011, ASME / STLE International Joint Tribology Conference, Los Angeles, California, USA, October 24-26, 2011). ***[Also Presented the Paper].***

20. **Ankush Anand**, Mohd Farooq Wani, "Design Evaluation of Mechanical Brakes at System Conceptual design Stage: A MADM Approach", Proceedings of 2012 IOEM Conference, 3-6 July, Istanbul, Turkey. ***[Also Presented the Paper].***

21. **A Anand**, MIU Haq, K Vohra, MF Wani, Raina Ankush,"Role of Green Tribology in Sustainability of Mechanical Systems: A State of the Art Survey", International Conference on Materials Processing and Characterization, Hyderabad, 2016. ***[Also Presented the Paper].***

22. **Ankush Anand** , Mir Irfan Ul Haq , Ankush Raina , Karan Vohra , Rajiv Kumar , Sanjay Mohan Sharma , Natural Systems and Tribology- Analogies and Lessons, International Conference on Materials Processing and Characterization, Victoria University, Melbourne Austrailia, 2016. (To Appear Online 2017 Dec/2018).

23. **Ankush Anand,** M.F Wani, "Life Cycle Engineering (LCE) aspects in Design using MADM approach", 2014 International Conference on Advances in Engineering and Technology (ICAET 2014), January 08-09, 2014, Nagpur, Maharashtra, India. ***[Also Presented the Paper].***

24. **Ankush Anand**, R.Venkata Rao**,** "Material Selection Using Digraph and Matrix Methods", 2007, International Conference on Production and Industrial Engineering (CPIE 2007), N.I.T Jalandhar, Punjab, India. ***[Also Presented the Paper].***

25. **Ankush Anand**, R.V Rao, " Non Traditional Machining Process Selection Using Graph Theory and Matrix Methods", 2007, National Conference on Emerging Trends in Mechanical Engineering (ETME-2007), N.I.T Surat, Gujarat, India. ***[Also Presented the Paper].***

26. **Ankush Anand**, R.Venkata Rao, "Digraph and Matrix Methods for the Selection of Computer Integrated Manufacturing Technologies", 2007, National Conference on Mechanical Engineering, P.E.C, Chandigarh, India. ***[Also Presented the Paper].***

27. **Ankush ANAND**, R. Venkata RAO, "Lubricant Selection using Graph Theory and Analytic Hierarchy Process Methods", 2006, International Symposium on Hydrodynamic Theory of Lubrication, Orel State Technical University, Orel, Russia.

28. **Ankush ANAND**, R.V RAO, "Six Sigma – A breakthrough Strategy for Continuous Quality Improvement", 2005, National Seminar on Recent Advances in Manufacturing Technologies, N.I.T, Rourkela, Orissa, India.

Courses Attended:

1. A Week Long Course on **Trends and Practices in Construction and Project Management**, held at IIT Jammu, Dec 2016.

2. 3 Day Workshop on **Patents Drafting and Filing: BIRAC Sponsored**, held at IIIM, Jammu, during June 2016.

3. 3 Day Workshop on **Materials Processing and Characterization**, held at Applied Mechanics Deptt., IIT Delhi, April 2015.

4. A *Refresher Course in* **Environmental Science (Interdisciplinary)** of 3 Week duration held at Academic Staff College (ASC), University of Jammu from 21st November 2012 to 11th December, 2012.

5. A **General Orientation Course** of 4 Week duration held at Academic Staff College (ASC), University of Jammu in the from 10th Jan 2013 to 08th Feb 2013.

6. A **2 Week Long ISTE Workshop on Engineering Mechanics** under the National Mission on Education through ICT (MHRD) held at Shri Mata Vaishno Devi (SMVDU), in collaboration with IIT Bombay from 26th Nov. 2013 to 06th Dec.2013.

7. A **Refresher Course in Experimental Physics** 2/3 Week duration organised by Academy of Sciences held at Shri Mata Vaishno Devi University, from 10TH Dec 2014 to 25TH December, 2014.

8. One Week Short Course on **Recent Trends in Automobile Engineering,** in collaboration with NITTTR Chandigarh, 2016**,** held at SMVDU**.**

9. One Week Short Course on **Matlab as an Optimization Tool,** in collaboration with NITTTR Chandigarh, held in Oct. 2016 SMVDU**.**