

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

Curriculum Vitae



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

M. Umopathy was born in Ramanathapuram, Tamil Nadu, India, in 1967. He obtained a Bachelor's degree in instrumentation and control engineering from the Government College of Technology, Coimbatore, India, in 1988, the Master's degree in precision engineering and instrumentation from the Indian Institute of Technology Madras, Chennai, in 1990, and the Ph.D. degree in systems and control engineering from the Indian Institute of Technology Bombay, Mumbai, in 2001. He worked as a graduate engineer trainee in NLC Limited, Neyveli, India, for a year and served as scientist in DRDO, Government of India, Pune, for six years. He joined the National Institute of Technology as a faculty member, Tiruchirappalli, India, in 1996, where he is currently working as a Professor in the Department of Instrumentation and Control Engineering. His research interests include Sensors and actuators, Energy harvesting, smart structures, Sliding mode control smart materials and MEMS.

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| 1. Name | Dr. M .Umopathy |
| 2. Designation: | Professor |
| 3. Office Address: | Department of Instrumentation and Control Engineering, National Institute of Technology, Trichy-620015 |
| 4. Telephone (Direct) (Optional): | 0431-2503353 |
| Telephone : | Extn (Optional): |
| Mobile (Optional): | 9443013136 |
| 5. Email (Primary): umapathy@nitt.edu | Email (Secondary) :
umapathy.nitt@gmail.com |
| 6. Field(s) of Specialization: | Sensors and Actuators, Instrumentation System Design, MEMS, Smart Materials, Energy Harvesting, Modeling and Control of Smart Structures, Sliding Mode Control |

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7. Employment Profile

Job Title	Employer	From	To
Professor	National Institute of Technology, Tiruchirappalli-15.	01/04/07	Till date
Assistant Professor	National Institute of Technology, Tiruchirappalli-15	October 1996	April 2007
Scientist C	DIT, Defence Research and Development Organization (DRDO), Government of India, Pune	July 1994	October 1996
Scientist B	DIT, Defence Research and Development Organization (DRDO), Government of India, Pune	February 1991	June 1994
Graduate Engineer Trainee	Neyveli Lignite Corporation Limited, Public Sector, Government of India, Neyveli, Tamil Nadu, India.	January 1990	February 1991

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

Examination	Board / University	Year	Division/ Grade	Subjects
Ph. D	IIT Bombay	2001		Modeling and Piecewise Constant Output Feedback Control for Smart Structures
M. Tech	IIT Madras	1990	First	Precision Engineering and Instrumentation
B. Tech	GCT, Coimbatore	1988	First	Instrumentation and Control Engineering

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9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Chairman	Management Information System Team	September 2012	Sep 2015
Chairman	Special Task Force for Centre of Excellence in Smart Systems and MEMS (S2- MEMS)	March 2012 onwards	Till date
Member	Board of Governors of NIT	September 2011	September 2013
Member	Finance Committee of NIT	Sep 2011	Sep 2013
Head	Department of Instrumentation and Control Engineering	October 2006	December 2009
Nodal Officer Finance	TEQIP (Phase -I)	November 2005	February 2010
Head	Department of Instrumentation and Control Engineering	June 2000	February 2004
Associate Dean Administration	NIT, Tiruchirappalli	December 2005	June 2007
Chairman	Estate Welfare committee	November 2010	February 2011
Secretary	5th International Conference TIMA-07	January 4 th 2007	January 6 th , 2007
Member Chairman	purchase committee	Nov 1996	Till date

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Member / Chairman	Court of enquiry, DIT (IAT), DRDO, Pune.	Feb 1991	Oct 1996
Food member	Officers Mess, DIT (IAT), DRDO, Pune	1992	October 1996

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2013	Eminent Engineer Award	Madurai local center
2007	Best Teacher Award for the year 2006-2007	National Institute of Technology Tiruchirappalli
1996	Commendation certificate	Defence Research and Development Organization (DRDO)

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12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
1999	Young Scientist Fellowship	TNSCST	June 1999	Aug 1999

13. Details of Academic Work

(i) Curriculum Development

(ii) Courses taught at Postgraduate and Undergraduate levels

UG Level

Sensors and Transducers

Industrial Instrumentation

Power plant Instrumentation and Control

Modern Control system

Automotive Instrumentation

Logic and distributed control system

Sensors and Transducers lab

Instrumentation lab

PG Level

Instrumentation

Modern Control

Instrumentation and Control lab

(iii) Projects guided at Postgraduate level

S.No	Title of the project work	Project Period
1	Precision position control of shape memory alloy using inverse neural control and super twisting sliding mode control (Student Name: Vinod Sharma)	Jan 2015-May 2015
2	Gain scheduled LQI controller for aero thermal turbofan engine model (Student Name: Jerrin Joseph)	Jan 2015-May 2015
3	Non linear modeling of SMA using RNN with higher order gradient descent techniques and its position control (Students Name: Vinod Sharma)	June 2014-Dec 2014
4	Modelling and identification of nonlinear aero thermal turbofan gas turbine engine (Student Name: Jerrin Joseph)	June 2014-Dec 2014
5	Modeling and Performance test on Magnetorheological Damper (Student Name: Veena Mathew)	Jan 2014- May 2014
6	Position Control of Shape Memory Alloy using Sliding Mode Control (Student Name: Veena Mathew)	June 2013- Dec 2013
7	Control scheme for precipitation of uranium peroxide (Student Name: Manish Kumar)	Jan 2013- May 2013
8	Controller design for ER semi active suspension system (Student Name: V S Mohan)	Jan 2013- May 2013
9	Design and fabrication of ER damper (Student Name: V	

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	S Mohan)	June 2012- Dec 2012
10	Design of Microcantilever sensor using sliding mode control (student Name: Manish Kumar)	June 2011- Dec 2011
11	Modeling of coriolis mass flow meter (student Name: D Jyoti Swarup)	January 2011- June 2011
12	Design of measurement system using smart materials(student Name: D Jyoti Swarup)	June 2010- Dec 2010
13	Design of sliding mode controlle for ER damper base suspension system(student Name: Naman Mittal)	January 2011- June 2011
14	Design and fabrication of ER damper (student Name: Naman Mittal)	June 2010- Dec 2010
15.	Performance Enhancement of Resonant Systems with Strong Mechanical Coupling between two degrees of Freedom(Student Name: Suneel Kumar K)	January 2007- June 2007
16.	Development of Algorithms for Sensor Fault Detection and Identification (FDI) for Industrial Control Loops (Student Name: D. Pardhasarathy)	January 2006- June 2006
17.	Control Block Simulator (Student Name: M. Indumathy)	January 2006- June 2006
18.	Control of Gyroscope stabilized Platform (Student Name:G. Kalpana)	January 2006- June 2006
19.	Vibration Control of Cantilever Beam Using LABVIEW (Student Name: P.V. Challapathy)	January 2006- June 2006
20.	Design of Output Feedback Compensator Using Quantitative Feedback Theory (Student Name: D. Pardhasarathy)	June 2005- Dec 2005
21.	Design and Implementation of Variable Structure Control for Piezo Actuated Structures (Student Name: A. Girija)	June 2005- Dec 2005
22.	Design and Implementation of H Infinity Controller for Flexible Structures (Student Name: Soudravalli)	June 2005- Dec 2005
23.	Vibration Control in Electrorheological Fluid Actuated Vehicle Suspension System (Student Name: M. Indumathi)	June 2005- Dec 2005
24.	Sensor Integration Using Communication Protocol TCP/IP(Student Name: P. Bhuvanewari)	June 2005- Dec 2005
25.	Modeling and Simulation of Acoustic Vector Sensor (Student Name: P.V. Challapathy)	June 2004- Dec 2004
26.	Robust Vibration Control of Piezolaminated Smart Structure (Student Name: M. Sridevi)	Jan 2004-June 2004
27.	Vector Sensor (Student Name: S. Anitha)	June 2004- Dec 2004
28.	Finite Element Modeling for Active Control of Piezo-Integrated Plate Based on Higher Order Plate Theory	Jan 2004-June 2004

