

National Institute of Technology, Tiruchirappalli:

Performa for CV of Faculty/ Staff Members

Curriculum Vitae

Brief Profile:



Dr.R Periyasamy received his B.E (ECE, 2002) with first class distinction from AKCE, MK University, Madurai. Then he joined as lecturer in SVCET, Puliangudi. Later on, he joined M.Tech (Biomedical Engineering Group, 2007) in Applied mechanics Dept- IIT Madras, Chennai. After post-graduation, he has continued as a Research officer for 1 year in the Diabetic foot clinic at Sundaram Medical Foundation (SMF) Chennai, India. He managed to look at patients closely, which help him to understand the diagnostic aspects of diabetic foot ulcer formation but also gave him the opportunity to study the surgical and post-surgical aspects of diabetic foot. In 2014, he received his Ph.D in Biomedical Engineering from IIT Delhi, New Delhi. During the research period, he has published about 15 International journal publications and about 5 International Conference proceedings. Most importantly, his research work has been published in reputed journals like Journal of Engg in medicine, Journal of Medical Engg and Technology, Journal of Medical imaging and health informatics and International journal of diabetes in developing countries. He got best research poster award from technical committee of IEEE conference at IIT Kharagpur, India and received travel grants from CSIR India to present his research work in abroad. In addition, recently he got Young faculty award 2015 from Venus international foundation, Chennai. Earlier he worked as an Assistant Professor at NIT Raipur in the Department of Biomedical Engg, from July 2013 to May 2018. Recently he joined as an Assistant Professor in the Department of Instrumentation & Control Engineering, NIT Trichy from May 2018 onwards. He was professionally affiliated with different societies such as Life Member of Indian Society of Biomechanics, Life Member of Indian Science Congress Association, Associate Member of Institute of Engineers (INDIA), Life Member of Biomedical Engineering Society of India, Life Member of Instrument society of India. Currently his research interest includes Biomedical Instrumentation, Sensors & Transducer, Gait Analysis, Biosignal and Image processing, Diagnostic device development, Near Infrared Spectroscopy etc. Further, he has ongoing two DST funded research project from SERB & IDP division and 10 international publications in the high impact factor journals.

1. Name : **Dr.R.Periyasamy**
2. Designation : Assistant Professor
3. Office Address: Department of Instrumentation and Control Engineering, NIT Tiruchirappalli
4. Telephone (Direct) (Optional):
Telephone : 0431-2503351 Extn (Optional):
Mobile (Optional): 9179826937
5. Email (Primary):periyasamyr@nitt.edu Email (Secondary) : periyasamy25@gmail.com
6. **Field(s) of Specialization:** Biomedical Instrumentation, Foot Biomechanics & Diabetes, Diagnostic Device Development, Sensors & Transducer, BioSignal & Image processing.....

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

7. Employment Profile

Job Title	Employer	From	To
Assistant Professor- Instrumentation and Control Engineering Department	NIT Tiruchirappalli	21.05.2018	Till date
Assistant Professor – Biomedical Engineering Department	NIT Raipur	01.07.2013	20.05.2018
Research Officer- Diabetic Foot Clinic	Sundaram Medical foundation, Chennai	03.05.2007	05.07.2008
Lecturer- ECE Department	SVCET ,Puliangudi	22.08.2002	27.07.2005

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

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D-Biomedical Engineering	IIT Delhi	2008-2014		Biomedical Engineering, Foot Biomechanics
M.Tech-Applied Mechanics	IIT Madras	2005-2007	7.61 CGPA	Biomedical Specialization
B.E- ECE	Madurai Kamaraj University	1998-2002	First Class With Distinction	Electronics and Communication Engineering
12 th Std- English Medium	Tamil Nadu State Board	1998		Maths, Physics, Chemistry and Biology
10 th Std-English Medium	Tamil Nadu State Board	1996		Maths, Science and Social Science

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Faculty Incharge (TPO)	As Biomedical Engg Dept TPO incharge at NIT Raipur	July 2013	May 2017
PI (Supplementary Exam)	As Biomedical Engg Dept faculty incharge at NIT Raipur	July 2014	May 2018
TEQIP-III Co-ordinator	Biomedical Engg Dept faculty incharge at NIT Raipur	July 2017	May 2018
Faculty Incharge	Institute Antiragging squad-Squad member at NIT Raipur	July 2014	Dec 2017
Faculty Incharge	As a scrutiny member for evaluating	Feb 2016	Feb 2016

