Curriculum Vitae

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

1. Name : R. PONALAGUSAMY
2. Designation: Professor (HAG)
3. Office Address: Professor (HAG) of Mathematics
   Former Head, Department of Mathematics,
   National Institute of Technology,
   Tiruchirappalli- 620 015,
   TamilNadu, India
4. Telephone: +91-(431)- 2503664; +91 7402448889
5. Email (Primary): rpalagu@nitt.edu

6. Field(s) of Specialization: Computational Experimentation, Bio – Fluid Mechanics, Parallel Algorithms, Computer Models in Metal Forming, Image Processing, Image Compression and DNA Computing, Heat and Mass Transfer, Dispersion of a Solute with Chemical Reaction and Multiphase Flows of Immiscible Fluids.

7. Employment Profile

Job Title	Employer	From	To
Lecturer	REC, Tiruchirappalli	23.06.1989	23.07.1996
Assistant Professor	REC, Tiruchirappalli	24.07.1996	30.06.2005
Professor	NIT, Tiruchirappalli	01.07.2005	29.04.2019
Professor (HAG)	NIT, Tiruchirappalli	29-04-2019	Till Now

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

Examination	Board / University	Year	Division/ Grade	Subjects
Ph. D	Indian Institute of Technolgy, Bombay	1986	-	Bio – Mathematics / Biorheology
M. Sc	Madurai Kamaraj University	1981	First (Distinction)	Applied Mathematics
B. Sc	Madurai Kamaraj University	1979	First	Applied Sciences

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/ Institution	From	To
Coordinator for Mathematics - I	Department of Mathematics	2000	2001
Counseling Staff-in-charge, Tamil Nadu Engineering Admission	NIT, Tiruchirappalli	2001	2001
Warden	Post–Graduate Student Hostels	1st June, 2003	31st July, 2005
Election Officer (Held for the post of Secretary, Student's Association)	NIT, Tiruchirappalli	2005	2006
Convener, Board of Studies for I year B, Tech Courses	NIT, Tiruchirappalli	2008	2009
Head	Department of Mathematics	20.01.2010	31.01.2012
Appointed Member	Department Administrative Council, Department of Mathematics	30.01.2012	Till date
Member, Library Advisory Committee	NIT, Tiruchirappalli	01.05.2017	30.06.2020
Coordinator, Board of Studies for M.Sc. (Mathematics) course	Department of Mathematics	0101.2018	31.12.2019
Advisory Member, Workload Committee	Department of Mathematics	01.01.2020	Till date
Advisory Member, Grievance Committee	Department of Mathematics	01.01.2020	Till date

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Eminent Resource Person, State Level Seminar on Computer Oriented Mathematical Techniques	Shrimati Indira Gandhi College, Tiruchirappalli	10.08.2007	11.08.2007
Member of Selection Committee (Subject Expert) for faculty recruitment	Department of Mathematics, NIT, Warangal	03.03.2012	04.03.2012
Member of Selection Committee (Subject Expert) for faculty recruitment	Department of Mathematics, Visvesvaraya NIT, Nagpur	22.03.2012	23.03.2012
Member of Selection Committee (Subject Expert) for faculty recruitment	Department of Mathematics, Anna University, Tiruchirappalli	20.11.2012	20.11.2012
Member of Selection Committee (Subject Expert) for faculty recruitment	Department of Mathematics, Thiagarajar College of Engineering	17.02.2013	17.02.2013
Member of Selection Committee (Subject Expert) for faculty recruitment	Department of Mathematics, NIT, Warangal	17.07.2015	17.07.2015
Member, Board of Studies in Applied Mathematics (UD)	Bharathiyar University, Coimbatore	01.01.2015	31.12.2017
Member, Board of Studies in Mathematics	Department of Mathematics, National Institute of Technology Puducherry, Karaikal	16.12.2016	16.12.2016
Member, Board of Studies in Mathematics	Department of Mathematics, MEPCO SCHLENK Engineering College, Sivakasi, Tamil Nadu	01.01.2017	31.12.2019
Member of Selection Committee (Subject Expert) for faculty recruitment	Department of Mathematics, MEPCO SCHLENK Engineering College, Sivakasi, Tamil Nadu	29.04.2017	29.04.2017

