

# National Institute of Technology, Tiruchirappalli: Performa for CV of Faculty/ Staff Members

## Curriculum Vitae



Brief Profile: 1-2 paragraphs (not exceeding 500 words)

1. Name: Dr. D. Ezhilarasi
2. Designation: Assistant Professor
3. Office Address: Department of ICE
4. Telephone (Direct) (Optional): 0431-2503365  
Telephone : 0431-2503350                      Extn: 3365  
Mobile (Optional): 9444878908
5. Email (Primary): ezhil@nitt.edu                      Email (Secondary) ezhilmadhu@gmail.com
6. Field(s) of Specialization: Instrumentation and Control
7. Employment Profile

Job Title	Employer	From	To
Research Associate	EEE Dept, NIT Trichy	2003	2005
Lecturer	SASTRA University	2006	2007
Lecturer	Anna University, Guindy	2007	2008
Assistant Professor	Dept. of ICE, NIT Trichy	2008	Till date

8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
PhD	NIT Trichy	2009		Vibration Control
M.Tech	NIT Trichy	2003	First	Process Control & Instrumentation
B.E	Madras University	2000	First	Electrical & Electronics

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### 9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Associate Dean	Students Welfare/ NITT	Oct 2012	June 2013
Warden	OPAL Hostel /NITT	July 2012	June 2013
Hostel Administrative Committee member	Students Welfare/ NITT	Oct 2012	June 2013

### 10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To

### 11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization

### 12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2010	Mentoring of Engineering Teachers by INAE fellows under Prof. B. Bandyobadhyay, Systems and Science, IITB.	INAE, Govt. of India	1st May/2010	30th June/2010

### 13. Details of Academic Work

#### (i) Curriculum Development

Developed the syllabus for Interfacing Signal Processing Lab and introduced 10 new experiments.

#### (ii) Courses taught at Postgraduate and Undergraduate levels

Electrical and Electronic Measurements

Industrial Instrumentation Practices

System Identification and Adaptive Control

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Logic and Distributed Control System

Sensors and Transducers

Industrial Instrumentation-I

Industrial Instrumentation-II

Digital Electronics

Digital Control System

Smart Materials and Structures

Branch Specific Course

(iii) Projects guided at Postgraduate level

<b>S.No.</b>	<b>Title</b>	<b>Student Name</b>	<b>Year</b>
1	Longitudinal Train Controller for Automatic Train Operation Design Of Sliding Mode Controller for Train Trajectory Tracking in Automatic Train Operation	Jijo Benni	2015-16
2	State Estimation Using Nonlinear Kalman Filtering Technique for Train Navigation System Multisensor Data Fusion For train Navigation System	Tithi Bansal	2015-16
3	Optimization of Piezoelectric energy harvester Temperature Measurement and Autocalibration of the High Density Winding Coils of Electromagnets	Ronish Simon	2014-15
4	Energy Based modeling and control of train coupler Detection of Longitudinal Cracks in Beam Structures using Electromechanical Impedance and Frequency Analysis	Laji C A	2014-15
5	Passive Vibration Control of a Beam using Piezoelectric Transducer Model Reference Adaptive Control for Longitudinal Train Dynamics	Rathiarhana V	2013-14
6	Energy Harvesting From the Mechanical Vibrations of a Bicycle Acoustic Energy Harvesting Using PiezoelectricMaterial	Aby Thomas	2013-14

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7	Monitoring and Control of Agricultural Parameters in a Green house through Internet  GSM Based RF Energy Harvesting	Abhfeeth K.A	2012-13
8	Design and Implementation of Multirate Output Feed back Sliding mode control for Rotary Motion Servoplant  Design and Implementation of Sliding Mode Control with Nonlinear Sliding surface for Rotary Motion Servo Plant	Kannad Hardik Versibhai	2012-13
9	Design of Higher order sliding mode Control for Smart structures with Uncertainty  Design of Sliding Mode Observers for Health Monitoring of Smart Structure	Srikanth Reddy.K	2011-12
10	Design of Energy Harvesting Module Using Piezoelectric Material for Wireless Network  Wireless Monitoring And Control of Agricultural Parameters in a Green House	Akshay Chaudhari	2011-12
11	Energy Harvesting Using Piezoelectric Material	Pavan Sathya kumar Pilli	2010-11
12	Design and Implementation of Sliding Mode control for an Inverted Pendulum	K.B. Rajendra Prasad	2010-11
13	Sensing and Control of Temperature through Wireless Network	M. Semal Sekhar	2009-10
14	Design of Sliding mode Control for Microsystem (CEG, Guindy)	N. Angayarkanni	2009-10
15	Design of Multirate Output feedback Controller for Liquid Level System(CEG, Guindy)	M. Shanmugapriya	2008-09
16	Design of Intelligent Controllers for Piezoelectric Smart Beam(CEG, Guindy)	R. Shanthi	2008-09
17	Design and Implementation of Adaptive controllers for Vibration control of Piezo Actuated Cantilever Beam(CEG, Guindy)	J. Rajalakshmi	2008-09

