



DR. RAKESH RANJAN CHAND

INFO:

+91-9439916314

rrchand.hj@gmail.com

DOB: 18/06/1992

Nationality: Indian

Languages Known:

English, Hindi, Odia, Bengali



Permanent Address:

At/Po-Nafrai, Via-Fulbani,
Ps-Bhograi, Balasore-756037,
Odisha, India

ACHIEVEMENTS:

Best paper award at the
“International Conference on
Innovative Technologies in
Mechanical Engineering (ITME
-2019)”, Ghaziabad, India

Reviewer for the journal
“Journal of Vibration
Engineering & Technologies”,
Springer Nature, ISSN: 2523-
3920

GOOGLE SCHOLAR ID:

<https://scholar.google.com/citations?user=aaJYu5gAAAAJ&hl=en>

My field of interest includes Vibrations of composite structures, Nonlinear vibration, Rotational vibration, and Piezoelectric vibration energy harvesting. Also, numerical modelling and simulations related to structural dynamics and MEMS.

EDUCATION

Ph.D., Indian Institute of Technology (Banaras Hindu University),
Varanasi, UP, India.

Specialization: Mechanical Engineering / Machine Design

Thesis: Parabolic and Exponentially Tapering Width PVEHs for
Transverse and Rotational Motion Applications

2017–22

M.Tech., Veer Surendra Sai University of Technology, Burla, Odisha.

Specialization: Mechanical Engineering/Machine Design

CGPA (Out of 10): 9.49 (89.90 %).

Thesis: Parametric Stability Analysis of Two Tapered Rotating Beams
Under Variable Thermal Gradient with Various Boundary Conditions

2015–17

B.Tech., Government College of Engineering, Keonjhar, under Biju
Patnaik University of Technology, Rourkela.

Specialization: Mechanical Engineering.

CGPA (Out of 10): 7.59 (70.90 %).

Project: Investigation of Mechanical Properties of Pine Wood Dust
Reinforced Epoxy Composites

2010–14

12th Standard: Council of Higher Secondary Education, Odisha.

Subjects: P/C/M/B, 1st division with 66.50 % marks.

2007–09

10th Standard: Board of Secondary Education (BSE), Odisha.

Subjects: General, 1st division with 81.60 % marks.

2004–07

TEACHING EXPERIENCE

Teaching Assistant: Mechanical Engineering Department, IIT(BHU),
Varanasi [December 2017 to November 2021].

Tutor: Mechanical Engineering Department, VSSUT, Burla [2016 – 17].

PUBLICATIONS

1. **Chand, R.R.**, Tyagi, A. “Design and experimental validation of an exponentially tapering width rotational piezoelectric vibration energy harvester”. *Journal of Intelligent Material Systems and Structures* (2022) (**SCI / IF 2.569**). <https://doi.org/10.1177/1045389X221093315>
2. **Chand, R.R.**, Tyagi, A. “Investigation of the Effects of the Piezoelectric Patch Thickness and Tapering on the Nonlinearity of a Parabolic Converging Width Vibration Energy Harvester”. *Journal of Vibration Engineering & Technology* (2021) **10**:1–18 (**SCI-E / IF 1.889**). DOI: 10.1007/s42417-021-00359-x
3. **Chand, R.R.**, Tyagi, A. “Parametric Analysis of a Rotational Piezoelectric-Coupled Tapered-Bimorph Structure with Various Boundary Conditions Under Transient Axial Loading”. *Journal of Vibration Engineering & Technology* (2021) **9**:907–17 (**SCI-E / IF 1.889**). DOI: 10.1007/s42417-020-00272-9
4. **Chand, R.R.**, Behera PK, Pradhan M, Dash PR. “Study of Static and Dynamic Stability of an Exponentially Tapered Revolving Beam Exposed to a Variable Temperature Grade under Axial Loading”. *International Journal of Acoustics and Vibration* (2019) **24**:504–510 (**SCI-E / IF 0.567**). DOI: 10.20855/ijav.2019.24.31357
5. **Chand, R.R.**, Behera PK, Pradhan M, Dash PR. “Parametric Stability Analysis of a Parabolic-Tapered Rotating Beam Under Variable Temperature Grade”. *Journal of Vibration Engineering & Technology* (2019) **7**:23–31 (**SCI-E / IF 1.889**). DOI: 10.1007/s42417-018-0071-y
6. **Chand, R.R.** and Tyagi, A., 2021. “Parametric Investigation of a Rotational Parabolic-Tapered Cantilever with Elliptical Sectional Area Exposed to Variable Thermal Gradient and Axial Dynamic Load”. *Recent Advances in Mechanical Engineering: Select Proceedings of ITME 2019*, p.71–78 (**SCOPUS**). DOI: 10.1007/978-981-15-8704-7_8
7. **Chand, R.R.**, Tyagi, A. Parabolic Tapering Width Piezoelectric Rotational Energy Harvester: Modelling, Simulation, and Experiment. *Mechanics of Advanced Materials and Structures*, Taylor & Francis. (**Under review**).