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	(Student Name: Manikandan)	
29.	Design and Implementation of Periodic Output Feedback Control for PZT Integrated System Using dSPACE (Student Name: G. Krishnaveni)	June 2003-Dec 2003
30.	Finite Element Modeling and Control of Piezoelectric Integrated Plate Structure (Student Name: Manikandan)	June 2003-Dec 2003
31.	Design of Output Feedback Control for MIMO Smart Structure Models (Student Name: S. Sankarasubramanian)	June 2002-Jan 2003
32.	Design of Variable Structure Control for Shape Memory Alloy Actuated Flexible Beam (Student Name: K.S. Jai Bhavani)	June 2002-Jan 2003
33.	Design, Simulation and Optimization of Micro-accelerometer (Student Name: S. Sathya)	Jan 2003-June 2003
34.	Design, Simulation and Optimization of Micro-gyroscope (Student Name: X. Femila Mary)	Jan 2003-June 2003
35.	Design, Simulation and Optimization of Micro-mirror (Student Name: A. Suganya)	Jan 2003-June 2003
36.	Modeling, Simulation and Analysis of Micro Electro Mechanical Systems (Student Name: R. Aravindan)	Jan 2002-June 2002
37.	Design and Implementation of Output Feedback Control (Student Name: C. Gomathi Saratha)	June 2001-Jan 2002
38.	Modeling, Optimization and Control of Piezoelectric Integrated Structures (Student Name: G. Krishnaprasad)	June 2001-Jan 2002
39.	Modeling and Control of Flexible Manipulators (Student Name: Mallikarjuna Reddy)	June 2001-Jan 2002
40.	Design of Sliding Mode Control for Chemical Process System (Student Name: R. Balan)	June 2001-Jan 2002
41.	Design and application of output feedback control to process control problems (Student Name: Nirmala)	June2000-Jan 2001
42.	Modeling and Output Feedback Control Design and Smart Structures (Student Name: Lakshmi Prathibha))	June2000-Jan 2001
43.	Object Oriented Design of Temperature Measurement System(Student Name: S. D. Padghan and N. G. Patel)	1995
44.	Vibration Control of Flexible Beam Through Smart Structure Concept (Student Name: Prasad Goud)	1995
45.	Acoustic Ranging System (ARS) for Structural Vibration Measurement (Student Name: H.R. Krishna and Ramakrishnanan)	1992
46.	Load Measurement Using Strain Gauges(Student Name: Sivaramakrishnan and Madhavan)	1991

(iv) Other contribution(s)

Member of Board of Studies (BOS) for other Institutes and Universities

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1. Department of Electronics and Instrumentation Engineering, Pondicherry Engineering College, Puducherry from 2015-2017.
2. Department of Instrumentation and Control Systems Engineering, PSG College of Technology, Coimbatore from 2015-2016.
3. Pondicherry University, Puducherry from 2014-2017.
4. Madurai Kamaraj University, Madurai from 2014-2016.
5. Department of Instrumentation and Control Systems Engineering, PSG College of Technology, Coimbatore from 2014-2015.
6. Department of Electronics and Instrumentation Engineering, Government College of Technology, Coimbatore from 2013- 2015.
7. Instrumentation and Control Engineering, Manipal Institute of Technology, Manipal from 2013-2015.
8. Department of Instrumentation and Control Systems Engineering, PSG College of Technology, Coimbatore from 2012-2013
9. Department of Instrumentation and Control Systems Engineering, PSG College of Technology, Coimbatore from 2011-2012
10. Faculty of Electronics & Instrumentation Engineering, Anna University, Coimbatore from 2007-2010.
11. Department of Instrumentation and Control Systems Engineering, PSG College of Technology, Coimbatore from 2008- 2009
12. Instrumentation Technology, Sri Jayachamarajendra College of Engineering, from 2008-2009.
13. Department of Instrumentation and Control Systems Engineering, PSG College of Technology, Coimbatore from 2007- 2008
14. Electronics & Instrumentation Engineering, Adhiyamaan College of Engineering, from 2007-2008.
15. Electronics & Instrumentation Engineering, Ramakrishna Engineering College, Coimbatore from 2007-2008.
16. College of Engineering, Anna University, Chennai for the year 2008.
17. Instrumentation Engineering, Annamalai University, Chidambaram from 2003-2006
18. Electronics & Instrumentation Engineering, Vellore Institute of Technology, Vellore from 2003-2004.
19. Mechanical Engineering, SASTRA Deemed University, Thanjavur for the year 2004.

Participation in assessment board

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- Expert Member of National Board of Accreditation
- Served as a Member of GATE-2014 related operation
- Served as AICTE representative in the Expert Committee of UGC
- Served as an external expert in the assessment board for scientists of DRDO
- Served as an external expert in the assessment board for scientists of CSIR labs
- Served as an external expert in the faculty recruitment for the Electronics and Instrumentation Engineering, Pondicherry Engineering College, Pondicherry
- Served as a question paper setter for the selection of executive trainees, NTPC, New Delhi.