(iv) Other contribution(s)

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Energy harvesting using	DST- SERC FAST Track	2010	2013	Completed

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Piezoelectric for self powered wireless sensor network based precision agriculture			
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15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
A. Rami Reddy	Performance enhancement in Piezoelectric based vibrational Energy harvester using structural Tailoring and hybrid concept	Supervisor	2016

MS By Research

Name of the MS Scholar	Title of the Thesis	Role(Supervisor/ Co-Supervisor)	Year
Harihara Krishnan	Design and Development of Micro Electrothermal Actuators and Energy harvesting Using Pyroelectricity (Completed)	Supervisor	2010-13

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date(s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
Jan 21-25, 2013.	Variable structure and sliding mode control concept, theory and applications	International	Participant	IIT Bombay, Mumbai, India	IITB
Mar 21-23, 2013	Finite Element Methods	National	Participant	Civil Engg. Dept NIT, Trichy	NITT
12-14,	12 <sup>th</sup> IEEE	International	Participant	IITB, Mumbai,	IITB

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January 2012	International workshop on Variable Structure Systems			India	
4-7 January 2012	VI <sup>th</sup> international ISSS Conference on Smart Materials, Structures and Systems (ISSS2012)	International	Participant	IISC Bangalore, India	IISC
13-15 Dec. 2010	6 <sup>th</sup> International conference on Vibration Engineering and Technology of Meachinery, VETOMAC-VI	International	Participant	IIT Delhi, India	IITD
28 <sup>th</sup> July 2006	International Conference on Control, Communication and Power Engineering	International	Participant	ACEEE at Chennai, India	Chennai
26 <sup>th</sup> – 30 <sup>th</sup> July, 2010	MEMS and its CAD tools	National	Participant	AICTE-MHRD-FDP program NIT, Trichy	NITT
17 <sup>th</sup> Dec. 2009	Polynomial Global Optimization and Constant Propagation Techniques	National	Participant	NIT,Trichy. Prof.P.S.Nataraj, IITB	NITT
25-31 Dec, 2009.	Estimation and control: advanced theory and	National	Participant	Dept. of EEE, IIT, Kharagpur	IITKH

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	applicati ons Optimization Algorith ms For Manufacturing Applicat ions				
20 th May-26 <sup>th</sup> may 2009	Embedded system design Using Micro- Controllers	National	Participant	Department of instrumentation, IISC, Bangalore, Karnataka	IISC
24 <sup>th</sup> to 30 <sup>th</sup> November 2008	Solid State Drives	National	Participant	CEG campus, Anna University Chennai	Chennai
Oct 16- 18, 2008	Control Theory & its application to practical Problems	National	Participant	Dept. of EEE, AU, Chennai	Chennai
9-10 June, 2006	Optimization Algorithms For Manufacturing Applications	National	Participant	TEQIP, Department of Production Engg. National Institute of Technology	NITT
August 16-20, 2004	Process Optimization, Data Driven Modelling and Advanced Process Control	National	Participant	SERC School, IIT Bombay	IITB
8-10 December 2006	International Congress on “Computational Mechanics And Simulation (ICCMS-06)”	International	Participant	IIT Guwahati, India	IITG
8- 9	National	National	Participant	Instrumentation	

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August 2003.	conference on Process Identification , control & Diagnosis NCPICD-2003			Engineering and Technology, Annamalai Univ.	
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17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
One week Faculty Development Program on <b>Smart materials and systems</b>	National	June 11-15, 2012	Coordinator	Dept of ICE, NITT
TEQIP Sponsored One Week Workshop on <b>MEMS, its CAD Tools and Smart Structures</b>	National	Jan 5-9, 2015	Coordinator	Dept of ICE, NITT

One week Faculty Development Program on organized on **Smart materials and systems** sponsored by NIT, Trichy from June 11-15, 2012

