

FACULTY PROFILE



Faculty Name:	Dr. L. Thillai Rani
Qualification:	<p>M.E (PC&I)., Ph.D.</p> <p>Ph.D., Electronics and Instrumentation Engineering, Annamalai University, 2018.</p> <p>M.E., Process Control and Instrumentation Engineering, Annamalai University, 2006.</p> <p>B.E., Electronics and Instrumentation Engineering, Annamalai University, 2004.</p> <p>DCT., Diploma in Computer Technology Muthiah Polytechnic, 2000</p>
Designation and Department:	<p>Lecturer</p> <p>Department of Instrumentation and Control Engineering</p>
Mail Id:	ltrani82@gmail.com
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Profile Description:	<ul style="list-style-type: none"> ❖ Deputed to Dr. Dharmambal Government Polytechnic College for Women, Tharamani and working as Lecturer in Department of Instrumentation and Control Engineering from May 2017. ❖ Assistant Professor, Department of Electronics and Instrumentation Engineering, Annamalai University, Annamalai Nagar, 2008-2017.
Area of Expertise:	Process Control, Neural Network, Adaptive Control
Achievements:	<ul style="list-style-type: none"> ❖ Acted as Project Guide M.E. (Process Control & Instrumentation) in the Department of Electronics and Instrumentation Engineering till 2017. ❖ Acting as Ph. D Research Supervisor in the Department of Electronics and Instrumentation Engineering till now. ❖ Conducted a “Course on ARDUINO” under Canada India Institutional Cooperation Project (CIICP), 2019.

<p>Achievements:</p>	<ul style="list-style-type: none"> ❖ Conducted e-Webinar on “மாற்றம் என்பது சொல் அல்ல செயல்” on 1st August 2020. ❖ Acted as Department Coordinator in NAAC, Annamalai University ❖ Conducted E-Quiz on the topic GK Quiz(Visual), 2020. ❖ Deputy Hostel warden, Dr. Dharmambal Government Polytechnic College for Women during 2018 – 2021. ❖ Acted as Autonomous Exam cell member during 2021-2023. ❖ Acted as Additional Chief Superintendent, Observer, Flying Squad Member for Board Examinations, DOTE. ❖ Acted as Coordinator in Valuation of GTE Examination, DOTE. ❖ Obtained Swayam online course certification for the courses <ul style="list-style-type: none"> -Art of C Programming (Four credit) - September 2020. -Digital Electronics & Microprocessor (Two credit) - February 2022. ❖ Author of book in the domain Robotics and Automation in 2023. ❖ Acting as Department Curriculum Revision Coordinator <p>Membership:</p> <p>Indian Society for Technical Education (ISTE) Life member - LM 97838.</p>
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<p>Papers presented in National Conferences</p>	<ol style="list-style-type: none"> 1. Kalaichelvi, V., Sivakumar, D., Thillai Rani, L. and Kartikeyan, R (2006), Control Strategies for GMAW, <i>Proceedings of UGC & CSIR sponsored National Conference on Modelling and Simulation in Manufacturing</i>, Department of Manufacturing Engineering, Annamalai University, Chidambaram. March 17-18, 2006, pp. 19-25. 2. Thillai Rani, L., Gopikha, N., Sivakumar, D. and Rathikarani, D (2014), Adaptive Control Schemes for a Class of Nonlinear System, <i>Proceedings of National conference on Trends in Instrumentation and Automation (NCTIA'14)</i>, Department of Electronics and Instrumentation Engineering, Velammal Engineering college, Chennai, April 4-4, 2014, pp. 1-5. 3. Thillai Rani, L., Sivakumar, D., Rathikarani, D. and Vinodhini. M (2015), Adaptive control schemes for interacting coupled tank system, <i>Proceedings of UGC sponsored National Conference on Recent Trends in Instrumentation and Control (RTIC-15)</i>, Madras Institute of Technology, Chennai, 13th -14th March, 98-103. 4. Thillai Rani, L., Sivakumar D., Rathikarani, D. and Auxcilium Janova (2015), Adaptive controllers for multi input and multi output process, <i>Proceedings of UGC sponsored National Conference on Recent Trends in Instrumentation and Control (RTIC-15)</i>, Madras Institute of Technology, Chennai, 13th -14th March, 104-109.
<p>Papers presented in International Conferences</p>	<ol style="list-style-type: none"> 1. Thillai Rani, L., Sivakumar, D., Rathikarani, D. and Gopikha, N. (2014), Multimodel approach to the design of scheduling controllers for a class of nonlinear System, <i>Proceedings of IEEE International Conference on Green Computing, Communication and Electrical Engineering (ICGCCEE'14)</i>, Dr. NGP Institute of Technology, Coimbatore, 6th-8th March, 156-161. DOI: 10.1109/ICGCCEE.2014.6922337.

