

RESUME

Dr. Om Prakash

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ACADEMIC QUALIFICATION

Degree	Discipline	University/board	Year	Marks
PhD	Mechanical Engineering	IIT Kharagpur	2019	N/A
M.Tech	Mechanical Engineering	N.I.T. Jamshedpur	2011	8.58 CGPA
B.Tech	Mechanical Engineering	Ranchi University	2009	8.60 CGPA
Intermediate	Math Science	JIEC Ranchi	2002	60.44 %
Matriculation	All	BSEB Patna	2000	65.14 %

PHD THESIS: MODEL-BASED FAULT DIAGNOSIS AND PROGNOSIS OF HYBRID DYNAMICAL SYSTEMS

M.TECH THESIS: DESIGN & ANALYSIS OF ROTASIDE WAGON TIPPLER

EXPERIENCE

- Worked as a Faculty (on Contract) at Indian Maritime University, Kolkata Campus since 01-10- 2021 to 19-01- 2023
- Worked as a Post-doctorant at the university of Lille France, CRIStAL UMR CNRS Lab since 05-03- 2020 to 04-03- 2021.
- Worked as a Faculty (on Contract) at Indian Maritime University, Kolkata Campus since 19-07- 2019 to 04-03- 2020.
- Worked as a ‘Senior Engineer’ in M/s TRF Limited, Jamshedpur (A Tata Enterprise) in Product Engineering Department since 01-07-2011 to 10-07-2013.

SKILLS AND EXPERTISE

MATLAB, BOND GRAPH, ARDUINO Microcontroller, AUTO CAD, SOLID EDGE, CATIA, ANSYS, LATEX.

PUBLICATIONS

Journal publications:

1. **Prakash, O.**, Samantaray, A. K., & Bhattacharyya, R. (2017). Model–Based Diagnosis of Multiple Faults in Hybrid Dynamical Systems with Dynamically Updated Parameters. *IEEE Transaction on Systems, Man, and Cybernetics: Systems*, 49(6), 1053-1072. **SCI Impact Factor: 11.471**
2. **Prakash, O.**, Samantaray, A. K., & Bhattacharyya, R. (2018). Model–Based Multi–component Adaptive Prognosis for Hybrid Dynamical Systems. *Control Engineering Practice*, 72, 1–18. **SCI Impact Factor: 4.057**
3. **Prakash, O.**, Samantaray, A. K., & Bhattacharyya, R. (2019). Adaptive Prognosis of Hybrid Dynamical Systems for Dynamic Degradation Patterns. *IEEE Transactions on Industrial Electronics*, 67(7), 5717-5728. **SCI Impact Factor: 8.162**
4. **Prakash, O.**, Mahato, A. C. (2019). Finite element analysis of the side bolster beam of the wagon tippler. *International Journal of Computer Aided Engineering and Technology*, 15(4), 553-564. **Scopus.**
5. Sood, S., **Prakash, O.**, Boukerdja, M., Dieulot, J. Y., Ould-Bouamama, B., Bressel, M., & Gehin, A. L. (2020). Generic Dynamical Model of PEM Electrolyser under Intermittent Sources. *Energies*, 13(24), 6556. **SCI Impact Factor: 3.252**
6. **Prakash, O.**, Samantaray, A. K. (2021). Prognosis of Dynamical System Components with Varying Degradation Patterns using model–data–fusion. *Reliability Engineering & System Safety*, 213, 107683. **SCI Impact Factor: 7.247**
7. Sood, S., **Prakash, O.**, Dieulot, J. Y., Boukerdja, M., Ould-Bouamama, B., & Bressel, M. (2022). Robust diagnosis of PEM electrolyzers using LFT bond graph. *International Journal of Hydrogen Energy*, 47(80), 33938-33954. **SCI Impact Factor: 7.139**

8. Dash, B. M., **Prakash, O.**, & Samantaray, A. K. (2022). Failure prognosis of the components with unlike degradation trends: A data-driven approach. Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability. **SCI Impact Factor: 2.021.**
9. Kumar, D., Mahato, A. C., **Prakash, O.**, & Kumar, K. (2022). Priority flow divider valve and its dynamic analysis using various hydraulic drive systems: a bond graph approach. Mechanical Sciences, 13(1), 459-472. **SCI Impact Factor: 1.386**