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

	the application for the post of Tech/Lab Assistant for the Biomedical Engg Dept at NIT Raipur		
Faculty Incharge	Biomedical Engg Dept Website incharge	July 2013	May 2016
Member	Institute Ethical committee member at NIT Raipur	Dec 2014	Dec 2015
Member	Institute Electika committee member at NIT Raipur	Feb 2014	Feb 2015
Member/Co-ordinator	As a co-orrdinator to sign MOU with Medical college Raipur and NIT Raipur; As well as Sign MOU with AIIMS Raipur and NIT Raipur	Oct 2014	May 2017
Faculty Incharge	Biomedical Engg Dept Lab incharge for Biomedical Instrumentation lab; optical fiber and laser in medicine lab at NIT Raipur	July 2015	May 2018
Member	Biomedical Engg Dept purchase committee member at NIT Raipur	July 2013	May 2018
Member	Biomedical Engg Dept Accreditation work committee member at NIT Raipur	July 2013	May 2018
Member	III cell committee member –to interact with industry for collaboration	July 2013	May 2015
Member	Biomedical Engg Dept purchase committee member at NIT Raipur	July 2013	May 2018
Member	Biomedical Engg Dept DRC/DGC member for PhD students at NIT Raipur	July 2015	May 2018
Member	Biomedical Engg Dept DAC/DGC member for UG students at NIT Raipur	July 2014	May 2018
PAC chairman and Course advisor	UG –Sem I(2018-2022)	July 2018	
Co-ordinator	Project coordinator for UG(2015-2019)	July 2018	
Member	M.Tech, MS/PhD guidance committee	July 2018	

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

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Resource person / Expert member of syllabus committee M.Tech in Biomedical Engineering	CSVТУ , Bhilai	15 th Jan 2014	16 th Jan 2014
Expert member of panel discussion on orthopaedics	CBME,IIT Delhi	31st October 2014	31st October 2014
As organizing technical and printing member	CME Cum Workshop On Autonomic and Vascular Functions under the Directorates Medical Education, Chhattisgarh Academy of Medical Physiologist, Raipur	30 th March 2015	30 th March 2015
Invited as External Board of Examiner for the evaluation of Ph D thesis titled "IMPLEMENTATION OF MULTI WAVELET TRANSFORM CODING FOR IMAGE COMPRESSION"	Kalasalingam University , Krishnankoil , Tamilnadu, India	7 th Dec 2015	7 th Dec 2015
Invited as External Examiner for M.Tech thesis evaluation in CAD CAM Centre	VNIT Nagpur	11 th June 2015	11 th June 2015
Invited as External Examiner for M.Tech thesis evaluation in CAD CAM Centre	VNIT Nagpur	2 nd June 2016	2 nd June 2016
Involved as Member in evaluation of performance of primary school in Raipur	CG government	21 st July 2016	21 st Jan 2017
Invited as External Examiner for M.Tech thesis evaluation in CAD CAM Centre	VNIT Nagpur	22 nd June 2017	22 nd June 2017
Member to coordinate cg school students to visit NIT Raipur under the scheme of DISHAEN program	NIT Raipur	30 th Oct 2017	4 th Nov 2017

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

Invited as External Board of Examiner for the evaluation of Ph D thesis titled “REALIZATION OF CYCLOSTATIONARY BASED SPECTRUM SENSING ALGORITHMS USING ADAPTIVE ARRAY BEAMFORMING IN COGNITIVE RADIO SYSTEM”	Centre of Research , Anna University, Chennai , Tamilnadu, India	16 th March 2018	16 th march 2018
--	--	-----------------------------	-----------------------------

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2004	Best Lecturer Award for the course “ Information theory & coding”	SVCET puliangudi
2010	Best international technical research poster Award	IEEE conference at IIT Kharagpur, India
2010	International Travel grant for attending 14 th International conference at Kuala lumpur, Malaysia	CSIR, India
2015	Young Faculty Award 2015	Venus International Foundation, Chennai
2016	Early Career Research Award	DST-SERB