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2009	Outstanding Achievement in Research	Who's Who in Science and Engineering, U. S. A
2007-2008	Best Teacher Award	NIT, Tiruchirappalli

2016-2017	Notable Achievement Award	NIT, Tiruchirappalli
2017-2018	Certificate of Appreciation on Research PAPER PUBLICATION (Web of Science)	NIT, Tiruchirappalli
2017-2018	Certificate of Appreciation on Research CITATION (Web of Science)	NIT, Tiruchirappalli
2018-2019	Certificate of Appreciation on Research PAPER PUBLICATION (Web of Science)	NIT, Tiruchirappalli
2018-2019	Certificate of Appreciation on Research CITATION (Web of Science)	NIT, Tiruchirappalli

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
1982	Junior and Senior Research Fellowship	CSIR, India	1982	1986
1987	Post Doctoral Research Fellowship	Environmental Research Corporation, Tokyo, Japan	1987	1988

13. Details of Academic Work

(i) Curriculum Development: (a) Chairman, Creation of course structure and preparation of syllabus for M.Sc. in information Technology and Management; (b) Taken active part in preparing syllabi for first year Mathematics subjects-MA101 &MA102; (c) Prepared syllabus for MAIR35 Mathematics for Production Engineers; (d) Prepared syllabus for MAIR41 Numerical Method; (e) Prepared syllabus for MA605 Mathematical Methods, (f) Prepared syllabus for MAGL51 Integral Equations and Integral Transforms, (g) Prepared syllabus for Mathematics-III, (h) Prepared syllabus for MA613 Engineering Mathematics, and (i) Prepared syllabus for MA715 Transforms Techniques.

(ii) Courses taught at Postgraduate and Undergraduate levels: Artificial Intelligence, Variational Calculus, Integral Equations, Numerical Methods, Ordinary Differential Equations, Partial Differential Equations, Transforms and Series, Special Functions, Complex Variable, Statistics, Introduction to Heat and Mass Transfer, Differential Calculus, Integral Calculus, Theory of Equations, Boolean Algebra, Non-linear Programming, Probability and Statistics, Finite Element Method, Finite Difference Methods, Finite Volume Method, Engineering Mathematics, Transforms

Techniques.

(iii) Projects guided at Postgraduate level: Sixty nine Projects.

(iv) Other contribution(s): (a) International Program Committee Members in various International Conferences; (b) Editor, Regional Editor, Associate Editor and Editorial Board Member of several reputed International Journals; (c) Reviewed Papers for fifty-eight different International Journals, (d) Published Research Articles in sixty-one different International Journals.

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Analysis of Forging Behavior of Powder Metallurgy alloys using FEM	University Grants Commission	2000	2003	Completed [Sanctioned Amount: Rs. 3,71,000/-]
Parallel Numerical Methods (Awadee: Mrs.K.Ponnammal) **Mentor: Dr. R. PONALAGUSAMY**	Research Fellow under Young Women Scientist Scheme (Department of Science and Technology, New Delhi, India)	1st July 2005	30th June 2008	Completed [Sanctioned Amount: Rs. 4,65,000/-]
Decision Making from Incomplete Information (Awadee: Dr.Geetha Sivaraman) **Mentor: Dr. R. PONALAGUSAMY**	Post-Doctoral Fellow under Young Women Scientist Scheme (Department of Science and Technology, New Delhi, India)	3rd August, 2011	2nd August 2014	Completed [Sanctioned Amount: Rs. 17,64,000/-]

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
Dr. K. R. Subramanian	A Study of Theoretical investigations on Sheet Metal Forming and	Supervisor	October 2003

