

Faculty Profile



Dr.Muthukumar G

Professor - EEE,
Hindustan Institute of Technology and Science
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Experience:

Industry: 12 Years
(Academic Other College---- to HITS) : 9 Years
(at HITS ---- to present) : 11.4 Years

Research area:

Robotics and Automation, PLC, SCADA and DCS , Bio medical Instrumentation

Recent Publications:

1. Narasimhan, R., Muthukumar, G., McGlade.C, Current State of Non-wearable Sensor Technologies for Monitoring Activity Patterns to Detect Symptoms of Mild Cognitive Impairment to Alzheimer's Disease, *International Journal of Alzheimer's Disease*, 2021, 2679398.
2. , Modified Hardware Security Algorithms for Process Industries Using Internet of Things, *Journal of Applied Security*, 2021, 16(1), pp. 127–140
3. Prasath J.S, U. Ramachandraiah, Dr. G. Muthukumar, Modified Hardware Security Algorithms for Process Industries Using Internet of Things, *Journal of Applied Security*, 2021, 16(1), pp. 127–140
4. Navaprakash N, U. Ramachandraiah, Dr. G. Muthukumar, Information based remote control system for climbing robot applications, *SSRG International Journal of Engineering Trends and Technology*, 2020, 68(3), pp. 6-11
5. Navaprakash N, U. Ramachandraiah, Dr. G. Muthukumar, Design & development of suction based wall-climbing system, *International Journal of Mechanical and Production Engineering Research and Development*, 2020, 10(2), pp. 537-550, IJMPERDAPR202048
6. Prasath J.S, U. Ramachandraiah, Dr. G. Muthukumar, Modified Hardware Security Algorithms for Process Industries Using Internet of Things, *Journal of Applied Security Research*, 2020.

7. Prasath J.S, U. Ramachandraiah, Dr. G. Muthukumar, Internet of things based hybrid cryptography for process data security, *Journal of Mathematical and Computational Science*, 2020, 10(6), pp. 2208-2232.
8. G. Muthukumar, U. Ramachandraiah et.al Automated tank gauging for hydrocarbon storage systems – an experimental approach, *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)*, 2018, 8(6), 117-124.
9. G. Muthukumar, U. Ramachandraiah et.al, Live Demonstration: Wall Climbing Robot Using Fuzzy Based Adaptive Control System. *2018 IEEE SENSORS*, 2018, DOI: 10.1109/ICSENS.2018.8589709.
10. G. Muthukumar, U. Ramachandraiah et.al, Modeling and Experimental Analysis of Suction Pressure Generated by Active Suction Chamber Based Wall Climbing Robot with a Novel Bottom Restrictor. *Procedia Computer Science*, 2018, (133), 847-854. <https://doi.org/10.1016/j.procs.2018.07.110>
11. G. Muthukumar, Dr. U. Ramachandraiah, Development of Sliding suction cup-based wall climbing Robotic System. *International Journal of Control Theory and Applications*, 2016, 9(43), 485-496.
12. G. Muthukumar, Dr. U. Ramachandraiah, Modelling and realization of pneumatics-based wall climbing robot for inspection applications, *International Journal of Engineering and Technology*, 2016, 8(5), 1999-2007.
13. G. Muthukumar, Dr. U. Ramachandraiah, Development and analysis of robotic sliding suction cup system for wall climbing applications. *Indian Journal of Science and Technology*, 2016, 9(S1), 1-7.
14. G. Muthukumar, Dr. U. Ramachandraiah, J. Anand, Modelling of prosthetic limb with quadrature discrimination classifier using dynamic EEG signal, *International Journal of Applied Engineering Research*, 2015, 10 (80), 175-179.
15. G. Muthukumar, Dr. U. Ramachandraiah, Dr. D.G. Harrius Samuel, Role of Nanorobots and their Medical Applications, *Advanced Materials Research*, 2015, 1086, 61-67.
16. Shijin Cherian Thomas, G Muthukumar, U. Ramachandraiah, Design and development of multifunctional wall Climbing robot for NDE inspection at in accessible Areas, *International Journal of Advances in Science Engineering and Technology*, pp. 93-96 ISSN: 2321-9009 Volume- 2, Issue-2, April-2014

Patents:

Granted -2
 Filed – 5

1.Title: “A Novel Counting Device for Domestic Pressure Cookers, suitable for Hearing Impaired (CODEPEC)”

Date of Patent filed : 23/05/2012

Application Number: 2047/che/2012

Status : PATENT GRANTED – 337923 Dt. 03/06/2020

2.Title: “An apparatus capable of automatically reducing the speed of the automobile within the predetermined zones”.

Date of Patent filed : 07/05/2009

Application Number : 1064/che/2009

Status : PATENT GRANTED – 285076 Dt. 11/07/2017

Projects:

Co- Investigator

CONSULTANCY PROJECT (TOPIC)	Name of the Industry	Consultancy Value in INR	Work in progress / Completed
1.Development of automatic Tea leaf cutter for inclined terrain harvesting	POABS Tea Pvt. Ltd., Kerala	12.86	In progress
2. Development of position control system	GTRE - DRDO	9.76	In progress
3. Development of See Through Wall Passive Eddy Current Sensor for Blade Detection	GTRE - DRDO	9.89	In progress

FUNDED RESEARCH PROJECT (TOPIC)	Name of the Funding Agency	Project Value in INR (Lakhs)	Work in progress / Completed
1.Development of an on-line measurement system for hydrogen concentration in steam environment	AERB - DAE	45.36	In progress
2.Wall Climbing Robot with reduced sound levels using Active Noise Control	ERIPR - DRDO	60.62	In progress
3.Development of Multichannel Adaptive Active Noise Control System for Reduction of Noise in a Region Adjacent to Noisy equipment	BRNS - DAE	28.02	In progress

4.Adaptive Controlled Suction Chamber and Cup Based Wall Climbing Robot	BRNS - DAE	27.52	In progress
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