18. Invited Talks delivered

Topic	Date	Inviting Organization
Sliding mode control	29 <sup>th</sup> April 2016	VIT, Vellore

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member )	Organization	Membership No. with date
Life member	Smart materials, Structures and Systems (ISSS)	LM-171
Life member	System Society of India (SSI)	LM -31627

20. Academic Foreign Visits



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Country	Duration of Visit	Programme

21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
A Rami reddy, Umapathy Mangalanathan, <b>D. Ezhilarasi</b> , Uma Gandhi	Piezoelectric energy harvester with shape memory alloy actuator using solar energy	IEEE Transactions on Sustainable Energy	vol 6, no.4,	1409-1415	Oct 2015	
A Rami reddy, Umapathy Mangalanathan, <b>D. Ezhilarasi</b> , Uma Gandhi	Cantilever Beam with Trapezoidal Cavityfor Improved Energy Harvesting	Journal of International Journal of Precision Engineering and Manufacturing	Vol. 16(8)	1875-1881	2015	
A Rami reddy, Umapathy Mangalanathan, <b>D. Ezhilarasi</b> , Uma Gandhi	Modelling and Experimental investigations on stepped beam with cavity for energy harvesting	Journal of Smart Structures and Systems	Vol. 16(4)		2015	
A Rami reddy, Umapathy Mangalanathan, <b>D. Ezhilarasi</b> , Uma Gandhi	Improved energy harvesting from vibration by introducing cavity in a cantilever beam	Journal of Vibration and Control		1-10	2014	
K. Dhanalakshmi, M. Umapathy and <b>D Ezhilarasi</b>	Sliding Mode Control of SMA Actuated Structures for Vibration Control	International Journal of Modelling, Identification and Control	23(3)		2015	
Minu A Pillai, <b>D. Ezhilarasi</b>	A review of Acoustic Energy Harvesting	Journal of Precision Engineering and Manufacturing	15 (5)	949-965	May 2014	

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S. Harihara Krishnan, <b>D. Ezhilarasi</b> , G. Uma, M. Umapathy	Pyroelectric based solar and wind energy harvesting system	IEEE Transactions on Sustainable Energy	5 (1)	73-81	Jan 2014	
K. Dhanalakshmi, M. Umapathy, <b>D. Ezhilarasi</b>	Shape memory alloy actuated structural control with discrete time sliding mode control using multirate output feedback	Journal of Vibration and Control			2014	
Abhfeeth K. A., <b>D. Ezhilarasi</b>	Monitoring and Control of Agriculture Parameters in a Greenhouse through Internet	Sensors & Transducers,	150(3)	106-112	2013	
K. Dhanalakshmi, M. Umapathy, <b>D. Ezhilarasi</b> and B. Bandyopadhyay	Design and implementation of fast output sampling feedback control for shape memory alloy actuated structures	Smart Structures and Systems	8 (4)		2011	
J. Arunshankar, M. Umapathy, <b>D. Ezhilarasi</b>	Sliding mode controller with multisensory data fusion for piezoactuated structure	Defence Science Journal	60 (4)	346-352	2011	
J. Arunshankar, M. Umapathy, B. Bandyopadhyay and <b>D. Ezhilarasi</b>	Multirate feedback control of piezo actuated structures with multisensor data fusion	International Journal of Image and Data Fusion (Taylor & Francis)		1-16	2011	
<b>D. Ezhilarasi</b> , M. Umapathy, b. Bandyopadhyay	Design and Experimental Evaluation of Simultaneous Fast Output Feedback control for Piezoelectric Actuated Beam structures	International Journal of Automation and Control	4 (1)	42-64	2010	
K. Dhanalakshmi, M. Umapathy, <b>D. Ezhilarasi</b> and M. Marimuthu	Experimental evaluation of periodic output feedback control for SMA actuated structures	International Journal of Advanced Mechatronic Systems	2 (5)	330-341	2010	
S.Neduncheliyan, M.Umapathy, <b>D.Ezhilarasi</b>	Simultaneous Periodic Output Feedback Control for Piezoelectric Actuated Structures Using Interval Methods	International Journal on Smart Sensing and Intelligent Systems	2(3)		2009	