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Design, Fabrication and Testing of Meso and Micro Scale Resonant Sensors with Electronics	Science and Engineering Research Board(SERB), DST, Government of India	2013	2016	Completed
Establishment of New National MEMS Design Center	National Programme on Micro and Smart Systems (NPMASS)	2009	2010	Ongoing
Design of Electrorheological (ER) Damper based suspension control system	ARDB, Ministry of Defence, Government of India	2008	2010	Completed
Experimental Investigation of SMA Actuated Flexible Structure under Piecewise Output Feedback Control	ISRO, Bangalore	2008	2009	Completed
Micro Pressure Sensor for Fuel level Indicator in Automobile	FTD Solutions Pte Ltd, Singapore	2008	2009	Completed
Micro Resonating Beam Differential Pressure Sensor: Simulation and Electronic Interface Design	ISRO, Bangalore	2007	2008	Completed
Uncertainty Analysis of Chain error in Instrumentation System for Space	ISRO, Bangalore	2007	2008	Completed

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Application				
Design and Fabrication of Micro Devices	National Program on Smart Materials (NPSM)	2002	2007	Completed
Modeling and Control of Smart Structures using Multi-sensor Data Fusion	MHRD, Government of India under the scheme of Research and Development	2003	2005	Completed
Design and Development of Structural Vibration Control System using Smart Materials as Sensors/Actuators	MHRD, Government of India, under the scheme of Thrust Area in Technical Education	2002	2004	Completed
Sensor Development for the Detection of Oil Debris in Gas Turbine Applications	Gas Turbine Research Establishment (GTRE), Bangalore	2016		Ongoing

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Supervisor)	Co-	Year of Award
G. Uma	Design of meso and micro resonators with piezoelectric sensing and actuation	Supervisor		2009
D. Ezhilarasi	Identification and multirate output feedback control of piezo actuated structures	Supervisor		2009
K. Dhanalakshmi	Design, modeling and control of shape memory alloy actuated structures	Supervisor		2009
B.Vasuki	Analysis of uncertainty for instrumentation systems using interval methods	Supervisor		2009
S. Neduncheliyan	Modeling and control of piezo actuated structures with uncertainties using interval arithmetic approach	Supervisor		2009
L.R. Karlmarx	Modeling and design of discrete time sliding mode control for smart structures	Supervisor		2011
J. Arunshankar	Control of piezo actuated structure using multisensor data fusion	Supervisor		2011
M. Shanmugavalli	Modeling and	Supervisor		2011

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	experimental investigation of coriolis flow meter using piezoelectric sensing and actuation		
S. Dharmalingam	Determination of accumulation value for the evaporator system of fossil fuel boilers and a novel control system design for fuel switching	Supervisor	2012
K. Suresh	Micro and meso scale piezo excited and sensed resonance sensor with electronics	Supervisor	2012
Senthilkumar P	Position control of shape memory alloy wire actuators using modulated adaptive controllers	Supervisor	2013

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

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convener / Co-Convener)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
5 th International Conference TIMA-07	International Conference		Secretary	NIT, Trichy
1 st National Conference on Instrumentation and	National Conference	December 2003	Convener	

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Control (ICECON 03)				
2 nd , 3 rd , 4 th , National Conference on Instrumentation and Control(ICECON 05, ICECON 07, ICECON 09)	National Conference	December 2005, December 2007, December 2009	Organizing committee member	
AICTE-MHRD sponsored faculty development programme on MEMS and its CAD Tools		26 th -30 th July 2010	Coordinator	

18. Invited Talks delivered

Topic	Date	Inviting Organization
National Conference on Emerging Trends in Instrumentation		
Systems- 2011	March 11-12, 2011	Sri Ramakrishna Engineering College
	24 th July 2010	Institute of Smart Structures and Systems (ISSS), AGM at Indian Institute of Science
	Nov 2009	6 th National Control and Instrumentation Conference (CISCON-2009), MIT, Manipal
Modern Trends in Instrumentation and Control	25-26, Feb 2008	PSG College of Technology
	5 th April 2007	Institute of Smart Structures and Systems (ISSS), AGM at NAL
	9-10 December 2011	3 rd Karpagam University Annual Congress-2011 organized by Karpagam University, Coimbatore

19. Membership of Learned Societies

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Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Member	Indian Society of Technical Education	(LM-31314)
Life Member	Institute of Smart Structures and Systems	(LM-174)
Life Member	Instrument Society of India	(LM-1471)
Life Member	System Society of India	(LM-31630)
Life Member	Fellow of Institution of Engineers (India)	(F-114890-3)

20. Academic Foreign Visits

Country	Duration of Visit	Programme
USA	Mar 17 th -21 st , 2002	SPIE Conference
USA	Feb 19 th -21 st , 2013	IEEE Conference
Singapore	Sep 25 th -27 th , 2002	Asian Control Conference

21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
T. N Satish, K. P Rakesh, G Uma, M Umapathy, U Chandrasekhar, A. N. V Rao, V Petley	Functional Validation of K-Type (NiCr-NiMn) Thin Film Thermocouple on Low-Pressure Turbine Nozzle Guide Vane (LPT NGV) of Gas Turbine Engine	Experimental Techniques (published online)			2016	0.716
Y Sujana, G	Design and	Sensors and	250	177-186	2016	

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Uma, M Umapathy	testing of piezoelectric resonant pressure sensor	Actuators A: Physical				
J Sivaraman, G Uma, P Langley, M Umapathy, S Venkatesan, G Palanikumar	A study on stability analysis of axial repolarization variability using ARX model in sinus rhythm and atrial tachycardia ECGs	Computer Methods and Programs in Biomedicine	137	341-351	2016	1.862
Ramalingam Usharani, Gandhi Uma, Mangalanathan Umapathy	Design of High Output Broadband Piezoelectric Energy Harvester with Double Tapered Cavity Beam	International Journal of Precision Engineering and Manufacturing- Green Technology	3	343-351	2016	2.54
Y Sujana, G Uma, M Umapathy	Micro pressure sensor with three degrees of freedom resonator	Journal of Microsystem Technologies		1-14	2016	0.974
Y Sujana, G Uma, M Umapathy	Design and modelling of a micro resonant pressure sensor	Microsystem Technologies		1-9	2016	0.974
S Sathiyamoorthy, M Umapathy, B Vasuki	Performance enhanced piezo actuated resonant liquid pumping system with two degree of freedom (2-DOF) resonators	Sensors and Actuators A: Physical	236	44-56	2015	
SS Raju, M Umapathy, G Uma	Cantilever piezoelectric energy harvester with multiple cavities	Smart Materials and Structures			2015	
K Dhanalakshmi, M	Sliding mode control of shape memory alloy	International Journal of Modelling,			2015	

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Umapathy, D Ezhilarasi	actuated structure for vibration control	Identification and Control				
AR Reddy, M Umapathy, D Ezhilarasi, G Uma	Piezoelectric energy harvester with shape memory alloy actuator using solar energy	IEEE Transactions on Sustainable Energy	6 (4)	1409-1415	2015	3.727
P Shivhare, G Uma, M Umapathy	Design enhancement of a chevron electrothermally actuated microgripper for improved gripping performance	Journal of Microsystem Technologies	22 (11)	2623-2631	2015	0.974
S Sathiya, M Umapathy, B Vasuki, G Uma	Simple liquid pumping system using piezoelectric actuated cantilever beam	Journal of Instruments and Experimental Techniques			2015	
AR Reddy, M Umapathy, D Ezhilarasi, G Uma	Cantilever Beam with Trapezoidal Cavity for Improved Energy Harvesting	International Journal of Precision Engineering and Manufacturing	16	1875-1881	2015	2.54
AR Reddy, M Umapathy, D Ezhilarasi, G Uma	Modelling and Experimental investigations on stepped beam with cavity for energy harvesting	Journal of Smart Structures and Systems	16(4)	623-640	2015	1.13
K. Dhanalakshmi, M. Umapathy and D Ezhilarasi	Sliding Mode Control of SMA Actuated Structures for Vibration Control	International Journal of Modelling, Identification and Control			2015	
J Sivaraman, G Uma, S	Unmasking of atrial repolarization	Anatolian Journal of Cardiology	15(8)	605-610	2015	0.77