CONFERENCE PRESENTATIONS

1. **Chand R.R.**, Tyagi A. “A highly efficient tapering width bimorph rotational vibration energy harvester subjected to dynamic axial excitation”. *International Conference on Progressive Research in Industrial & Mechanical Engineering (PRIME - 2021)*, NIT, Patna, India.
2. **Chand R.R.**, Tyagi A. “Parametric Study of a Revolving Piezoelectric Tapered-Bimorph beam Subjected to Pulsating Axial load Considering Various Boundary Conditions”. *International Conference on Progressive Research in Industrial & Mechanical Engineering (PRIME - 2021)*, NIT, Patna, India.
3. **Chand R.R.**, Tyagi A. “Parametric Investigation of a Rotational Parabolic-Tapered Cantilever with Elliptical Sectional Area Exposed to Variable Thermal Gradient and Axial Dynamic Load”. *1st International Conference on Innovative Technologies in Mechanical Engineering (ITME-2019)*, Ghaziabad, India.

SCOPUS ID:

57211557074



ORCID ID:

0000-0003-3405-5010



REFERENCES:

Dr. Amit Tyagi

(Ph.D. Supervisor)
Associate Professor,
Mechanical Engineering
Department, IIT(BHU), Varanasi-
221005, UP, India
Email: atyagi.mec@iitbhu.ac.in
Contact No: +91-9935417729

Prof. Pusparaj Dash

(M.Tech. Supervisor)
Mechanical Engineering
Department, VSSUT, Burla,
Odisha-768018, India
Email: prdash_india@yahoo.co.in
Contact No: +91-9937100213

Prof. Saroja Kanta Panda

(Ph.D. Progress Evaluation
Committee Member)
Mechanical Engineering
Department, IIT(BHU), Varanasi-
221005, India
Email: skpanda.mec@iitbhu.ac.in
Contact No: +91-9450529913

WORKSHOP/STC/SEMINAR ATTENDED

1. CSIR Sponsored Two Day National Seminar on “Emerging advancements in Smart Material Applications” (21.02.2019–22.02.2019) at Department of EEE, KEC, Perundurai, TN, India.
2. MEMS Technology- Webinar Series”, May 17 to June 9, 2021, organized by Centre for Sensors, Vision Technology and Controls, Central Manufacturing Technology Institute, Bengaluru, India.
3. AICTE Training and Learning (ATAL) Academy Online Elementary FDP on “AICTE Training and Learning (ATAL) Academy Sponsored Program on 3D Printing Design and Technology” from 2021-07-19 to 2021-07-23 at National Institute of Technology, Silchar, India.
4. Short-Term Course on “Data Analytics and Predictive Technology Driven IoT Based Smart Grid Infrastructure” during March 1–6, 2021 at I-DAPT Hub Foundation at IIT (BHU), Varanasi, India.
5. One month training course on CATIA at Central Tool Room and Training Centre (CTTC), Bhubaneswar from 01.08.2012 to 31.08.2012.
6. Vocational Training at SAIL, Rourkela Steel Plant, Rourkela, Odisha from May 13, 2013 to June 12, 2013.
7. One month training course on AUTO CAD at Central Tool Room and Training Centre (CTTC), Bhubaneswar from 01.03.2012 to 31.03.2012.
8. Summer Vacation Training at Central Tool Room and Training Centre (CTTC), Bhubaneswar from 01.03.2012 to 31.03.2012.

SKILLS

1. Academic project administration, Sound knowledge of teaching methodologies, Organizer, Responsibility, Adaptability.
2. **Machinery operating skills**–Wire EDM, Polariscope, Hardness Tester, Surface Grinder, etc.
3. **Software skills**– MATLAB, ANSYS, COMSOL, Space Claim, Auto CAD, CATIA etc.

EXTRACURRICULAR ACTIVITIES

1. Hostel Secretary of A.S.N. Bose Hostel, IIT(BHU), Varanasi for the session 2019-2020.
2. Supported in organizing AICTE sponsored online QIP-STC at IIT(BHU), Varanasi.
3. Volley Ball champion, UTKARSH-2013 and 2014, at GCE, Keonjhar.

I hereby declare that the information mentioned above is correct up to my knowledge and bear the responsibility for the correctness of the mentioned particulars.