Papers presented in
International
Conferences

2. **Thillai Rani, L., Sivakumar, D., Rathikarani, D. and Suryakala, S.(2014)**, Design and implementation of RST controllers for a nonlinear System, *Proceedings of IEEE International Conference on Green Computing, Communication and Electrical Engineering (ICGCCEE'14)*, Dr. NGP Institute of Technology, Coimbatore, 6th-8th March, 189-194, IEEE Digital Xplore, DOI: [10.1109/ICGCCEE.2014.6922338](https://doi.org/10.1109/ICGCCEE.2014.6922338).
3. **Thillai Rani, L., Sivakumar, D., Rathikarani, D. and Bharathi. T. (2014)**, Performance and stability analysis of an adaptive controller for a non interacting system, *Proceedings of IEEE International Conference on Green Computing, Communication and Electrical Engineering (ICGCCEE'14)*, Dr.NGP Institute of Technology, Coimbatore, 6th-8th March,201-206, IEEE Digital Xplore, DOI: [10.1109/ICGCCEE.2014.6922343](https://doi.org/10.1109/ICGCCEE.2014.6922343).
4. **Thillai Rani, L., Sivakumar, D. and Rathikarani, D. (2017)**, Dynamic matrix controller design for performance study of an interacting coupled tank MIMO process, *Proceedings of International Conference on Functional Materials, Characterization, Solid State Physics, Power, Thermal and Combustion Energy (FCSPTC'2016)*, Ramachandra College of Engineering, Eluru, Andhra Pradesh, 7th -8th April, 295-301.
5. **Thillai Rani, L. (2020)**, Fixed Gain Discrete Polynomial Controller for a Nonlinear Process, *Proceedings of the International e-conference on Information, Communication and Networking (IECICN 2020)*, Department of Information Technology, SRM Easwari Engineering College Chennai. 10th and 11th July.
6. **Yojana, K. and Thillai Rani, L. (2024)**, Optical Coherence Tomography Image Analysis using Symmetrical Recurrent Neural Network”, *Proceedings of the International Conference on Research Trends in AI & IOT for Infrastructure and Industry (AIII 2024)*, Centre for Research, Anna University, 6th – 8th March 2024, 279-286.