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Venkatesan, M Umapathy, MS Ravi	waves using a simple modified limb lead system					
Jayaraman Sivaraman, Gandhi Uma, Sangareddi Venkatesan, Mangalanathan Umapathy, Vella Elumalai Dhandapani	Normal limits of ECG measurements related to atrial activity using a modified limb lead system	Anatolian Journal of Cardiology	15	2-6	2015	0.77
Annapureddy Rami Reddy, Mangalanathan Umapathy, Deenadayalan Ezhilarasi, G Uma	Improved energy harvesting from vibration by introducing cavity in a cantilever beam	Journal of Vibration and Control			2014	
J Sivaraman, G Uma, S Venkatesan, M Umapathy, N Keshav Kumar	A study on atrial Ta wave morphology in healthy subjects: An approach using P wave signal-averaging method	Journal of Medical Imaging and Health Informatics	4	675-680	2014	1.70
P Senthilkumar, M Umapathy	Use of load generated by a shape memory alloy for its position control with a neural network estimator	Journal of Vibration and Control	20	1707-1717	2014	
K Dhanalakshmi, M Umapathy, D Ezhilarasi	Shape memory alloy actuated structural control with discrete time	Journal of Vibration and Control			2014	

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	sliding mode control using multirate output feedback					
Diarah Reuben Samuel, HA Ojongbede	Microcontroller Based Security System with Intruder Position	IOSR Journal of Electrical and Electronics Engineering	9		2014	
M Umapathy, G Uma, K Suresh	Electronic circuits for piezoelectric resonant sensors	Micro and Smart Devices and Systems		439-452	2014	
K Dhanalakshmi, M Umapathy, D Ezhilarasi	SMA Actuated Structural Control with Discrete Time Sliding Mode using Multirate Output Feedback, Journal of Vibration and Control	Journal of Vibration and Control			2014	
S Harihara Krishnan, D Ezhilarasi, G Uma, M Umapathy	Pyroelectric-based solar and wind energy harvesting system	IEEE Transactions on Sustainable Energy	5	73-81	2014	3.727
J Sivaraman, G Uma, S Venakatesan, M Umapathy, VE Dhandapani	A novel approach to determine atrial repolarization in electrocardiograms	Journal of Electrocardiology	46(4)	e1-e37	2013	1.290
P. Senthilkumar, M. Umapathy, K. Dhanalakshmi	Modulated adaptive fuzzy controller for position control of SMA wire actuator	Journal of Intelligent and Fuzzy Systems			2013	
K Suresh, G Uma, M Umapathy	New observation on	Journal of Vibration and Control	21(7)	1363-1372	2013	1.643

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	automatic phase adjustment of a smart cantilever resonator					
J. Arunshankar, M. Umapathy	Simultaneous Stabilization of Piezo Actuated Structures Using Fast Output Sampling Control Involving Data Fusion	Journal of Advances in Vibration Engineering			2013	
J. Arunshankar, M. Umapathy, B. Bandhopadhyay	Experimental evaluation of discrete sliding mode controller for piezo actuated structure with multisensor data fusion	Journal of Smart Structures and Systems	11		2013	
Jayabalan Arunshankar, Mangalanathan Umapathy	Control of a Piezo Actuated Structure using Robust Loop Shaping Controller with GPC Based Precompensator Involving Data Fusion	International Journal of Imaging and Robotics™	8	85-100	2012	
BVMP Santhosh Kumar, K Suresh, U Varun Kumar, G Uma, M Umapathy	Resonance based DC current sensor	Measurement	45	369-374	2012	1.742
K Suresh, G Uma, M Umapathy	Design of a resonance-based mass sensor using a self-sensing piezoelectric actuator	Smart Materials and Structures	21	1-6	2012	2.76
Y Sujana, B Vasuki, G Uma, M	<u>Sensitivity enhancement of</u>	Proceedings of ISSS			2012	

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Umapathy, S Harihara Krishnan	<u>surface micromachined resonant pressure sensor</u>					
J. Sivaraman, G. Uma, M. Umapathy	Analysis of human atrial repolarization phase of electrocardiogram in normal subject	Journal of Clinical and Experimental Cardiology	3		2012	1.219
K. Suresh, G. Uma, M. Umapathy	A new self sensing electronics for piezoelectric resonance sensors	Journal of intelligent material systems and structures	23	587-593	2012	1.975
P Senthilkumar, GN Dayananda, M Umapathy, V Shankar	Experimental evaluation of a shape memory alloy wire actuator with a modulated adaptive controller for position control	Smart Materials and Structures	21		2011	
K Suresh, G Uma, M Umapathy	A New Resonance-Based Method for the Measurement of Nonmagnetic-Conducting-Sheet Thickness	IEEE Transactions on Instrumentation and Measurement	60	3892-3897	2011	
J Arunshankar, M Umapathy	Robust loop shaping control of a piezo actuated structure with data fusion	IEEE Recent Advances in Intelligent Computational Systems			2011	
K Suresh, G Uma, BVMP Santhosh Kumar, U Varun Kumar, M Umapathy	Piezoelectric based resonant mass sensor using phase measurement	Measurement	44	320-325	2011	1.742
S. Dharmalingam, L.	Improved method to	Proc. IMechE Part	225	1026-1040	2011	

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Sivakumar, T. Anandhi, M. Umapathy	mitigate the effect of coal fuel switching on critical process parameters of a steam generator in a thermal power plant	A: J. Power and Energy				
K. Dhanalakshmi, M. Umapathy , D. Ezhilarasi, B. Bandyopadhyay	Design and implementation of fast output sampling feedback control for shape memory alloy actuated structures	Journal of Smart Structures and Systems	8	367-384	2011	
J. Arunshankar, M. Umapathy , B. Bandyopadhyay	Multirate feedback control of piezo actuated structures with multisensor data fusion	International Journal of Image and Data Fusion		1-16	2011	
J. Arunshankar, M. Umapathy , D. Ezhilarasi	Sliding mode controller with multisensor data fusion for piezo-actuated structure	Defence Science Journal	61	346-353	2011	
B.V.M.P. Santhosh Kumar, K. Suresh, U. Varun Kumar, G. Uma, M. Umapathy	Design and simulation of resonance based DC current sensor	International Journal of Interaction and Multiscale Mechanics	3	257-266	2010	
M. Shanmugavalli, M. Umapathy , G. Uma	Smart coriolis mass flowmeter	Measurement	43	549-555	2010	1.742
D. Ezhilarasi, M. Umapathy , B. Bandyopadhyay	Design and experimental evaluation of simultaneous fast output feedback control for piezoelectric actuated beam	International Journal of Automation and Control (IJAAC)		42-64	2010	

