

Curriculum Vitae

Name : **Shibendu Shekhar Roy**

Contact Address : Department of Mechanical Engineering
National Institute of Technology, Durgapur
M.G. Avenue, Durgapur, Burdwan, India.
Phone: +913432754702

E-mail : ssroy99@yahoo.com, ssroy99@gmail.com

Academic Qualifications : B.E (Hons.) in Mechanical Engineering, 1999
R.E.College, Durgapur (Presently NIT, Durgapur)
Marks: 81.5 %, First class first
M.Tech in Mechanical Engineering, 2001
R.E.College, Durgapur (Presently NIT, Durgapur)
Marks: 82.9 %, First class

Professional Experience : Scientist, during Mar., 2001 to Jan., 2007
Central Mechanical Engineering Research Institute
(A CSIR Lab.), Durgapur, WB, India.
Assistant Professor, during Jan., 2007 to Till date
Department of Mechanical Engineering,
National Institute of Technology, Durgapur
West Bengal, India

List of Publications from this Work:

Book Chapter :

- i) Roy S.S., Sen Choudhury P., Pratihari D.K., "Dynamic modeling of energy efficient hexapod robot's locomotion over gradient terrains", *Trends in Intelligent Robotics, Communications in Computer and Information Science* 103, P. Vadakkepat et al. (Eds.), Springer-Verlag Berlin Heidelberg, 2010, pp. 138-145, (ISBN-13: 978-3-642-15809-4).

International Journal:

1. Roy S. S., Singh A.K., Pratihari D.K., "Estimation of optimal feet forces and joint torques for on-line control of six-legged robot", *Robotics and Computer Integrated Manufacturing*, 27(5), 2011, pp. 910-917.
2. Roy S. S., Pratihari D.K., "Soft computing-based approaches to predict energy consumption and stability margin of six-legged robots moving on gradient terrains", *Applied Intelligence*. <in-press>

3. Roy S. S., Pratihar D.K., “Dynamic modeling and energy efficiency analysis of six-legged robot walking on flat and sloping surfaces”, *Mathematics and Computers in Simulation*. <under review>
4. Roy S. S., Pratihar D.K., “Kinematics and dynamic analyses of wave-turning gaits of a six-legged robot”, *Mechanism and Machine Theory*. <under review>
5. Roy S. S., Pratihar D.K., “Effects of turning gait parameters on energy consumption and stability of a six-legged walking robot”, *Robotics and Autonomous Systems*. <under review>
6. Roy S. S., Pratihar D.K., “Soft computing-based expert systems to predict energy consumption and stability margin in turning gaits of six-legged robots”, *Expert Systems with Applications*. <under review>

Conference:

- i. Roy S.S., Singh A.K., Pratihar D.K., “analysis of six-legged walking robots”, *Proc. of 14th National Conference on Machine and Mechanisms* (NaCoMM-2009), NIT, Durgapur, 2009, pp. 259-265.
- ii. Roy S.S., Pratihar D.K., “Dynamic modeling of crab walking of a hexapod robot”, *Proc. of 5th International Conference on Theoretical, Applied, Computational and Experimental Mechanics* (ICTACEM-2010), IIT, Kharagpur, 2010, pp. 276-278.
- iii. Roy S.S., Pratihar D.K., “Dynamic modeling of energy efficient crab walking of hexapod robot”, *Proc. of 2nd International Conference on Mechanical, Industrial, and Manufacturing Technologies* (MIMT 2011), Singapore, 2011, pp. 178-183.
- iv. Roy S.S., Pratihar D.K., “Dynamic modeling and energy consumption analysis of crab walking of a six-legged robot”, *Proc. of IEEE International Conference on Technologies for Practical Robot Applications*, Massachusetts, USA, 2011, pp. 82-87.
- v. Roy S.S., Pratihar D.K., “Dynamic modeling, stability and energy consumption analysis of turning motion of realistic hexapod walking robots”, *Proc. of the ASME 2011 International Design Engineering Technical Conference and Computers and Information in Engineering Conference*, Washington, DC, USA, 2011.
- vi. Roy S.S., Pratihar D.K., “Study on energy consumption in turning motion of hexapod walking robots”, *Proc. of the International Conference on Mechanical Engineering, 2011 World Congress on Engineering*, London, UK, 2011, pp. 2349-2354.
- vii. Roy S.S., Pratihar D.K., “Adaptive neuro-fuzzy expert systems for predicting energy consumption and stability margin in crab walking of six-legged robots”, *Proc. of the IEEE Recent Advances in Intelligent Computational Systems*, Trivandrum, India, 2011. <accepted>