	Upsetting of Powder Metallurgy performs		
Dr. P. Srinivasan	Some Investigations on Design, Manufacture and Testing of Various Extrusion Dies	Co-Supervisor	September 2004
Dr. S. Raghuraman	Theoretical Prediction of Limiting Draw Ratio and Maximum Drawing Load for Cylindrical Cup Drawing Process	Co-Supervisor	February 2005
Dr. R. Venkatesan	Theoretical Study and Computer Aided Design on Metal Flow Analysis through Various Extrusion Dies	Co-Supervisor	January 2006
Dr. Michael Arock,	Design and Analysis of Parallel Algorithms on CREW PRAM and LARPBS Models	Supervisor	July, 2006
Dr. E. Kannan	Parallel Algorithms for Tree Based Problems and All-Pairs-Shortest-Length Problem	Supervisor	September, 2006
Dr. C. Saravanan	Analysis and Modeling of Gray Scale Image Compression	Supervisor	March, 2009
Dr. S. Senthilkumar	New Embedded Runge Kutta	Supervisor	August,

	Fourth Order Algorithms for Raster and Time-Multiplexing Cellular Neural Network Simulation		2009.
Dr. B. S. E. Zoraida	Realization of Boolean Operations and Logistics Using DNA Strands	Co-Supervisor	October, 2010
Dr. K. Ponnammal	New Parallel Runge-Kutta and Rosenbrock Algorithms for Initial Value problems	Supervisor	April, 2012
Dr. R. Tamil Selvi,	Mathematical Models on Blood Flow Through Stenosed Arteries	Supervisor	February, 2013
Dr. D. Jeyasimman	Nano Composite Materials	Co-Supervisor	March, 2015
Ms. S. Priyadharshini	Numerical Investigation on Flow of Non-Newtonian Fluid in a Tube and its Implications to Blood Flow	Supervisor	February, 2018
Mrs. Padma	Nanoparticles Analysis of Jeffrey fluid Flow in a Tapered arterial Stenosis under various aspects of Physiological Environment	Co - Supervisor	Ph.D. defense in July 2022
Ramakrishna Manchi	Mathematical Modeling on Electro-Magneto Pulsatile Flow of non-Newtonian Blood through	Supervisor	Submitted Ph.D. Thesis in May 2022

	Stenotic and Aneurysmatic Arteries		
Mr. D. Murugan	Dispersion of a Solute in non-Newtonian Fluid flowing through a Channel and Circular Tube	Supervisor	Submitted Ph.D. Thesis in May 2022
Ms. J. Sangeetha	Flows of Immiscible fluids (non-Newtonian fluid–Newtonian fluid) in a tube	Supervisor	Ongoing

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
August, 29 to September, 01, 2006	23rd International Manufacturing Conference "Innovations in Manufacturing",	International	Paper presenter	University of Ulster, Belfast, Northern Ireland, U.K.	University of Ulster, Belfast, Northern Ireland, U.K.
Jan 05-07, 2011	International Conference on Smart Technologies for Materials, Communication, Controls, Computing and Energy (ICST 2011)	International	Chair Person and Advisory Committee Member	VEL TECH Dr.RR & Dr.SR Technical University, Chennai, Tamil Nadu, India and Oklahoma State University, USA	VEL TECH Dr.RR & Dr.SR Technical University, Chennai, Tamil Nadu, India

Mar 29 & 30, 2011	National Conference on Non-linear Analysis and Mathematical Modelling(NAMM 2011)	National	Chair Person	School of Mathematics, Madurai Kamaraj University, Madurai, Tamil Nadu, India,	School of Mathematics, Madurai Kamaraj University, Madurai, Tamil Nadu, India
June 23-25, 2011	AICTE Sponsored National Conference on Current Researches on Fuzzy Logic and Its Applications,	National	Advisory Committee Member	M.A.M. College of Engineering, Tiruchirappalli, Tamil Nadu	M.A.M. College of Engineering, Tiruchirappalli, Tamil Nadu, India
Dec 29-31, 2011	2nd Europian-SIAM Conference for the Applied Mathematics and Informatics	International	Paper Presenter and Chair person	Montreux, Switzerland	Montreux, Switzerland
Jan 5-7, 2012.	Heber International Conference on Applications of Mathematics and Statistics(HICAMS),	International	Paper Presenter	Bishop Heber College, Tiruchirappalli, Tamil Nadu, India	Bishop Heber College, Tiruchirappalli, Tamil Nadu, India
Feb 15, 2012	"Development of Numerical Algorithm for Solving Ordinary Differential Equations",Emerging Research in Applied Mathematics(ERAM)	National	Resource Person & Speaker	National Engineering College, Kovilpatti, Tamil Nadu, India	National Engineering College, Kovilpatti, Tamil Nadu, India
July 22-	The 2013 International Conference on	International	Paper Presenter	Las Vegas Nevada, USA	Las Vegas Nevada, USA