Book chapters:

1. **Prakash O.**, & Samantaray A.K. (2017). Model-Based Diagnosis and Prognosis of Hybrid Dynamical Systems with Dynamically Updated Parameters. In: Borutzky W. (eds) Bond Graphs for Modelling, Control and Fault Diagnosis of Engineering Systems (pp. 195–232). Springer, Cham. https://doi.org/10.1007/978-3-319-47434-2_6
2. **Prakash, O.**, Samantaray, A.K., & Bhattacharyya, R. (2018). Optimal Adaptive Threshold and Mode Fault Detection for Model-Based Fault Diagnosis of Hybrid Dynamical Systems. In: Sayed- Mouchaweh M. (eds) Fault Diagnosis of Hybrid Dynamic and Complex Systems (pp. 45–78). Springer, Cham. https://doi.org/10.1007/978-3-319-74014-0_3

Conferences:

1. Mahato, A. C., **Prakash, O.**, & Ghoshal, S. K. (Dec, 2016). Design and Optimization of the Weight of the Large Transportable Cryogenic Vessel by Varying the Thickness. International Conference on Advances in Materials & Manufacturing (ICAMM-2016).
2. **Prakash, O.**, Samantaray, A.K., & Bhattacharyya, R. (June, 2018). Fault Diagnosis and Remaining Useful Life Prediction of Multiple Deteriorating Components in Hybrid Dynamical Systems. In proceeding of *European Safety and Reliability Conference (ESREL)*, 2018, Trondheim, Norway.
3. **Prakash, O.**, Samantaray, A. K., Bhattacharyya, R., & Ghoshal, S. K. (August, 2018). Adaptive Prognosis for a Multi-component Dynamical System of Unknown Degradation Modes, In *IFAC SafeProcess*, Warsaw, Poland. <https://doi.org/10.1016/j.ifacol.2018.09.576>
4. **Prakash, O.**, Sood, S., Boukerdja, M., Dieulot, J. Y., Ould-Bouamama, B., Bressel, M., & Gehin, A. L. (2021). A Model-based Prognosis approach to Proton Exchange Membrane Water Electrolysis System. In *European Control Conference*, Rotterdam, Netherlands, pp.2133-2138, June 29 - July 2, 2021
5. Sood, S., **Prakash, O.**, Boukerdja, M., Dieulot, J. Y., Ould-Bouamama, B., Bressel, M., & Gehin, A. L. (2021). Model-based diagnosis of proton exchange membrane water electrolysis cell: Bond graph based approach. In *European Control Conference*, Rotterdam, Netherlands, pp.2139-2144, Jun.29-Jul.2, 2021.
6. Boukerdja, M., Radi, Y., **Prakash, O.**, Sood, S., Ould-Bouamama, B., Chouder, A., Gehin, A. L. & Bressel, M. (2021, November). LFT Bond Graph for Online Robust Fault Detection and Isolation of Hybrid Multi-Source System. In *Journal of Physics: Conference Series* (Vol. 2065, No. 1, p. 012010). IOP Publishing.

TEACHING INTEREST

Engineering Mechanics, Strength of Material, Machine Design, Theory of Machine, Engineering Graphics, Mechatronics, Electronics & Instrumentation Engineering, Soft computing, Finite Element Methods and CAD.

RESEARCH INTEREST

Bond Graph Modelling, Fault Diagnosis, Prognosis, Systems and Control.

AWARDS AND ACHIEVEMENTS

- Qualified GATE 2009 in Mechanical Engineering with All India Rank 672.

PERSONAL PROFILE

Name	: Om Prakash
Date of birth	: 09 / 10 / 1984
Father's name	: Uma Kant Rai
Languages known	: English, Hindi
Marital Status	: Married
Nationality	: Indian

The above furnished information is true and correct to best of my knowledge.

Date: 20/01/2023

Place: Dhanbad

Om Prakash
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