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	structures					
K. Dhanalakshmi, M. Umapathy , D. Ezhilarasi, M. Marimuthu	Experimental evaluation of periodic output feedback control for SMA actuated structures	International Journal of Advanced Mechatronic Systems (IJAMS)			2010	
M. Shanmugavalli, G. Uma, M. Umapathy	Uncertainty analysis of micro differential pressure sensor using intervalanalysis	International Journal on Smart Sensing and Intelligent Systems	2	463-476	2009	0.82
B. Vasuki, M. Umapathy , A. R. Senthilkumar	Uncertainty analysis of strain gage circuits: interval method and interval algorithms	International Journal on Smart Sensing and Intelligent Systems		477-489	2009	
S. Nedunchelian, M. Umapathy , D. Ezhilarasi	Simultaneous periodic output feedback control for piezoelectric actuated structures using interval methods	International Journal on Smart Sensing and Intelligent Systems		417-431	2009	
M. Shanmugavalli, G. Uma, M. Umapathy	Modeling and analysis of micro fluidic channels	Sensors & Transducers Journal	106	155-163	2009	0.13
D. Ezhilarasi, M. Umapathy , B. Bandyopadhyay	Design and experimental evaluation of simultaneous periodic output feedback control for piezoelectric actuated beam structure	Structural Control and Health Monitoring	16	335-349	2009	
L. R. Karl Marx, M. Umapathy , D. Ezhilarasi	Embedded output feedback controllers for piezoelectric actuated structures	World Journal of Modeling and Simulation	5	113-119	2009	
L. R. Karl Marx, M. Umapathy , A. Girija, D. Ezhilarasi	Discrete time sliding mode control using fast output sampling feedback for piezoelectricactu	Sensors & Transducers Journal	102	71-83	2009	

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G. Uma, M. Umapathy , K. Suneel Kumar, K. Suresh, A. Maria Josephine	ated structures Microcontroller based split mass resonant sensor for absolute and differential sensing	Journal of Smart Structures and Systems	5	279-290	2009	
B. Vasuki, M. Umapathy , S .K. Velumani	Uncertainty analysis of thermocouple circuits	Sensors & Transducers Journal	100	11-15	2009	
G. Uma, M. Umapathy, A. Maria Josephine, S. Aishwarya	Design of microcontroller based resonant sensor with piezoelectric excitation and detection	Journal of Instrumentation Science and Technology	36	367-374	2008	
K Dhanalakshmi, M Umapathy	Active vibration control of SMA actuated structures using fast output sampling based sliding mode control	Journal of Instrumentation Science and Technology	36	180-193	2008	
K Dhanalakshmi, M Umapathy , C Chandravathanam	Control of shape memory alloy actuated beam using periodic output feedback control	The Mediterranean Journal of Measurement and Control		8-14	2008	
B. Vasuki, M. Umapathy , G. Uma	Uncertainty analysis of temperature measurement system using analytical and interval algorithm	Journal of Instrumentation Science & Technology	36	81-87	2008	
R. Maheswari, M. Umapathy , L. R. Kralmarx, D. Ezhilarasi	Design and implementation of output feedback control for piezo actuated structure using embedded system	Sensors and Transducers Journal	93	29-36	2008	
R. Maheswari, M. Umapathy ,	Design of PID, fuzzy, fuzzy-PID gain conditioner for piezo	Journal of System Simulation	2		2008	

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L. R. Karalmarx, S. Neduncheliyan	actuated structures					
M. Umapathy , B. Bandyopadhyay	Design of simultaneous periodic output feedback control for smart structures	International Journal of Modeling and Simulation	27		2007	
M. Umapathy , B. Bandyopadhyay	Design of fast output sampling feedback control for smart structure model	Journal of Control and Intelligent Systems	35		2007	
G. Uma, Sumy Jose, V. Natarajan, M. Umapathy , M. Kathiresan	Design and simulation of PVDF-MOSFET based MEMS hydrophone	Journal of Instrumentation Science & Technology	35	329-339	2007	0.38
S. Neduncheliyan, M. Umapathy , D. Ezhilarasi	Control of piezo actuated structure using an interval method	Journal of Instrumentation Science & Technology	35	385-397	2007	
S. Neduncheliyan, M. Umapathy	Design of state feedback controller for smart cantilever beam using interval method	International Journal of COMADEM	10	9-12	2007	
B. Vasuki, M. Umapathy , S. Akhilan	Uncertainty analysis of temperature measurement system using interval arithmetic	Sensors & Transducers Journal	84	1619-1624	2007	
G. Uma, A. Girija, M. Umapathy	Optimized design of micro resonators using genetic algorithm	Sensors and Transducer Journal	72	740-753	2006	0.13
D. Ezhilarasi, M. Umapathy , B. Bandyopadhyay	Design and experimental evaluation of piecewise output feedback control for structural vibration suppression using PZT	Journal of Smart Materials and Structures	15	1927-1938	2006	

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	patches					
Jagadeesh Pandian, M. Umapathy , S. Balachandar, S. Ramaswamy, M. Arumugam	Modeling & simulation of novel three arm MEMS actuators & its applications	Journal of Physics		436-441	2006	
Jagadeesh Pandian, M. Umapathy , S. Balachandar, S. Ramaswamy, M. Arumugam	Design of industrial vibration transmitter using MEMS accelerometer	Journal of Physics		442-447	2006	
S.A Anbalagan, G. Uma, M. Umapathy	Modeling and simulation of capacitive micro machined ultrasonic transducer (CMUT)	Journal of Physics	34	595-600	2006	0.45
J. Vijay, Ivan Saha, G. Uma, M. Umapathy	Modeling and simulation of multi-port RF switch	Journal of Physics	34	715-721	2006	0.45
M. Shanmugavalli, G. Uma, B. Vasuki, M. Umapathy	Design and simulation of MEMS device using interval analysis	Journal of Physics	34	601-605	2006	0.45
M. Umapathy , B. Bandyopadhyay	Design of output feedback compensator for smart structure model Via reduced order model	System Science Journal	28	61-84	2002	
M. Umapathy , B. Bandyopadhyay	Vibration control of flexible beam through smart structure	System Science Journal	26	43-66	2000	

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	concept using periodic output feedback					
M. Umamathy, B. Bandyopadhyay,	Design of Output Feedback Compensator for Discrete Time System via Reduced Order Model	IETE Journal of Research	51	201-207	2005	