25, 2013	Scientific Computing (CSC 2013), WORLDCOMP'13				
25th September 2019	One-day outbound Workshop on Supporting Student Learning and Well-Being-Crafting the New Millennial	National	Attended	National Institute of Technology, Tiruchirappalli, India	Ideal River View Resort, Tanjore, Tamil Nadu, India
May 11-15, 2020	Quality Improvement Programme "E-Content Development"	National	Participated	National Institute of Technical Teachers Training and Research, Chennai	Online training Programme

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
Three Days workshop on SOFT COMPUTING	National	15-17, Nov 2007	Principal Coordinator	National Institute of Technology, Tiruchirappalli
Two-Day workshop on Trends in BIOINFORMATICS	National	01-02, Feb, 2008	Principal Coordinator	National Institute of Technology, Tiruchirappalli
National Conference on Frontiers in APPLIED SCIENCES AND COMPUTER TECHNOLOGY (FACT'12),	National	06-07, December, 2012	Chairman	National Institute of Technology, Tiruchirappalli
2nd National Conference on Frontiers in APPLIED SCIENCES AND COMPUTER	National	23-24, May, 2013	Convener	National Institute of Technology, Tiruchirappalli

TECHNOLOGY (FACT'13),				
National Conference on ANALYSIS AND APPLIED MATHEMATICS (NCAAM 2014)	National	27-28, November, 2014.	Chairman	National Institute of Technology, Tiruchirappalli
National Conference on Frontiers in APPLIED SCIENCES AND COMPUTER TECHNOLOGY (FACT'15)	National	06-07, March, 2015	Convener	National Institute of Technology, Tiruchirappalli
National Conference on Frontiers in APPLIED SCIENCES AND COMPUTER TECHNOLOGY (FACT'16)	National	18-19, March, 2016	Chairman	National Institute of Technology, Tiruchirappalli
International Conference on Frontiers in Engineering, Applied Science and Technology (FEAST'17)	International	31.03.2017 to 1.4.2017	Organizing Chair	National Institute of Technology, Tiruchirappalli
Second International Conference on Frontiers in Engineering, Applied Science and Technology (FEAST'18)	International	27-28 April, 2018	Organizing Chair	National Institute of Technology, Tiruchirappalli
Faculty Development Programme on ADVANCES IN FUZZY LOGIC AND NEURAL NETWORKS IN ARTIFICIAL INTELLIGENCE	National	28.12.2020 to 01.01.2021	Convener	National Institute of Technology, Tiruchirappalli
National Conference on MATHEMATICAL ANALYSIS AND APPLICATIONS (NCMAA 2021)	National	23-24 April, 2021	Chairman	National Institute of Technology, Tiruchirappalli

18. Invited Talks delivered

Topic	Date	Inviting Organization
Bio-Fluid Mechanics of Heart Disease	August,1991	Seethalakshmi Ramaswami College, Tirucirappalli, India

Basic Finite Element Method	October, 1992	Department of Metallurgical Engineering, R.E.C., Tiruchirappalli, India
Applications of Finite Element Method in Engineering Problems	July 2, 2004	Periyar Maniammai Engineering College for Women, Tanjore, Tamilnadu, India
A Study on Two-Layered Model(Casson-Newtonian) for Blood Flow Through an Arterial Stenosis : Axially Variable Slip Velocity at the Wall	March 29 & 30, 2011	Madurai Kamaraj University, Madurai, Tamilnadu, India
Development of Numerical Algorithm for Solving Ordinary Differential Equations	February 15, 2012	National Engineering College, Kovilpatti, Tamil Nadu, India

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Life Member	Indian Society of Theoretical and Applied Mechanics	L/117, 1989
Life Member	Indian Society of Technical Education	LM 40150, 2004
Life Member	Indian Science Congress Association	L17534, 2011