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<b>D.Ezhilarasi</b> , M. Umapathy, B.Bandyopadhyay, “”, 16, ,	Design and experimental evaluation of Simultaneous periodic output feedback control for structural vibration suppression using PZT patches	Journal of Structural control and health monitotoring Wiley Interscience	16	335-349	2009	
L.R. Karlmarx, M. Umapathy, <b>D. Ezhilarasi</b>	Embedded output feedback controllers for piezoelectric actuated structures	World Journal of Modeling and Simulation	5 (2)	113-119	2009	
L. R. Karl Marx, M. Umapathy, A. Girija, <b>D. Ezhilarasi</b>	Discrete Time Sliding Mode Control Using Fast Output Sampling Feedback for Piezoelectric Actuated Structures	Sensors & Transducers	102 (3)	71-83	2009	
K. Dhanalakshmi, M. Umapathy, <b>D. Ezhilarasi</b> , C. Chandravadhanam	Control of SMA Actuated beam using periodic Output Feedback Control	The Mediterranean journal of Measurement and Control	4 (1)	8-14	2008	
R. Maheshwari, M. Umapathy, L.R. Karlmarx, <b>D. Ezhilarasi</b>	Design and Implementation of – Output Feedback Control for Piezo actuated structure Using Embedded System	Sensors & Transducers Journal	93 (6)	29-36	2008	
S. Neduncheliyan, <b>D. Ezhilarasi</b> , M. Umapathy, B. Vasuki	Control of Piezo actuated structure using an Interval method	Journal of instrumentatio n Science & Technology	35 (4)	385-397	2007	
<b>D. Ezhilarasi</b> , M. Umapathy, B.Bandyopadhyay	Design and experimental evaluation of piecewise output feedback control for structural vibration suppression using PZT patches	Journal of Smart Materials and Structures	15	1927-1938	2006	

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbe rs	Conferen ce Theme	Venue	Yea r
Bhabani	Detection and	International			NIT	201

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Sankar Padhy, D. Ezhilarasi	Stiffness Analysis of Inclined Height Crack in Cantilever Beam using Strain Energy Analysis	Conference on Advanced in Dynamics, Vibration and Control, ICADVC-2016			Durgapur	6
Bhabani Sankar Padhy , D. Ezhilarasi	Detection of Inclined Edge Crack in Cantilever Beam using Modal Analysis	International Conference on Materials, Design and Manufacturing Process, ICMDM '16			Anna University (CEG), Chennai	2016
Minu A Pillai, Ezhilarasi D	Improved Acoustic Energy Harvester using Tapered neck Helmholtz Resonator and Piezoelectric Cantilever undergoing concurrent bending and twisting	12th International Conference on Vibration Problems (ICOVP 2015)			IIT Guwahati	2015
M. Ganesan, D. Ezhilarasi	Design of Nonlinear Model reference Adaptive Controller for Automatically Driven Indian High speed Trains	3rd International Conference of Transportation research Group of India (CTRG 2015)			Kolkata	2015
Minu A Pillai, Ezhilarasi D	Acoustic Energy Harvesting using Helmholtz resonator with tapered neck	COMSOL conference-2014			Bangalore	2014
Kattilapparambu Abhfeeth, Ezhilarasi Deenadayalan	GSM Based RF Energy Harvesting	VIIth international ISSS Conference on Smart Materials, Structures and			IISC Bangalore	2014

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		Systems (ISSS 2014)				
S. Harihara Krishnan, D. Ezhilarasi, G.Uma and M. Umamathy	Experimental Investigation Of A Novel Hybrid Energy Harvesting System Using Ferroelectric Material	Texas Instruments India Educators' international Conference 2013			Bangalore	2013
Y.Sujan, B.Vasuki, G. Uma, D Ezhilarasi, K Suresh	Thickness sensor for Ferromagnetic sheets	6th International conference on Sensing Technology (ICST 2012)			Kolkata	2012
Akshay C, Nitin Karnwal, Abhfeeth K A, Rohan Khandelwal , Tapas Govindraju, Ezhilarasi D, Sujan Y	Wireless sensing and control for precision Greenhouse management	6th International conference on Sensing Technology (ICST 2012)			Kolkata	2012
D. Ezhilarasi, K. Srikanth Reddy, M. Umamathy, B.Bandyopadhyay	Design and Implementation of Second order SMC for vibration control of a mass loaded smart cantilever beam with temperature uncertainty	12th IEEE International workshop on Variable Structure Systems			IIT Mumbai	2012
S Harihara Krishnan S, D Ezhilarasi, G Uma, M Umamathy, Y Sujan	Enhancement of Vertical Displacement in Electrothermal Microactuator	VIth international ISSS Conference on Smart Materials, Structures and Systems (ISSS2012)			IISC Bangalore	2012
L.R. Karl Marx, M.	Discrete Time Sliding Mode	VIth international			IISC Bangalore	2012