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
Akila Ravindran, Uma Gandhi, Suresh Kaluvan, Seung-Bok Choi, Mangalanathan Umamathy	Design of an electronic oscillator for resonant pressure sensor with non- collocated sensor and actuator	International Society for Optics and Photonics	97990U-97990U-8	SPIE Smart Structures and Materials+ Nondestructive Evaluation and Health Monitoring		2016
G Sruthi, V ParthaSarathi, G Uma, M Umamathy	Design of Closed Loop Micro Accelerometer for Performance Improvement	ISSS National Conference		MEMS, Smart materials, Structures and Systems	IIT Kanpur	2016
G Sruthi, G Uma, M Umamathy, V ParthaSarathi	Sliding Mode Control for Piezoelectric Actuated Cantilever based Liquid Pumping	ISSS National Conference		MEMS, Smart materials, Structures and Systems	IIT Kanpur	2016

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	System					
R Akila, G Uma, M Umapathy	Sensitivity Enhanceme nt of Resonant Sensor using Output Feedback Control	3rd International Conference on Electrical,El ectronics,En gineering Trends				2016
P. Pandiyan, G. Uma, M. Umapathy	Design and simulation of 3-bit MEMS electro thermal compliant actuator based analog to digital converter	Proceedings of 7th International Conference on smart materials, structures and systems(ISS S-2014)				2014
Pankaj Shivhare, G. Uma, M. Umapathy	A Micro Gripper for High Force Application Using In-Plane Chevron Electrother mal Actuator	Proceedings of International Conference on Microelectro nics, Circuits & Systems (Micro-2014)				2014
P. Pandiyan, G. Uma, M. Umapathy, Y. Sujan	Design and Simulation of Chevron Type MEMS Digital to Analog Converters	International Conference on MEMS and Sensors (ICMEMSS 2014)				2014
Pankaj Shivhare, G. Uma, Y. Sujan, M. Umapathy	Sensitivity Improveme nt of a Silicon Nitride Beam	International Conference on MEMS and Sensors (ICMEMSS 2014)				2014

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	Resonant Pressure Sensor					
S. Harihara krishnan, D Ezhilarasi, G. Uma, M. Umapathy	Experimental Investigation of a Novel hybrid Energy Harvesting System using Ferroelectric Material	Texas Instruments India Educator's Conference				2013
M. Umapathy, Y. Sujana, K. Suresh	Piezoelectric based Resonance Displacement sensor	proceedings of IEEE Sensors Applications Symposium (SAS 2013)				2013
D Ezhilarasi, K Srikanth Reddy, M Umapathy, B Bandyopadhyay	Design and implementation of second order SMC for vibration control of a mass loaded smart cantilever beam with temperature uncertainty	Variable Structure Systems (VSS)	416-421			2012
J Sivaraman, G Uma, M Umapathy	A modified chest leads for minimization of ventricular activity in electrocardiograms	International conference on Bio-medical Engineering ICoBE	79-82			2012
P. Pandiyan, G. Uma, M.	Design Of Logic	proceedings of the 9th				2012

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Umapathy	Gates Using Laterally-Actuated Double-Gate NEMS	International Workshop on Nanomechanical Sensing				
J Arunshankar, M Umapathy	Discrete time sliding mode control using multirate output feedback with data fusion	Recent Advances in Intelligent Computational Systems (RAICS)	36-40			2011
J. Arunshankar, M. Umapathy	Robust Loop Shaping Control of a Piezo Actuated Structure with Data Fusion	Proceedings of IEEE Recent Advances in Intelligent Computational Systems (RAICS 2011)	138-142			2011
Dharmalingam, S., L. Sivakumar, and M. Umapathy	Fuel switching in thermal power plants – Impact on critical process parameters of a steam generator	SYMOPA	85-91			2010
J.Arunshankar, M. Umapathy and B. Bandyopadhyay	Performance of discrete time sliding mode controller with data fusion	Proceedings of IEEE – IFAC 11th International Workshop on Variable Structure Systems	422 – 427			2010
J. Arunshankar	Simultaneous periodic	Proceedings of IEEE	206 -211			2010

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and M. Umapathy	output feedback control of a smart cantilever beam with data fusion	International Conference on Robotics, Automation & Mechatronics				
K. Suresh, B.V.M.P. Santhosh Kumar, U.V. Kumar, M. Umapathy and G. Uma	Simulation of DC Current Sensor	Proceedings of COMSOL Conference Bangalore				2010
B.V.M.P Santhosh Kumar, U. Varun Kumar, K. Suresh, G. Uma and M. Umapathy	Frequency Detector using Piezo laminated cantilever beam	PEIE 2010	104-107			2010
D. Ezhilarasi, J. Arunshankar and M. Umapathy	Implementation of information filter for vibration control of a smart cantilever beam	Proceedings of 6th International Conference on Control, Communication and Power Engineering	137-140			2010
L. R. Karl Marx, M. Umapathy , D. Ezhilarasi	Design and implementation of discrete slide mode control with nonlinear sliding surface for piezo actuated structures	Proceedings of 6th International Conference on Vibration Engineering & Technology of Machinery	509-516			2010
B.V.M.P Santhosh	Occupancy sensor	Proceedings of	451-455			2010

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Kumar, M. Umapathy , U. Varun Kumar, K. Suresh and G. Uma	using piezo laminated cantilever beam	6thInternational conference on Vibration Engineering and Technology of Machinery				
M. Shanmugavalli, G. Uma, M. Umapathy	Experimental evaluation of coriolis mass flowmeter using piezoelectric sensing and actuation”	Proceedings of 6thInternational conference on Vibration Engineering and Technology of Machinery	456-462			2010
D. Ezhilarasi, M. Umapathy , B.Bandyopadhyay	Design of fast output sampling feedback control for smart structure via reduced order model	Proceedings of 6thInternational conference on Vibration Engineering and Technology of Machinery	.517-524			2010
U.Varun Kumar, M. Umapathy , B.V.M.P. Santhosh kumar, G. Uma and K. Suresh	Smart structure for measuring the time period of a simple pendulum	Proceedings of International conference on Vibration Engineering and Technology of Machinery	544-549			2010
B.V.M.P Santhosh Kumar, M. Umapathy , U. Varun Kumar, K.	Design of piezo laminated cantilever based phase detector	Proceedings of 4thISSS National Conference on Microsysteme				2010

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Suresh and Uma	G.	ms, smart materials and structures ISSS-2010				
L.R. Karlmarx, M . Umapathy, D. Ezhilarasi	Design and implementation of discrete time sliding mode model following control	Proceedings of 4th ISSS National Conference on Microsystems				2010
U.Varun Kumar, M. Umapathy, B.V.M.P.Santhosh kumar, K. Suresh and G. Uma	Smart structure for measuring angular velocity	Proceedings of 4th ISSS National Conference on Microsystems, smart materials and structures				2010
L.R. Karlmarx, M . Umapathy, D. Ezhilarasi	Design and implementation of discrete time sliding mode model following control with nonlinear sliding surface	34th National System Conference				2010
S.Meenatchisundaram, Dr. S.M. Kulkarni, Dr. P.R. Venkateswaran, G. Uma and Dr. M.	Design and Range Analysis of Micro Pressure Sensors	Proceedings of National Conference on ICT: Theory, Applications and Practices				2010