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2008	Ministry of Human Resource Development (MHRD), India	IIT Delhi	July 2008	June 2013
2010	Travel grant fellowship	IIT Delhi	Dec 2010	Dec 2010

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

13. Details of Academic Work

(i) Curriculum Development

(ii) Courses taught at Postgraduate Level: NIL

(iii) Courses taught at **Undergraduate level:**

At SVCET Puliangudi	At NIT Raipur	At NIT Trichy
Digital electronics	Optical fiber and laser in medicine	Biomedical Instrumentation(elective)
Information theory and coding	Biomedical Instrumentation	Electrical and Electronics measurement
Optical Communication	Microelectronics and Integrated Circuits	
Biomedical Instrumentation(elective)	Biomedical transducer and measurement	
	Management Science	
	Bioelectricity	

(iv) Projects guided at Postgraduate level : NIL

(v) Other contribution(s):

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Differential multispectral imaging system to detect foot sole risk areas in diabetic patients	DST -ECR	July 2016	June 2019	Ongoing-As PI
Development of a Non-invasive Optical Instrument Based on Skin Reflectance Technique for Monitoring Jaundice in Neonates	DST-IDP	Dec 2017	Nov 2019	Ongoing – As PI
Fabrication of hemo-filtration system using novel ceramic membrane to develop a portable artificial kidney	DST -ECR	Oct 2016	Sept 2019	Ongoing-As Co-PI

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

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
Mrs.Neelamshobha Nirala	Assessment of Diabetes using toe Photoplethysmogram	Co-Supervisor	April 2018 at NIT Raipur
Mr.Justin Joseph	Formulation and Validation of Adaptive and Customized Spatial Transforms for Restoration and Contrast Enhancement of MR Images	Supervisor	May 2018(thesis submitted) at NIT Raipur
Mrs. Nishi S. Haider	Development of automated Lung sound based system for diagnosis of Chronic Obstructive Pulmonary Disease	Co-Supervisor	Ongoing at NIT Raipur

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
2 nd to 13 th June 2013	Faculty Induction Training Programme Phase I	Local	Participant	NITTR Bhopal	NIT Raipur
15 th and 16 th Nov 2013	Workshop on E-books in libraries	Local	Participant	Central library , NIT Raipur	NIT Raipur
12 th Dec 2013	1st cardiovascular bioengineering symposium: Cardiovascular research activities and challenges	National	Participant	Centre for Biomedical Engg, IIT Delhi	IIT Delhi
14 th and 15 th Feb 2014	Workshop on IPR under TEQIP-II	Local	Participant	IPR cell, NIT Raipur	NIT Raipur

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

28 th to 30 th March 2014	Workshop on LabView and Matlab	Local	Participant	Electrical Engg Dept, NIT Raipur	NIT Raipur
13 th Oct to 18 th Oct, 2014	Faculty Development Programme under TEQIP- II	National	Participant	IIM Raipur	Raipur
12 th and 13 th March 2015	Multiphysics Comsol software training program	National	Participant	COMSOL bangalore	Delhi
9 th May - 10 th May 2015	Workshop on Designing Medical Implants & Fixtures	National	Participant	CEP, IIT Delhi	Delhi
19 th August,2015	Workshop on “Book Publishing”	Local	Participant	Central library , NIT Raipur	NIT Raipur
26 th Oct – 30 th October 2015	Workshop on “A Demonstration on Application of LabView Software and Associated Hardwares”	Local	Participant	National Instruments(NI), Raipur	NIT Raipur
7 th March – 11 th March 2016	short term training program on “Digital Image Processing, Pattern Recognition & Application” Under TEQIP II	National	Participant	NIT raipur	NIT raipur
25 th March – 27 th March 2016	Workshop on “Medical Imaging: Techniques & Image processing” Under TEQIP II	National	Participant	IIT Delhi	Delhi