20. Academic Foreign Visits

Country	Duration of Visit	Programme
Japan	1987-1988	Post-Doctoral Research
Northern Ireland	29th August – 1st September, 2006	23rd International Manufacturing Conference "Innovations in Manufacturing",
Switzerland	December 29-31, 2011.	2nd Europian-SIAM Conference for the Applied Mathematics and Informatics

USA	July 22-25, 2013	The 2013 International Conference on Scientific Computing (CSC 2013), WORLD COMP'13

21. Publications (Total published papers: **213**)

(A) Refereed Research Journals: *Recent Published Research Articles*

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year
R. Ponalagusamy and R. Tamil Selvi	A Study on Two-Layered Model (Casson-Newtonian) for Blood Flow Through an Arterial Stenosis: Axially Variable Slip Velocity at the Wall	Journal of The Franklin Institute	**348**	2308-2321	2011
R. Ponalagusamy and R. Tamil Selvi	Blood Flow Through an Arterial Stenosis:New Formula for Computing Peripheral Plasma Layer Thickness	International Journal of Bio-Science and Bio-Technology	**3**	27-38	2011
R.Ponalagusamy, P.J.A.Alphonse and M.Chandru	Development of new Fifth-Order Fifth- Stage Runge Kutta Method based on Heronian Mean	International Journal of Engineering Science, Advanced Computing and Bio-Technology	**2**	162-197	2011
R.Ponalagusamy, R.Narayanasamy and K.R.Subramania n	Sheet Metals Forming Limit Stress and Strain Prediction based	International Journal of Computation al Materials Science and	**4**	311-325	2011

	on new generalized yield criterion	Surface Engineering			
R.Ponalagusamy and S.Senthilkumar	Investigation on Time-Multiplexing Cellular Neural Network Simulation by RKAHeM(4,4) Technique	International Journal of Advanced Intelligence Paradigms	**3**	43-66	2011
R.Ponalagusamy, R.Tamil Selvi and A.K.Banerjee	Mathematical Model of Pulsatile Flow of Non-Newtonian Fluid in Tubes of Varying Cross-Sections and Its Implications to Blood Flow	Journal of The Franklin Institute	**349**	1681-1698	2012
R. Ponalagusamy	Mathematical Analysis on Effect of Non-Newtonian Behaviour of Blood on Optimal Geometry of Microvascular Bifurcation System	Journal of The Franklin Institute	**349**	2861-2874	2012
R.Ponalagusamy and K.Ponnammal	Local Truncation Error for the Parallel Runge-Kutta Fifth Order Methods	Information Technology Journal	**11**	1141-1153	2012
R.Ponalagusamy, E.Kannan and Michael Arock	Formation of Machine Cells in Cellular Manufacturing System Using Linear Array with a Reconfigurable Pipelined Bus System	International Journal of Mathematics and Engineering with Computers	**3**	17-27	2012
Geetha Sivaraman, V.	Intuitionist Fuzzy Interval	International Journal of	**4**	459-461	2012

Lakshmana Gomathi Nayagam and R. Ponalagusamy	Information System	Computer Theory and Engineering			
R. Ponalagusamy and R.Tamil Selvi	Blood Flow in Stenosed Arteries with Radially Variable Viscosity, Peripheral Layer Thickness and Magnetic Field	Meccanica,	**48**	2427-2438	2013
R. Ponalagusamy and R. Tamil Selvi	Brief Communications: Two-layered Model (Casson-Newtonian) for Blood Flow Through an Arterial Stenosis with Axially Variable Slip Velocity at the Wall	International Journal of Engineering Science, Advanced Computing and Bio-Technology	**4**	71-74	2013
K. Velmanirajan, K. Anuradha, A. Syed Abu Thaheer, R. Ponalagusamy and R.Narayanasamy	Statistical Evaluation of Forming Limit Diagram for Annealed Al 1350 Alloy Sheets Using First Order Reliability Method	Applied Mathemati-cal Modelling	**38**	145-167	2014
D. Jeyasimman, R. Narayanasamy, R. Ponalagusamy, V. Anandakrishnan and M. Kamaraj	The Effects of Various Reinforcements on Dry Sliding Wear Behaviour of AA 6061 Nanocomposites	Materials & Design	**64**	783-793	2014
Geetha Sivaraman, V. Lakshmana Gomathi Nayagam and R. Ponalagusamy	A Complete Ranking Of Incomplete Interval Information	Expert Systems with Applications	**41**	1947-1954	2014

