

# Anubhab Majumder

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**Research interests** Conceptual design synthesis, multiple-state mechanical devices, creativity, functional modelling, kinematics and robotics.

**Education**  
**Indian Institute of Science (IISc)** Bengaluru, Karnataka  
Ph. D. in Engineering August 2018 – Present  
Supervisor: Prof. Amaresh Chakrabarti. *CGPA: 8.83.*

**Indian Institute of Technology (ISM) Dhanbad** Dhanbad, Jharkhand  
M. Tech. in Mech. Engg. (spl. Machine Design) August 2016 – June 2018  
Supervisor: Dr. Sanjoy K. Ghoshal. *OGPA: 9.89.*

**Govt. College of Engg. and Textile Technology** Berhampore, West Bengal  
B. Tech. in Mechanical Engineering August 2012 – June 2016  
*DGPA: 9.00.*

**Honors and scholarships**  
Gold Medal (Indian Institute of Technology (ISM), Dhanbad) 2018  
Best Paper Award (ICMMRE 2017) 2017  
The Central Sector Scheme of Scholarship for College and University Students (MHRD, Department of Higher Education, Government of India) 2012-2016

**Publications**  
**Journals:**  
**Majumder, A.,** & Chakrabarti, A. (2022). A Tool for Supporting Conceptual Design of Multiple State Mechanical Devices. *Defence Science Journal*, 72(2), 217-226.

Bhatt, A. N., **Majumder, A.,** & Chakrabarti, A. (2021). Analyzing the modes of reasoning in design using the SAPPhIRE model of causality and the Extended Integrated Model of Designing. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing* 35, 384–403.

Chattopadhyay, P., Ghoshal, S. K., **Majumder, A.** (2020). IMPLEMENTATION OF PIECEWISE SINE FUNCTIONS ON LIMBLESS ROBOT LOCOMOTION. *International Journal of Robotics and Automation*, 35(4).

Chattopadhyay, P., Ghoshal, S., **Majumder, A.,** Dikshit, H. (2018). Locomotion Methods of Pipe Climbing robots: A Review. *Journal of Engineering Science and Technology Review*, 11(4).

## **Conference Proceedings:**

Patra, A., Patel, M., Chattopadhyay, P., **Majumder, A.,** Ghoshal, S. K. (2020). A Bio-inspired Climbing Robot: Dynamic Modelling and Prototype Development. *In Recent Advances in Mechanical Engineering (pp. 191-209). Springer, Singapore.*

Patel, M., Patra, A., Chattopadhyay, P., **Majumder, A.,** Ghoshal, S. K. (2020). Evolution of a Modular Limbless Crawling and Climbing Robot. *Advanced Science, Engineering and Medicine* 12.11 (2020): 1371-1377.

**Majumder, A.**, Patra, A., Patel, M., Chattopadhyay, P., Ghoshal, S. K. (2019). Locomotion Study of a Hyper-redundant Modular Robot Using Artificial Neural Networks. *In Proceedings of the Advances in Robotics 2019 (pp. 1-6).*

Chattopadhyay, P., **Majumder, A.**, Dikshit, H., Ghoshal, S. K., Maity, A. (2018, June). A bio-inspired climbing robot: design, simulation, and experiments. *In IOP conference series: materials science and engineering (Vol. 377, No. 1, p. 012105). IOP Publishing.*

Chattopadhyay, P., Dikshit, H., **Majumder, A.**, Ghoshal, S., Maity, A. (2018, April). Dynamic analysis of a bio-inspired climbing robot using ADAMS-Simulink co-simulation. *In AIP conference proceedings (Vol. 1952, No. 1, p. 020015). AIP Publishing LLC.*

**Workshops Attended** **PBL South Asia Training Workshop for Faculty and Advanced Students** at the Indian Institute of Technology, Bombay on 19 – 30 Aug 2019.

**Volunteering Experiences** **Local Organising Committee Member** 10 Jan 2022 – 11 Jan 2022  
2nd International Conference on I4.0 and Advanced Manufacturing, IISc, Bangalore, India.

**Student Organising Committee Member** 7 Jan 2021 – 10 Jan 2021  
8th International Conference on Research into Design, IIT, Bombay, India.

**Volunteer/ Host** 16 Dec 2019 – 17 Dec 2019  
Pre-Conference Workshop of 7th International Conference on PLMSS.

**Volunteer** 28 Jun 2019 – 29 Jun 2019  
1st International Conference on Industry 4.0 and Advanced Manufacturing, IISc, Bangalore, India.

**Mentor** 8 May 2019 – 12 May 2019  
"IISc DBox" - The Design Thinking Workshop held at Kendriya Vidyalaya, IISc organized by CPDM, IISc, Bangalore.

**Local Organising Committee Member** 9 Jan 2019 – 11 Jan 2019  
7th International Conference on Research Into Design, IISc, Bangalore, India.

**Skills** **Software**  
Proficient in: MSC ADAMS, AUTOCAD.  
Familiar with: MAPLE, MATLAB, Tecnomatix.

**Programming**  
LaTeX, HTML, PHP, JavaScript, Python.

**Languages**  
Bengali, English, Hindi

**Vocational Training** **Damodar Valley Corporation** 13 Jul 2015 – 31 Jul 2015  
Mejia Thermal Power Station, West Bengal, India