

# Chadalawada Sri Chaitanya

Research Scholar, Mechanical Engineering Department

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## 1. Research Interests

- Tribology of Machine Elements
- Composite Materials
- Design of Machine Components
- Finite Element Methods

## 2. Professional Experience

- **Assistant Professor**, VR Siddhartha Engineering College, Vijayawada  
Department of Mechanical Engineering, 4<sup>th</sup> January 2021 – Present

## 3. Education

- **Ph.D.**, Mechanical Engineering, 19<sup>th</sup> March 2021  
National Institute of Technology Warangal, Warangal, Telangana - 506004, India.
- **M.Tech.**, Machine Design, June 2017  
National Institute of Technology Warangal, Warangal, Telangana - 506004, India.
- **B.Tech.**, Mechanical Engineering, June 2014  
Indian Institute of Information Technology, Design and Manufacturing,  
Kancheepuram, Tamil Nadu – 600127, India.

## 4. Professional Courses

1. Introduction to HTML5, University of Michigan, Coursera, 7<sup>th</sup> July 2020.
2. Tribological Response of Advanced (Nano) Composites, National Institute of Technology Warangal, SPARC MHRD, 24<sup>th</sup> – 28<sup>th</sup> February 2020.
3. Mechanical and Tribological Behaviour of Advanced Composites, National Institute of Technology Warangal, 21<sup>st</sup> – 25<sup>th</sup> January 2020.

## 5. Publications

### 5.1. Peer Reviewed Journal Publications [6]

1. Sahoo, S.K., Kuchipudi, S., Rao, R.N., Buragohain, M.K. and **Chaitanya, C.S.**, 2021. Detection of Planar Defects in Multi-layered GFRP Composite Structures Using Low Field Nuclear Magnetic Resonance. *Materials Evaluation*, 79(9).
2. Sahoo, S.K., Kuchipudi, S., Narasimha Rao, R., Buragohain, M.K. and **Chaitanya, C.S.**, 2021. Application of low field magnetic resonance for defect detection in multi-

layered cylindrical composite structures. *Nondestructive Testing and Evaluation*, pp.1-19.

3. **Ch. Sri Chaitanya**, R. Narasimha Rao, Influence of Manufacturing Variances on the Strength of Pressure Vessels - A numerical Study, *The Arabian Journal for Science and Engineering*, 2020, 45, 9413-9421 Impact Factor: 1.518. [SCI, SCOPUS]
4. **Ch. Sri Chaitanya**, R. Narasimha Rao, Tribological Behaviour of Cenosphere Filled Epoxy Syntactic Foams in Dry Sliding Conditions, *ASME Journal of Tribology*, 2020, 142(5), 051701, Impact Factor: 1.648. [SCI, SCOPUS]
5. **Ch. Sri Chaitanya**, R. Narasimha Rao, Energy Absorption Capabilities of Cenosphere Reinforced Epoxy Syntactic Foams, *Materials Research Express*, 2019, 6(12), 125303, Impact Factor: 1.449. [SCI, SCOPUS]
6. NCh Kaushik, **Ch. Sri Chaitanya**, RN Rao, Abrasive grit size effect on wear depth of stir cast hybrid Al-Mg-Si composites at high stress condition, *IMEchE Part J: Journal of Engineering Tribology*, 2018, 232(6), pp. 672-684, Impact Factor: 1.318. [SCI, SCOPUS]

## 5.2. Books and Book Chapters [1]

1. Borgaonkar, A., Mandale, M., Potdar, S. and **Chaitanya, C.S.**, 2021. Statistical Energy Analysis Parameters Investigation of Composite Specimens Employing Theoretical and Experimental Approach. *Recent Advances in Layered Materials and Structures*, p.307. [SCOPUS]

## 5.3. Conference Papers in Peer Reviewed Journals [6]

1. **Ch. Sri Chaitanya**, R. N. Rao, Babar Pasha M. D, G. Chitti Babu, D. J. Behera, Dry Sliding Wear Properties of Aluminium Cenosphere Syntactic Foams, *International Journal of Mechanical and Production Engineering Research and Development*, 10(Special Issue), pp. 1-10
2. **Ch. Sri Chaitanya**, R. Narasimha Rao, Effect of addition of reinforcements on the tribological behaviour of the polymer based syntactic foams, *Materials Today: Proceedings*, 2020, 20(2), pp. 415-418. Impact Factor: 0.694. [SCOPUS]
3. L. Viswanadham, **Ch. Sri Chaitanya**, R. N. Rao, Damping Enhancement of Softmag material by Vacuum Annealing in Vibration Environment, *Materials Today: Proceedings*, 2020, 20(2), pp. 905-912. Impact Factor: 0.694. [SCOPUS]
4. S. K. Sahoo, Narasimha Rao R, Srinivas Kuchipudi, Buragohain M K, **Ch Sri Chaitanya**, A novel NDE approach towards evaluating adhesive bonded interfaces, *Materials Today: Proceedings*, 2020, 20(2), pp. 1191-1197. Impact Factor: 0.694. [SCOPUS]
5. L. Viswanadham, R. N. Rao, **Ch. Sri Chaitanya**, Effect of Material Addition on the Vibration Response of a Cantilever Beam, *Materials Today: Proceedings*, 2019, 18(7), pp. 4537-4541. Impact Factor: 0.694. [SCOPUS]
6. **Ch. Sri Chaitanya**, R. N. Rao, Surface Failure of Syntactic Foams in Sliding Contact, *Materials Today: Proceedings*, 2019, 15(1), pp. 63-67. Impact Factor: 0.694. [SCOPUS]