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Umapathy						
K. Suresh, B.V.M.P.Santosh Kumar, U. Varun Kumar, G.Uma, M.Umapathy	A novel thickness measurement using a piezoelectric laminated cantilever resonator	Proceedings of National Conference ICECON 09	52-55			2009
G. Uma, M.Umapathy , L. Baby Vidhya, M. Maya, T. Sophia, K. Tamilarasi	Design and analysis of resonant based gas sensor	Proceedings of SAS 2008 – IEEE Sensors Applications Symposium				2008
G. Uma, M.Umapathy , K. Suresh, M. Shanmugavalli	Design and simulation of meso and micro split beam resonators	Proceedings of ISSS International Conference on Smart Materials Structures and Systems				2008
G. Uma, K. Suresh, M.Umapathy , M. Shanmugavalli	Closed loop electronics for resonant sensors	Proceedings of ISSS 2008 International Conference on Smart Materials Structures and Systems	90			2008
R. Maheswari, M.Umapathy , L. R. Kralmarx, D. Ezhilarasi	Design of periodic output feedback control using reaching law for piezoelectric actuated cantilever beam	International Conference on Smart Structures and Systems (ISSS 2008)				2008
G. Uma, M.	Dynamic	Proceedings	28-25			2007

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Umapathy, S. Meenatchisundaram	simulation of micro resonator based differential pressure sensor	of SPIE International conference on smart structures and materials				
M. Umapathy, A. Girija, G. Uma, B. Bandopadhyay	Active vibration control of piezoactuated structures using fast output sampling based sliding mode control					2007
K. Dhanalakshmi, M. Umapathy, D. Ezhilarasi	Variable structure control of flexible smart structure with shape memory alloy actuators	Proceedings of SPIE International conference on smart structures and materials				2007
B. Vasuki, M. Umapathy, G. Uma, M. Shanmugavalli, S. Meenatchisundaram	Uncertainty analysis of microresonator using classical and interval methods	Proceedings of SPIE International conference on smart structures and materials				2007
M Indumathy, G. Uma, M. Umapathy	Design of fast output sampling feedback controller for er fluid actuated car	Proceedings of the International Conference TIMA 2007	251-256			2007

**National Institute of Technology, Tiruchirappalli:
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	suspension system					
S. Nedunchelian, M. Umamathy	Design of state feedback controller for smart cantilever beam using interval polynomial	Proceedings of the International Conference on Trends in Industrial Measurements and Automation (TIMA)	263-266			2007
C.Chandrvathanam, K. Dhanalakshmi, M. Umamathy	Design and characterization of shape memory alloy wire for actuation in smart structure applications	Proceedings of the International Conference TIMA 2007	202-207			2007
S. Meenatchisundaram, G. Uma, M. Umamathy , B.S. Sathyanarayanaand P.R. Venkateswaran	Displacement analysis of micro-resonators	Proceedings of the International Conference TIMA 2007	83-87			2007
R.Maheswari, M. Umamathy , D.Ezhilarasi	State feedback based periodic output feedback control for piezo actuated structure cantilever beam	ICECON 07				2007
A. Girija, M.	Discrete	Proceedings	1466 -1471			2006

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Umapathy, B. Bandyopadhyay, G. Uma, K. Dhanalakshmi	time sliding mode control for piezoelectric actuated structures	of IEEE International Conference on Industrial Technology (ICIT 2006)				
D. Ezhilarasi, M. Umapathy, B. Bandyopadhyay, G. Uma	Design and experimental evaluation of composite output feedback control for smart structures	Proceedings of IEEE International Conference on Industrial Technology (ICIT 2006)	692 – 697			2006
N. Senthil Manoharan, G. Uma, M. Umapathy, S. Meenatchisundaram	“Structural vibration control using quantitative feedback theory	Proceedings of IEEE International Conference on Industrial Technology (ICIT 2006)	1816 - 1822			2006
D. Ezhilarasi, M. Umapathy, B. Bandyopadhyay	Design and experimental evaluation of simultaneous periodic output feedback control for smart structures	Proceedings of 2nd International Congress on Computational Mechanics and Simulation	642 -645			2006
S. Soundaravalli, M. Umapathy, D. Ezhilarasi, J. Balasubramani	H infinity vibration controller for smart cantilever beam”	Proceedings of 2nd International Congress on Computational Mechanics and Simulation	501 -505			2006

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		(ICCMS 2006)				
K. Dhanalakshmi, C. Chandravathanam, M. Umopathy , B. Vasuki	Vibration control of shape memory alloy actuated structure using fast output sampling feedback control	Proceedings of 2nd International Congress on Computational Mechanics and Simulation	460 - 466			2006
K Dhanalakshmi, C Chandravathanam, M Umopathy , D Ezhilarasi	Design of state feedback control for vibration suppression of shape memory alloy actuated flexible beam	Proceedings of CANSMART 2006, 9th International Workshop on Smart Materials and Structures,	129-138			2006
Jagadeesh Pandian, M. Umopathy , S. Balachandar, S. Ramaswamy, M. Arumugam	Modeling & simulation of novel three arm MEMS actuators & its applications	International MEMS conference 2006(MEMS 2006)				2006
Jagadeesh Pandian, M. Umopathy , S. Balachandar, S. Ramaswamy, M. Arumugam	Design of industrial vibration transmitter using MEMS accelerometer	International MEMS conference 2006(MEMS 2006)				2006
S.A Anbalagan, G. Uma, M. Umopathy	Modeling and simulation of Capacitive Micro machined Ultrasonic	International MEMS conference 2006(MEMS 2006)				2006

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	Transducer(CMUT)					
J. Vijay, Ivan Saha, G.Uma, M. Umapathy	Modeling and simulation of multi-port RF switch	International MEMS conference 2006(MEMS 2006)				2006
M Shanmugavalli, G. Uma, B. Vasuki, M. Umapathy	Design and simulation of mems devices using interval analysis	International MEMS conference 2006(MEMS 2006)				2006
P.Vetrivel, G.Uma, M.U mapathy	Design & simulation of high Q micromechanical resonator	Proceedings of 11th National Seminar on Physics and Technology of Sensors				2006
Jagadeesh Pandiyan, S. Balachandar, S. Ramaswamy, M. Arumugam and M. Umapathy	Novel MEMS electrothermal actuators & its application	Proceedings of the IEEE Indicon 2005 conference				2005
N. Senthil Manoharan, G. Uma and M. Umapathy,	Design and implementation of fuzzy control for inverted pendulum	Proceedings of 2nd Indian International Conference on Artificial Intelligent (IICAI-05)	108-123			2005
M. Umapathy, C. Gomathi Saratha and S. Neduncheliyan	Design and implementation of simultaneous fast output sampling feedback control using programmable logic controller	Proceedings of the International Conference on Intelligent Systems 2005				2005
M. Umapathy, C. Gomathi	Design and implementation of	Proceedings of the International				2005