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

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
National workshop on “Recent trends in the field of Biomechanics: Application to device development and Surgery Issues” Under TEQIP II & CGCOST	National	3 days (11 th Sept 2014 to 13 th Sept 2014)	Co-ordinator	NIT raipur
Self-Sponsored Short term course on “Recent Research methodologies and instrumentation techniques on chemical and biomedical engineering”	National	5 days (15 th Dec 2014 to 19 th Dec 2014)	Co-ordinator	NIT raipur
Academic research institution/industry expert lecture series 2014	National	1 day (Sept 24 th 2014)	Co-ordinator	NIT raipur
Academic research institution/industry expert lecture series 2015	National	1 day (27 th March 2015)	Co-ordinator	NIT raipur
National workshop on “Statistical Data Analysis in healthcare” Under TEQIP II	National	2 days (30 th Oct 15 to 31 st Oct 2015)	Co-ordinator	NIT raipur
Short term course on ““Linear & Non-Linear signal processing and its application on Biomedical signals” Under TEQIP II	National	3 days (9 th Sept 16 to 11 th Sept 2016)	Co-ordinator	NIT raipur

18. Invited Talks delivered

Topic	Date	Inviting Organization
As Keynote speaker on "PRACTICAL APPLICATION AND VALIDATION OF ANALYTICAL INSTRUMENT"	18 th Feb 2016	SSTC Bhilai

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

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Member	Indian Society of Technical Education(ISTE)	LM 103732
Life Member	Indian Society of Biomechanics(ISB)	N-345
Life Member	Indian Science Congress Association	L23644
Associate Member	Institute of Engineers (INDIA)	AM150978-3
Life Member	Biomedical Engineering Society of India(BMESI)	LM-1083
Life Member	Instrument society of India	LM No:2210
Annual member	European Society of Biomechanics	ID: 1790
Annual member	IEEE USA	No:93548783

20. Academic Foreign Visits

Country	Duration of Visit	Programme
Kuala lumpur, Malaysia	8 days	14th Asia-Oceania Congress of Endocrinology (AOCE) held at Kuala Lumpur Convention Centre from 2 nd December 2010 – 5 th December 2010 , Malaysia
Boston, USA	10 days	7th World Congress of Biomechanics WCB 2014 Boston from July6-11 ,2014 held at Boston, USA
Lyon, France	10 days	22 nd Congress of ESB lyon 2016 from July10-13 ,2016 held at Lyon, France

21. Publications

(A) Refereed Research Journals (Last Five Years):

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
R Periyasamy, Sonal Atreya, Sneh Anand	Foot pressure distribution differences between young adult and older subject: a biomechanical parameters analysis	International Journal of Biomedical Engineering and Technology	13(3)	201-217	2013	

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

R Periyasamy, S Anand, AC Ammini	Prevalence of standing plantar pressure distribution variation in north Asian Indian patients with diabetes mellitus: A study to understand ulcer formation	Journal of Engineering in Medicine	227(2)	181-189	2013	1.005
R Periyasamy, Sneh Anand	The effect of foot arch on plantar pressure distribution during standing	Journal of medical engineering & technology	37(5)	342-347	2013	
VB Narayanamurthy, Richa Poddar, R Periyasamy	Biomechanical Properties of the Foot Sole in Diabetic Mellitus Patients: A Preliminary Study to Understand Ulcer Formation	International Journal of Biomedical and Clinical Engineering (IJBCE)	3(1)	1-17	2014	
Mrithunjay Rathore, R. Periyasamy, D. K. Sharma, Manisha Sinha, Sachin Pandey, Somitra Trivedi	Analysis of the Effect of Yoga Posture on the Trunk Muscle Activities and its significance	Indian Journal of Clinical Anatomy and Physiology	2(2)	74-80	2015	
Justin Joseph, J Sivaraman, R Periyasamy, VR Simi	Noise based computation of decay control parameter in nonlocal means filter for MRI restoration	Journal of Medical Imaging and Health Informatics	6(4)	1027-1037	2016	0.621
Sivaraman Jayaraman, Venkatesan Sangareddi, R Periyasamy, Justin Joseph, Ravi Marimuthu Shanmugam	Modified limb lead ECG system effects on electrocardiographic wave amplitudes and frontal plane axis in sinus rhythm subjects	Anatolian journal of cardiology	17(1)	46	2017	1.19
Justin Joseph, R Periyasamy	An analytical method for the adaptive computation of threshold of gradient	Biocybernetics and Biomedical Engineering	37(1)	1-10	2017	1.031

