

Faculty Profile

Dr.R.PRABHU SEKAR

Assistant Professor,
Department of Mechanical Engineering,
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Research Interest

- ✓ Asymmetric Spur and Helical Gear Design
- ✓ Gear Dynamics
- ✓ Finite Element Method
- ✓ Stress and Strain Analysis on Machine Components
- ✓ Wear Analysis on gears

Education

- ✓ Ph.D., Asymmetric Gear Design (July 2010 – July 2015)
Indian Institute of Technology Madras, Chennai, India.
- ✓ M.E., Computer Integrated Manufacturing (July 2007 – July 2009)
College of Engineering, University Campus, Anna University, Chennai.
- ✓ B.E., Mechanical Engineering (July 1999 – July 2003)
Thirumalai Engineering College, Madras University, Chennai.

Professional Experience

- ✓ Assistant Professor (April 2018 – Present)
Motilal Nehru National Institute of Technology Allahabad
- ✓ Assistant Professor (July 2015 – April 2018)
SRM Institute of Science and Technology, Chennai
- ✓ Senior Lecturer (July 2009 – July 2010)
KCG College of Engineering and Technology, Chennai

- ✓ Lecturer (July 2006 – July 2007)
Nanjappa Polytechnic College, Coimbatore.
- ✓ Quality Control Engineer (July 2003 – July 2006)
Auto Die Casting Company, Coimbatore.

International Journal Papers

- ✓ Ravivarman, Palaniradja and **Prabhu Sekar.R.** Evolution of balanced root stress and tribological properties in high contact ratio spur gear drive. **Mechanism and Machine Theory - Elsevier** (**Accepted for Publication -April 2018**).
- ✓ Ravivarman, Palaniradja and **Prabhu Sekar.R.** Influence of gear ratio on wear depth of nonstandard HCR spur gear drive with balanced fillet stress. **Materials Today- Elsevier** (**Accepted for Publication -April 2018**).
- ✓ **R.Prabhu Sekar** and Sathishkumar. Enhancement of Wear Resistance on Normal Contact Ratio Spur Gear Pairs through Non-Standard Gears. **Wear – Elsevier**, Vol. 380-381, (2017), pp. 228-239.
- ✓ **R.Prabhu Sekar**, Edvin Geo.V and Leenus Jesu Martin. A Mixed Finite Element and analytical method to predict load, mechanical power loss and improved efficiency in non-standard spur gear drives. **Journal of Engineering Tribology, Part J, IMECHE.** Vol. 231,(2017), pp. 1408-1424.
- ✓ **R.Prabhu Sekar** and G.Muthuveerappan. Estimation of tooth form factor and stress correction factor for non-standard symmetric spur gears. **IJEST**, vol. 9(2017), pp. 17-24.
- ✓ R. Sathishkumar, **R.Prabhu Sekar** and A. Arulmurug. Estimation of wear depth on normal contact ratio spur gear”, **Middle East Journal of Scientific Research**, vol. 24 (2016), pp. 38-42.
- ✓ **R.Prabhu Sekar** and G.Muthuveerappan. Estimation of tooth form factor for normal contact ratio asymmetric spur gears. **Mechanism and Machine Theory - Elsevier.** vol. 90, (2015), pp. 187-218.
- ✓ **R.Prabhu Sekar** and G.Muthuveerappan. Load sharing based maximum fillet stress analysis of Asymmetric helical gears designed through direct design – a parametric study. **Mechanism and Machine Theory- Elsevier**, vol. 80, (2014), pp. 84-102.
- ✓ **R.Prabhu Sekar** and G.Muthuveerappan. A Balanced Maximum Fillet Stresses on Normal Contact Ratio Spur Gears to Improve the Load Carrying Capacity through Non-Standard Gears. **Mechanics based design of structure and machines- Taylor and Francis**, vol. 43, (2014), pp. 150-163.

- ✓ **R.Prabhu Sekar** and G.Muthuveerappan, Load sharing based fillet stress analysis of involute helical gears. **Applied Mechanics and Materials, Trans Tech**, vol. 465, (2014), pp. 1234-1238.
- ✓ R.Prabhu Sekar and G.Muthuveerappan. Effect of backup ratio and cutter tip radius on uniform bending strength design of spur gears. **Procedia Material Science - Elsevier**, vol. 5, (2014), pp. 1640-1649.
- ✓ R.Prabhu Sekar and G.Muthuveerappan. Effect of face contact ratio on load sharing based fillet stress in asymmetric helical gear drives, **Universal Journal of Mechanical Engineering, Horizon**, vol. 2, (2014), pp. 137-141.