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Saratha and S. Neduncheliyan	periodic output feedback control using programmable logic controller	Conference on Intelligent Systems 2005 (ICIS 2005)				
Jagadeesh Pandiyan, M. Umaphy , S. Balachandar, M. Arumugam and S. Ramaswamy	Industrial acceleration sensing transmitter using capacitive MEMS accelerometer	Proceedings of the 1st International Conference on Sensing Technology	123 -127			2005
J. Arunshankar, M. Umaphy and J. Balasubramani	Real time state feedback control of a piezo actuated beam	Proceedings of ISSS 2005 International Conference on Smart Materials, Structures and Systems				2005
Sumy jose , V. Natarajan, G. Uma, M. Umaphy , M. Kathiresan	Design and simulation of a PVDF-MOSFET based MEMS acoustic sensors	Proceedings of ISSS 2005 International Conference on Smart Materials, Structures and Systems				2005
M. Sridevi, J. Balasubramani and M. Umaphy	Design & implementation of state and output feedback control for piezoelectric bonded beam	Proceedings of ISSS 2005 International Conference on Smart Materials, Structures and Systems				2005
T.C. Manjunath, B. Bandyopadh	Active vibration control of smart	Proceedings of ISSS 2005 International				2005

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yay, P. Seshu and M. Umapathy	structures using fast output sampling feedback technique	Conference on Smart Materials, Structures and Systems				
T.C. Manjunath, B. Bandyopadhyay, P. Seshu and M. Umapathy	Discrete output feedback sliding mode control of flexible euler-bernoulli based smart structures	Proceedings of the Fourth International Conference on Smart Materials, Structures and Systems				2005
S.Anbalagan, G.Uma, M.U mapathy	Design simulation and analysis of capacitive micromachined ultrasonic transducer	Proceedings of the International Conference on MEMS and Semiconductor Nanotechnology				2005
Srinivasa Rao Pragada, G.Uma, M.U mapathy	Design and simulation piezoelectric micro actuator for high density hard disk	Proceedings of the International Conference on MEMS and Semiconductor Nanotechnology				2005
V. Balamurugan, B. Manikandan, P. Asokan, M. Umapathy and S. Narayanan	A coupled piezothermoelastic model for active control of smart structure based on higher	Proceedings of International Conference on Smart Materials, Structures and Systems				2004

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	order plate theory					
R. Balan, M. Umapathy	“Design of variable structure model following controller for CSTR process	Proceedings of the international conference on “Digital Aided Modeling and Simulation				2003
G. Krishna Prasad, M. Umapathy	Modeling and output feedback control design for smart structures”	National conference on Power conversion and industrial controls				2003
C. Ramesh, M. Umapathy, K. Dhanalakshmi, T.C. Manjunath	Design of variable structure control for seismically excited vibration using electrorheological fluids	Proceedings of International conference on smart materials, structures and systems	234-241			2002
G. Krishna Prasad, M. Umapathy, G. Mallikarjuna Reddy, B.Bandyopadhyay	Modeling, optimization and output feedback control design for piezoelectric integrated structures	4 th Asian Control Conference				2002
M.Umapathy, B.Bandyopadhyay	Design of fast output sampling feedback control for smart structure model	Proceedings of SPIE International conference on smart structures and materials	222-233			2002

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G. Krishna Prasad, M. Umopathy	Modeling and output feedback control design for smart structures” National conference on Power conversion and industrial controls	National conference on Power conversion and industrial controls				2003
K.Nirmala, M.Umapathy	Design of periodic output feedback control for flow and temperature process	Proceedings of National Conference on Modern Trends in Electrical and Instrumentation Systems				2002
Ramesh, C., M.Umapathy , K.Dhanalakshmi	Control of seismically excited vibrations in tall structures using electrorheological fluids	Proceedings of National Conference on Modern Trends in Electrical and Instrumentation Systems				2002
R. Mallikarjuna Reddy, M. Umopathy	Novel sliding mode controller design for a single – link flexible manipulator	Proceedings of National Conference on Modern Trends in Electrical and Instrumentation Systems				2002
R.Balan, M. Umopathy	Design of variable structure control for CSTR	Proceedings of National Conference on Modern Trends in				2002

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	process	Electrical and Instrumentation Systems				
M. Umapathy	Performance of smart materials as sensor/actuator in smart structures	Proceedings of National Conference on Materials for the New Millennium				2001
M. Umapathy, J. R. Vengateswaran, S. Ramkumar, V. R. Sathyanarayanan	Vibration Control of Smart Cantilever Beam Using Model Following Approach	Proceedings of National Symposium on Intelligent Measurement and Control				2000
M. Umapathy, B. Bandyopadhyay, H. Uhbehauen	Design of simultaneous fast output sampling feedback control for smart structures	Proceedings of International Conference on Distributed Systems Optimization and Environmental Applications				2000
M. Umapathy, B. Bandyopadhyay	Design of periodic output feedback control for smart structures using two-time-scale approach	Proceedings of National Symposium on Instrumentation				2000
M. Umapathy, B. Bandyopadhyay	Vibration control of flexible structure	Proceedings of International Conference	311-316			1999

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yay	using smart structure concept with output feedback compensator	on Trends in Industrial Measurements and Automation (TIMA 1999)				
M. Umapathy, S. D. Padghan, N. G. Patel	Object oriented design of temperature measurement system	Proceedings of International conference on Advances in Mechanical and Industrial Engineering				1997
Prasad Goud, M. Umapathy	Vibration control of flexible beam through smart structure concept	Proceedings of SPIE's Symposium on Smart Materials, Structures and MEMS				1996
S. S. Gupta, B. P. Patel, M. Ganapathi, M. Umapathy	Non- linear dynamic analysis of laminated plates with piezoelectric sensors and actuators	Proceedings of SPIE's Symposium on Smart Materials, Structures and MEMS				1996
M. Umapathy	Review of pressure sensors and calibration in ballistic instrumentation	Proceedings of International Seminar on Range Technology Beyond Year 2000				1996
M. Umapathy, H. R. Krishna, S. Ramakrishna	Acoustic ranging system for structural vibration	Proceedings of All India Seminar on Integrated Electronics				1993

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n	measureme nt					
M. Umapathy	Design and developme nt of digital electronic weighing machine	Proceedings of All India Conference on Applied Instrumentat ion				1992

(C) Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number
B. Bandyopadhyay , T.C. Manjunath, M. Umapathy	Modelling, Control and Implementation of Smart Structures: A FEM - State Space Approach	Springer- Verlag	2007	978-3-540- 48393-9
M. Umapathy , G. Uma and K. Suresh	Micro and Smart Devices and Systems	Springer	2014	978-81- 322-1912-5
Helfrick, Albert D, Copper William D	Modern Electronic Instrumentation and Measurement Technique	Pearson Prentice Hall	2008	81-317- 0888-8