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Umapathy, D. Ezhilarasi	Control with Nonlinear Sliding Surface for Piezo Actuated Structures	ISSS Conference on Smart Materials, Structures and Systems (ISSS2012)				
P. Pavan Satya kumar, D. Ezhilarasi, M. Umapathy	Experimental Investigation of Energy Harvesting using Piezoelectric Material	VIth international ISSS Conference on Smart Materials, Structures and Systems (ISSS2012)			IISC Bangalore	2012
M.S. Sekhar, D. Ezhilarasi, A. Shankar Ram	Remote Monitoring and Control of a Temperatute Plant using Zigbee Wireless Communication System	7th International conference on “Trends in Industrial Measurement and Automation” TIMA-2011	369-374		CSIR Madras, Chennai	2011
D.Ezhilarasi, M. Umapathy, B.Bandyopadhyay	Design and Implementation of Fast Output Sampling Feedback Control for Smart Structures via Reduced Order Model	6th International conference on Vibration Engineering and Technology of Meachinery, VETOMAC-VI	517-524		IIT Delhi	2010
L.R. Karl Marx, M. Umapathy, D.Ezhilarasi	Design and Implementation of discrete Time Sliding Mode Control with Nonlinear Sliding Surface for Piezo Actuated Structures	6th International conference on Vibration Engineering and Technology of Meachinery, VETOMAC-VI	509-516		IIT Delhi	2010

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D.Ezhilarasi, J. Arunshankar, M. Umapathy	Implementation of information filter for vibration control of a smart cantilever beam	International conference Control, Communication and Power Engineering (ACEEE)-2010	137-140			2010
D. Ezhilarasi, M. Umapathy	Design and Implementation of Generalized Predictive Control for Piezo Actuated Cantilever Beam	6th International conference on Trends in Industrial Measurement and Automation TIMA-2009	176-181		MIT campus, Anna university, Chennai	2009
Joan of Arc, D.Ezhilarasi, S.K. Patnaik, B. Umamaheswari	Design of Loop-Shaping Hinfinity Controller for Vibration Control of a Smart Beam	6th International conference on Trends in Industrial Measurement and Automation TIMA-2009	221-227		MIT campus, Anna university, Chennai	2009
D. Ezhilarasi, J.Rajalakshmi	Design of Self Tuning Regulator for Vibration Control of Piezo Actuated Cantilever Beam	International Conference on Advanced Manufacturing and Automation INCAMA-2009			Kalasalingam university, Virudunagar	2009
R. Shanthi, D. Ezhilarasi	Design of Fuzzy Logic Controller for Piezoelectric Smart Beam	International Conference on Advanced Manufacturing and automation INCAMA-2009			Kalasalingam university, Virudunagar	2009

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K Dhanalakshmi, M.Umapathy, D.Ezhilarasi, C Chandravathanam	Variable Structure Control of Flexible Smart Structure with Shape Memory Alloy Actuators	SPIE International conference on Smart Structures and Materials			San Diego, USA	2007
D. Ezhilarasi, M. Umapathy, B. Bandyopadhyay, G. Uma	Design and Experimental Evaluation of Composite Output Feedback Control for Smart Structures	IEEE International Conference on Industrial Technology (ICIT 2006)	692 - 697		Mumbai	2006
D. Ezhilarasi, M. Umapathy, B. Bandyopadhyay	Design and Experimental Evaluation of Simultaneous Periodic Output Feedback Control for Smart Structures	2nd International Congress on Computational Mechanics and Simulation (ICCMS 2006)	642 - 645		IIT Guwahati	2006
S. Soundaravalli, M. Umapathy, D. Ezhilarasi, J. Balasubramani	H Infinity Vibration Controller for Smart Cantilever Beam	2nd International Congress on Computational Mechanics and Simulation (ICCMS 2006)	501 - 505		IIT Guwahati	2006
K Dhanalakshmi, C Chandravathanam, M Umapathy, D Ezhilarasi	Design of State Feedback Control for Vibration Suppression of Shape Memory Alloy actuated Flexible Beam	9th International Workshop on Smart Materials and Structures			Toronto, Ontario, Canada	2006

(C) Books & Monographs

Author(s)	Title of Book/Monograph	Name of	Year of	ISSN/ISBN
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		Publishers	Publication	Number