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

	modulus in 2D anisotropic diffusion filter					
Justin Joseph, J Sivaraman, R Periyasamy , VR Simi	An objective method to identify optimum clip-limit and histogram specification of contrast limited adaptive histogram equalization for MR images	Biocybernetics and Biomedical Engineering	37(3)	489-497	2017	1.031
Nishi Shahnaj Haider, Justin Joseph, R Periyasamy	An investigation on the statistical significance of spectral signatures of lung sounds	Biomedical Research	28(6)	2801-2810	2017	0.219
Justin Joseph, Sivaraman Jayaraman, Rajadurai Periyasamy , Simi V Renuka	An edge preservation index for evaluating nonlinear spatial restoration in MR images	Current Medical Imaging Reviews	13(1)	58-65	2017	0.308
Nishi Shahnaj Haider, R Periyasamy	Correlation of imaging findings with pulmonary function parameters in patients with emphysema	Biomedical Research			2017	Accepted
Justin Joseph, R Periyasamy	A fully customized enhancement scheme for controlling brightness error and contrast in magnetic resonance images	Biomedical Signal Processing and Control	39	271-283	2018	2.214
Justin Joseph, R Periyasamy	A polynomial model for the adaptive computation of threshold of gradient modulus in 2D anisotropic diffusion filter	Optik-International Journal for Light and Electron Optics	157	841-853	2018	0.835
Justin Joseph, R Periyasamy	An image driven bilateral filter with adaptive range and spatial parameters	Computers & Electrical Engineering			2018	1.57 (In Press)

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

	for denoising Magnetic Resonance Images					
Awanish Kumar, Neelamshobha Nirala , R. Periyasamy	Non invasive diagnostic methods for better screening of peripheral arterial disease	Annals of Vascular Surgery			2018	1.45 (In Press)
Awanish Kumar ,Neelamshobha Nirala, R. Periyasamy	Potential of photoplethysmogram for the detection of calcification and stenosis in lower limb	International Journal of Bioinformatics Research and Applications			2018	In Press
Awanish Kumar ,Neelamshobha Nirala, R. Periyasamy	Study of skin flow motion pattern using photoplethysmogram	Int. J. Advanced Intelligence Paradigms			2018	In Press

(B) Conferences/Workshops/Symposia Proceedings ((Last Five Years)

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
R.Periyasamy , Deepak Joshi, Sneh Anand	Evaluation of foot type classification from static foot pressure distribution data using discriminant analysis technique	7th World Congress of Biomechanics (WCB 2014) : 6 - 11 July 2014; [abstracts] ; Vol. 2: Devices materials methods	360	Computational Methods	Boston , USA	2014
R Periyasamy , Sneh Anand	A study on non- invasive blood glucose estimation— An approach using capacitance measurement technique	International Conference on Signal Processing, Communication, Power and Embedded System (SCOPEs), 2016	847-850	Signal Processing	Paralakhem undi, India	2016
Nirala Neelamshobha, R.Periyasamy , Awanish Kumar	Detection of peripheral arterial disease from photoplethysmograph signal using Burg	The International Conference on Biomaterials, Biodiagnostics, Tissue		Biomedical engineeirng	IIT Delhi, India	2016

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

	Autoregressive method	Engineering, Drug Delivery and Regenerative Medicine(Biterm' 16)				
R.Periyasamy , Richa Poddar, VBN Murthy	Effectiveness of therapeutic footwear sole hardness for prevention of foot ulcer in diabetic patients	22nd Congress of ESB lyon 2016		Soft Tissue Biomechanics	Lyon, France	2016

(C) Books & Monographs

Author(s)	Chapter title	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number
Keshav Kumar N, R.Periyasamy , Sneh Anand, G. Uma	A Novel Approach for Non-invasive Blood Glucose Estimation – Preliminary Study	Biomedical Engineering	Narosa Publisher	2012	978-81-8487-195-1
M. Manivannan, R. Periyasamy , Devasahayam Suresh	Handheld Isobaric Aesthesiometer for Measuring Two-Point Discrimination	Research into Design Across Boundaries Volume 2 Smart Innovation, Systems and Technologies	Springer	2015	978-81-322-2229-3