## 5.4. Conference Papers as Book Chapters [3]

1. L. Viswanadham, R. N. Rao, **Ch. Sri Chaitanya**, Effect of Material Damping on the Vibration Response of Cantilever Beams in Dynamic Environment, *Advances in Applied*

Mechanical Engineering, Lecture Notes in Mechanical Engineering. Springer, Singapore. ISBN: 978-981-15-1201-8 (online). Doi: [https://doi.org/10.1007/978-981-15-1201-8\\_62](https://doi.org/10.1007/978-981-15-1201-8_62) [SCOPUS].

2. N. Ch. Kaushik, **Ch. Sri Chaitanya**, R. N. Rao, Material removal mechanism of hybrid Grp/SiCp/Al-Mg-Si composites during high stress abrasive wear condition, Proceedings of Asia International Conference on Tribology. ISBN: 978-967-13625-2-5 (online).
3. P. Narasimha Chandra, N. Ch. Kaushik, **Ch. Sri Chaitanya**, R. N. Rao, Effect of rotational speed on dimensional wear coefficients of solution treated Al-Mg-Si and Al-Zn alloys tested in abrasion condition, Proceedings of Asia International Conference on Tribology. ISBN: 978-967-13625-2-5 (online).

### 5.5. Invited Conference Papers [2]

1. **Ch. Sri Chaitanya**, R. Narasimha Rao, Effect of Tribological Parameters on the Dry Sliding Wear Coefficients of Syntactic Foams, The 2nd World Summit on Advances in Science, Engineering and Technology [INDIANA SUMMIT-2019], October 3-5, 2019, Indiana University - Purdue University, Indianapolis, USA.
2. R. N. Rao, **Ch. Sri Chaitanya**, Failure Analysis of Fibre Reinforced Polymer Matrix Composites, 10th International Conference on Advancements in Polymeric Materials [APM-2019], January 22-24, 2019, CIPET, Chennai, India.

### 5.6. Conference Proceedings [15]

1. D.J. Behera, **Ch. Sri Chaitanya**, Babar Pasha M.D, G. Chitti Babu, R.N. Rao, Dry Sliding Wear Properties of Aluminium Cenosphere Syntactic Foams, Futuristic Trends in Materials, Manufacturing, and Mechanical Engineering [FTMMME-2020], February 28-29, 2020, National Institute of Technology, Raipur, India.
2. **Ch. Sri Chaitanya**, D. J. Behera, R. N. Rao, Influence of Sliding Distance on the Dry Sliding Wear Behaviour of the Syntactic Foams, 10th International Conference on Industrial Tribology [IndiaTrib-2019], December 1-4, 2019, Indian Institute of Science, Bangalore, India.
3. **Ch. Sri Chaitanya**, R. N. Rao, Tribological Behaviour of Syntactic Foams in Dry Sliding Conditions: Effect of Applied Load and Sliding speed, International Conference on Advanced Functional Materials and Devices [ICAFMD-2019], February 26-28, 2019, NIT Warangal, Warangal, India.
4. L. Viswanadham, R. N. Rao, **Ch. Sri Chaitanya**, Vibration Response Comparison of Magnesium and Steel Cantilever Beams, International Conference on Advanced Functional Materials and Devices [ICAFMD-2019], February 26-28, 2019, NIT Warangal, Warangal, India.
5. **Ch. Sri Chaitanya**, R. N. Rao, Tribological Behaviour of Aluminium Syntactic Foams under Dry Sliding Conditions: Effect of Sliding Distance, Emerging Trends in Mechanical Engineering [ETME 2019], January 9-10, 2019, NIT Warangal, Warangal, India.
6. L. Viswanadham, R. N. Rao, **Ch. Sri Chaitanya**, Anuj Joshi, Experimental Analysis of the Vibration Amplitudes of Cantilever Beams, Emerging Trends in Mechanical Engineering [ETME 2019], January 9-10, 2019, NIT Warangal, Warangal, India.