Papers published in
International Journal

1. **Thillai Rani, L., Deepa, N. and Arulselvi, S. (2014)**, "Modeling and Intelligent Control of Two Tank Interacting Level Process.", *International Journal of Recent Technology and Engineering (IJRTE)*, Vol. 3(1), March, pp. 30-36.
2. **Thillai Rani, L., Sivakumar, D., Rathikarani, D. and Gopikha, N. (2014)**, Multimodel approach to the design of scheduling controllers for a class of nonlinear System, *IEEE Xplore*, March, pages 1-6, DOI: [10.1109/ICGCCEE.2014.6922337](https://doi.org/10.1109/ICGCCEE.2014.6922337)
3. **Thillai Rani, L., Sivakumar, D., Rathikarani, D. and Suryakala, S.(2014)**, Design and implementation of RST controllers for a nonlinear System, *IEEE Digital Xplore*, March, pages 1-6., DOI: [10.1109/ICGCCEE.2014.6922338](https://doi.org/10.1109/ICGCCEE.2014.6922338).
4. **Thillai Rani, L., Sivakumar, D., Rathikarani, D. and Bharathi. T. (2014)**, Performance and stability analysis of an adaptive controller for a non interacting system, *IEEE Digital Xplore*, March, pages 1-6, DOI: [10.1109/ICGCCEE.2014.6922343](https://doi.org/10.1109/ICGCCEE.2014.6922343).
5. **Thillai Rani, L., Sivakumar, D. and Rathikarani, D. (2016)**, A novel design approach of gain scheduling controller for a MIMO process, *Middle-East Journal of Scientific Research*, Vol. 24(10), pp. 3243-3255.
6. **Thillai Rani, L., Sivakumar, D. and Rathikarani, D. (2016)**, A new design methodology of self-tuning control algorithm for an interacting MIMO process, *World Applied Sciences Journal*, Vol.34(11), pp.1519-1532.
7. **Thillai Rani, L., Sivakumar, D. and Rathikarani, D. (2017)**, Dynamic matrix controller design for performance study of an interacting coupled tank MIMO process, *AIP conference Proceedings*, AIP Conference Proceedings 1859, 020067, pp.1-7, <http://dx.doi.org/10.1063/1.4990220>.
8. **Gayathri, D., Rathikarani, D., Thillai Rani, L. and Sivakumar D. (2017)**, "Multiloop Adaptive Controllers for a Nonlinear Interacting Coupled Tank Process.", *International Journal of Engineering Research & Technology*, Vol. 6(4), April 2017, pp. 930-936.
9. **Gayathri, D., Rathikarani, D., Thillai Rani, L. and Sivakumar D. (2018)**, "Comparative study of MRAC and STC controllers for a nonlinear interacting coupled tank process", *International Journal of Pure and Applied Mathematics*, Vol. 119(14), pp.685-694.
10. **Thillai Rani, L. (2020)**, "Direct Adaptive controllers for a Multi Input Multi Output Process", *International Journal of Recent Technology and Engineering*, Vol.9(1), May, pp.1070-1074.

	<p>11. Yojana, K. and Thillai Rani L. (2023), “Optical coherence tomography based diabetic ophthalmic diseases classification and measurement using bilateral filter and transfer learning approach”, <i>ACTA IMEKO</i>, Vol.12(3), pp.1-7. Link address: https://doi.org/10.21014/actaimeko.v12i3.1345</p> <p>12. Yojana, K. and Thillai Rani L. (2023), “OCT layer segmentation using U-NET semantic segmentation and RESNET34 encoder-decoder”, <i>Measurement: Sensors (ELSEVIER)</i>, Vol.29(4), Article 100817. Link address: https://doi.org/10.1016/j.measen.2023.100817</p> <p>13. Yojana Kanukuntla and Thillai Rani L. (2024), “Optical Coherence Tomography based Diabetic – Ophthalmic Disease Classification using Bilateral Filter and Transfer Learning approach”, <i>International Journal of Engineering Research and Development</i>, Vol.20(8), pp.403-411.</p> <p>14. Yojana, K. and Thillai Rani, L., “Detection and Analysis of Diabetic Mascular Edema Deformation in OCT images using Levelset segmentation”, <i>Journal of Applied Research on Industrial Engineering</i>. (Paper accepted)</p>
Book Publication:	<p>Dr. N.N. Praboo, Dr. K. Muthukmar, Dr. R. Manikandan, Dr. L. Thillai Rani, “<i>Robotics and Automation in Mechanical Engineering</i>”, Cosmos scientific publications, ISBN: 978-81-19359-33-2, October 2023.</p>
Soft skills:	<p>Software: MATLAB, LabVIEW</p> <p>Programming: C/C++, Visual Basic, VHDL, Microprocessor/Microcontroller</p> <p>Control Devices Programming: DCS, SCADA, PLC</p>