International / National Conference Papers

- ✓ Ravivarman, Palaniradja and **Prabhu Sekar**. A Comparative Study On Wear Depth Between NCR And HCR Spur Gear Drive For Balanced Fillet Stress. **1st International Conference on Mechanical Engineering, January 4 – 6, 2018**, Jadavpur University, Kolkata, India.
- ✓ Ravivarman, Palaniradja and **Prabhu Sekar**. Influence of Gear Ratio on Wear Depth of Nonstandard HCR Spur Gear Drive with Balanced Fillet Stress. **International Conference on Advanced Materials and Processes: Challenges and Opportunities (AMPCO-2017), November 30 – December 02, 2017**, IIT Roorkee, Uttarakhand, India.
- ✓ Ravivarman, Palaniradja and **Prabhu Sekar**. Effect of module on wear resistance of high contact ratio spur gears through optimized fillet stress. **International Conference on Theoretical, Applied, Computational and Experimental Mechanics, December 28-30, 2017**, IIT Kharagpur, India.
- ✓ **R.Prabhu Sekar**, G.Muthuveerappan. Estimation of tooth form factor and stress correction factor for non-standard symmetric spur gears. **International conference on Design and Manufacturing -2016, Dec- 16-17, ICONDM2016**, IITDM, Chennai.
- ✓ R.Prabhu Sekar, Balachandar. Determination of wear on non-standard symmetric spur gear. **International conference on Advances in Mechanical Engineering 2016, April -29, SRM University Chennai**.
- ✓ Satheesh kumar, **R.Prabhu Sekar**, Arul murugu. Estimation of wear depth on Normal contact ratio spur gear. **International Conference on Recent trends in Engineering and Technology 2016, April 28-29**, St. Joseph's college of Engineering, Chennai.

- ✓ **R.Prabhu Sekar**, G.Muthuveerappan. Effect of backup ratio and cutter tip radius on uniform bending strength design of spur gears, **International Conference on Advances in Manufacturing and Materials Engineering (AMME 2014)**, March 27-29, NIT Surathkal.
- ✓ **R.Prabhu Sekar**, G.Muthuveerappan. Effect of Face Contact Ratio on Load Sharing Based Fillet Stress in Asymmetric Helical Gear Drives. **1st International Conference on Mechanical Engineering: Emerging Trends for Sustainability (IC MEETS 2014)**, Jan 29-31, MANIT Bhopal.
- ✓ **R.Prabhu Sekar**, G.Muthuveerappan. Load Sharing Based Fillet Stress Analysis of Symmetric and Asymmetric Helical Gears Designed through Direct Design. **International Conference on Computer Aided Engineering (CAE 2013)**, Dec 19-21, IIT Madras.
- ✓ R.Prabhu Sekar, G.Muthuveerappan. Load sharing based fillet stress analysis of involute helical gears. **4th International Conference on Mechanical and Manufacturing Engineering 2013 (ICME 2013)**, Dec 17-18, Universiti Tun Hussein Onn Malaysia.
- ✓ R.Prabhu Sekar, G.Muthuveerappan. Load Sharing Based Fillet Stress Analysis of Helical Gears with Higher Pressure Angle and Backup Ratio. **3rd International Conference on Material for the Future – Innovative materials, Process, Products and Applications (ICMF – 2013)**, Nov 6-8, Govt. Engineering College, Thrissur, Kerala.
- ✓ R.Prabhu Sekar and S.Gowri. Development of flexible finger joint implant. **National conference on A Confluence of Design and Manufacturing Engineers, (ACDME-2009)** April -11, GKM College of Engineering, Chennai.

Training Program Attended

- ✓ In plant Training in Tuticorin Thermal Power Station, Tuticorin (2002).
- ✓ Training Programme on “**Failure Analysis of Centre Buffer Coupler**” in Southern Railway, Chennai (2003).
- ✓ Training Programme on **Recent Trends in Measurement and Inspection Techniques in Manufacturing Industries** Department of Manufacturing Engineering, College of Engineering, Anna University, Chennai (2007).
- ✓ Short-term course on **Hyper Mesh –Software** at IITM (2011).

Contact Details

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