7. **Ch. Sri Chaitanya**, R. N. Rao, Neeraj CS, Anuj Joshi, Effect of Porosity on the Tribological Behaviour of Syntactic Foams in Dry Sliding Conditions, An International Conference on Tribology TRIBOINDIA-2018, December 13-15, 2018, VJTI Mumbai, India.
8. Priyadarshi Mohapatra, **Ch. Sri Chaitanya**, R. N. Rao, Tensile Behaviour of Unidirectional T700 Carbon Fibre and Epoxy Epophine Composite at Different Fibre Orientations and Strain Rates, 2nd international Conference on Frontiers in Engineering, Applied Sciences and Technology [FEAST-2018], April 27-28, 2018, NIT Tiruchirappalli, India.
9. Rajat Kate, Pushkar Chaugule, Sumit Kadam, R. N. Rao, **Ch. Sri Chaitanya**, Effect of Winding angle on the Performance of Composite Pressure Vessels, 2nd international Conference on Frontiers in Engineering, Applied Sciences and Technology [FEAST-2018], April 27-28, 2018, NIT Tiruchirappalli, India.
10. **Ch. Sri Chaitanya**, Prasad Mahajan, R. N. Rao, P. Mohapatra, R. Kiran, N. Ch. Kaushik, Effect of Sliding Speed on the Tribological Behaviour of Grp/SiCp/Al - Cu Hybrid Composites under Dry Sliding Condition, International Conference on Composite Materials and Structures [ICCMS-2017], December 27-29, 2017, IIT Hyderabad, Hyderabad, India.
11. R. N. Rao, N. Ch. Kaushik, **Ch. Sri Chaitanya**, Effect of Sliding Distance on Two Body Abrasive Wear Resistance of Al-SiC-Gr Hybrid Composites, 2nd International Conference on Mechanical Engineering and Robotic Research [ICMERR-2017], December 11-13, 2017, Cité Internationale Universitaire de Paris, Paris, France.
12. **Ch. Sri Chaitanya**, Prasad Mahajan, N. Ch. Kaushik, R. N. Rao, Effect of Applied Load on Dry Sliding Wear Coefficients of Al 2014 Hybrid Composites, 9th International Conference on Industrial Tribology [ICIT-2017], December 6-9, 2017, Vedic Village Spa Resort, Kolkata, India.
13. **Ch. Sri Chaitanya**, Prasad Mahajan, N. Ch. Kaushik, R. N. Rao, Tribological Behaviour of Al-2014 Hybrid Composites in Dry Sliding Condition, 1st International and 18th ISME Conference [ISMEC-2017], February 23-25, 2017, NIT Warangal, Warangal, India.
14. **Ch. Sri Chaitanya**, Prasad Mahajan, N. Ch. Kaushik, R. N. Rao, Effect of T6 Heat Treatment on Dry Sliding Wear Characteristics of Stir Cast Al 2014 Hybrid Composites, Recent Advances in Industrial Tribology and Maintenance [RAITM-2017], February 10-11, 2017, NIT Rourkela, Rourkela, India.
15. **Ch. Sri Chaitanya**, Prasad Mahajan, N. Ch. Kaushik, R. N. Rao, Dry Sliding Wear Coefficients of Al-Cu Hybrid Composites: Effect of Applied Load and Sliding Speed, Advances in Smart and Functional Materials [ASFM], January 13-14, 2017, CSIR Bhopal, Bhopal, India.

## 6. Professional Society Membership

1. Tribology Society of India – Life Member

## 7. Reviewer Service

1. Australian Journal of Mechanical Engineering
2. Materials Today: Proceedings

## **8. Teaching Assistant/Volunteer**

1. Modelling and Analysis Lab, I year M. Tech Machine Design Engineering, January – April 2020, NIT Warangal India
2. Design Laboratory – 2, I year M. Tech Machine Design Engineering, January – April 2020, NIT Warangal, India.
3. Engineering Graphics Laboratory, I year B. Tech Mechanical Engineering, August – November 2019, NIT Warangal, India.
4. Assistance in Workshop on Mechanical and Tribological Behaviour of Advanced Composites [MTBAC], January 21-25, 2019, NIT Warangal, Warangal, India.
5. Kinematics and Dynamics Laboratory, II-year B. Tech Mechanical Engineering, January – April 2019, NIT Warangal, India.
6. Design Laboratory – 1, I year M. Tech Machine Design Engineering, August – November 2018, NIT Warangal, India.
7. Mechatronics Laboratory, I year M. Tech Computer Integrated Manufacturing, August – November 2018, NIT Warangal, India.
8. Lead in One Day MATLAB workshop, February 25, 2017, NIT Warangal, India.