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Academic qualification:

1. B.Tech., Mechanical Engineering, Jalpaiguri Govt. Engineering College (2007).
2. M.Tech., Machine Design, Indian Institute of Engineering Science and Technology, Shibpur (2009).
3. Ph.D., Solid Mechanics and Design, Indian Institute of Technology Kanpur (2016).

Work experience:

S.NO.	Positions held	Name of the Institute	From	To	Pay Scale
1.	Assistant Professor	Birla Institute of Technology Mesra	11/07/2016	25/07/2018	Rs. 15900-39100/- (AGP 6000, 6 th CPC)
2.	Assistant Professor	National Institute of Technology Jamshedpur	26/07/2018	Continuing	Rs. 70900/- (Level 10, 7 th CPC)

Post Graduate Courses taught:

1. Vibration of Continuous Systems

Under Graduate Courses taught:

1. Engineering Graphics
2. Engineering Mechanics
3. Strength of Materials
4. Kinematics and Kinetics of Machines
5. Dynamics of Machines
6. Design of Mechanical Elements
7. Vibration and Control
8. Instrumentation and Control
9. Industrial Economics and Accountancy

Research Interests:

- Nonlinear Mechanics: Dynamics, Vibration, Acoustics, Control and Elasticity
- Mechanics of Musical Instruments
- Technology for Rural Development

Ongoing Sponsored Research Projects:

1. Investigation of instabilities and vibrations in cables and belts travelling over pulleys, P. Wahi (IIT Kanpur) and A. K. Mandal, SERB-DST (CRG\2019\005449), Rs. 65.708 Lakh, March 2020 - March 2023, (Sanctioned on: 16/03/2020).
2. Design and Development of Semiautomatic Parboiling Machine with Dryer for Marginal Farming, A. K. Mandal and M. A. Hassan, DST-Agrotech (DST/TDT/AGRO-31/2019(G)), Rs. 12.98 Lakh, September 2020 - September 2022 (Sanctioned on: 24/09/2020).

Current Research group:

1. S. Mukherjee, Pursuing **PhD** on Non-linear constitutive modelling and its application in elasticity.
2. T. Alam, Pursuing **PhD (JRF)** on Instabilities and vibrations in cables and belts travelling over pulleys.
3. A. Kumar, Pursuing **M.Tech.** Thesis on Coupled Vibration Characteristics of Strings and Hyperelastic Membrane.

M.Tech. Thesis Guided:

1. S. Raman, Friction Induced Vibration Characteristics of Strings coupled with Membrane, 2020-2019.
2. D. Nag, Coupled Plate-String Vibration against Curved Obstacle, 2019-2020.
3. S. Trivedi, Stability Analysis of a Bio-Dynamic Model of Human Body travelling on Car under Active control, 2019-2020.

Publications:

1. S. Mukherjee, A. K. Mandal, Extended Gent models for residually stressed thick spheres and cylinders, transverse isotropy, orthotropy and residual stress symmetry, *International Journal of Non-Linear Mechanics*, vol:137, pp: 103804(2021)
2. S. Mukherjee, A. K. Mandal, Static and dynamic characteristics of a compound sphere using Initial Stress Reference Independence, *International Journal of Non-Linear Mechanics* vol: 136, pp:103787(2021)
3. S. Mukherjee, A. K. Mandal, A generalized strain energy function using fractional power: Application to isotropy, transverse isotropy, orthotropy and residual stress symmetry, *International Journal of Non-Linear Mechanics* vol:128, pp: 103617(2021)
4. A. K. Mandal, Stability of a Dynamic Vibration Absorber Controlled Self-excited Rayleigh Oscillator, *National Conference on Materials, Mechanics & Modelling*, AIP Conference Proceedings 2341 (1), 020051, (2020)
5. A. K. Mandal, P. Wahi, Coupled plate-string vibrations in the presence of a finite bridge: effect on natural frequencies and harmonicity, *The Journal of the Acoustical Society of America* vol:146 issue:5 pp:3362-3372 (2019)
6. A. K. Mandal, P. Wahi, Equipartition of Modal Energy in a Stiff Vibrating String Due to a Finite Curved Boundary Obstacle - In: *Gutschmidt S., Hewett J., Sellier M. (eds) IUTAM Symposium on Recent Advances in Moving Boundary Problems in Mechanics. IUTAM Bookseries* ISSN : 978-3-030-13720-5 vol:34 pp:253-265 (2019)
7. A. K. Mandal, P. Wahi, Mode-locking and improved harmonicity for real strings vibrating in the presence of a curved obstacle - *Nonlinear Dynamics* vol:88 issue:3 pp:2203-2224 (2017)
8. H. Singh, A. K. Mandal and P. Wahi, Non-planar motions of a string vibrating against a smooth unilateral obstacle, *International Conference on Structural Nonlinear Dynamics and Diagnosis*, 23-25 May, Marrakech, Morocco (2016)
9. A. K. Mandal, P. Wahi, Natural frequencies, modeshapes and modal interactions for strings vibrating against an obstacle: Relevance to Sitar and Veena - *Journal of Sound and Vibration* vol:338 pp:42-59 (2015)
10. A. K. Mandal and P. Wahi, Coupled plate string vibrations of a stiff string against an obstacle: application to musical instruments like sitar, *5th International Congress on Computational Mechanics and Simulation*, 10-13 December, Chennai, India (2014)
11. A. K. Mandal and P. Wahi, Effect of bridge on the coupled plate-string vibrations in some Indian stringed musical instruments, *ACOUSTICS 2013 NEW DELHI*, 10-15 November, New Delhi, India (2013)
12. A. K. Mandal, P. Wahi, Modal interactions in strings vibrating against an obstacle: Relevance to musical instruments like sitar and tanpura - *11th International Conference on Vibration Problems*, 9-12 September, Lisbon, Portugal (2013)
13. S. Chatterjee, A. K. Mandal, On the efficacy of an inertial active device with internal time-delayed feedback for controlling self-excited oscillations - *Journal of Sound and Vibration* vol:329 issue:13 pp:2435-2449 (2010)