R. Ponalagusamy and R. Tamil Selvi	Influence of Magnetic Field and Heat Transfer on Two-Phase Fluid Model for Oscillatory Blood Flow in an Arterial Stenosis	Meccanica	**50**	927-943	2015
S. Priyadharshini and R.Ponalagusamy	Biorheological model on Flow of Herschel-Bulkley Fluid Through a Tapered Arterial Stenosis with Dilatation	Applied Bionics and Biomecha-nics	**2015**	1-15	2015
D. Jeyasimman, K. Sivaprasad, S. Sivasankaran, R. Ponalagusamy, R. Narayanasamy and Vijayakumar Iyer	Microstructural Observation, Consolidation and Mechanical Behaviour of AA 6061 Nanocomposites Reinforced by γ-AI_2O_3 Nanoparticles	Advanced Powder Technology	**26**	139-148	2015
D. Jeyasimman, R. Narayanasamy and R. Ponalagusamy	Role of Hybrid Reinforcement on Microstructural Observation, Characterization and Consolidation Behavior of AA 6061 Nanocomposite	Advanced Powder Technology	**26**	1171-1182	2015
R. Ponalagusamy and K. Ponnammal	A Parallel Fourth Order Rosenbrock Method: Construction, Analysis and Numerical Comparison	International Journal of Applied Computatio-nal Mathematics	**1**	45-68	2015
R. Ponalagusamy	Suspension model for blood flow through a catheterized arterial stenosis with peripheral	The European Physical Journal-Plus	**131**	185(1-17)	2016

	layer of plasma free from cells				
R. Ponalagusamy	Particulate Suspension Jeffrey Fluid flow in a Stenosed artery with a Particle-free Plasma Layer near the Wall	Korea-Australia Rheology Journal	**28**	217-227	2016
R. Ponalagusamy	Corrigendum to A biomechanical approach to study the effect of body acceleration and slip velocity through stenotic artery [Applied Mathematics and Computation, 261(2015) 148-155]	Applied Mathematics and Computation	**301**	115-116	2017
R. Ponalagusamy	Erratum to: Suspension model for blood flow through a catheterized arterial stenosis with peripheral layer of plasma free from cells	The European Physical Journal-Plus	**132**	148	2017
R. Ponalagusamy	Two-Fluid Model for Blood Flow through a Tapered Arterial Stenosis: Effect of Non-zero Couple Stress Boundary Condition at the Interface	Int. J. Appl. Comput. Math.	**3**	807-824	2017
R. Ponalagusamy and S. Priyadharshini	Nonlinear Model on Pulsatile Flow of Blood through a Porous Bifurcated Arterial Stenosis in the presence of Magnetic Field	Computer Methods and Programs in Biomedicine	**142**	31-41	2017

	and Periodic Body Acceleration				
R. Ponalagusamy	A Two-Layered Suspension(Particle-Fluid) Model for Non-Newtonian Fluid Flow in a Catheterized Arterial Stenosis with Slip Condition at the wall of Stenosed Artery	Korea-Australia Rheology Journal	**29**	87-100	2017
R. Ponalagusamy and S. Priyadharshini	Numerical Modelling on Pulsatile Flow of Casson Nanofluid through an inclined artery with stenosis and tapering under the influence of magnetic field and periodic body acceleration	Korea-Australia Rheology Journal	**29**	303-316	2017
S. Priyadharshini and R. Ponalagusamy	Computational Model on Pulsatile flow of Blood Through a Tapered Arterial Stenosis with Radially Variable Viscosity and Magnetic Field	Sadhana	**42**	1901-1913	2017
R. Ponalagusamy and S. Priyadharshini	Couple Stress fluid model for pulsatile flow of blood in a porous tapered arterial stenosis under magnetic field and periodic body acceleration	Journal of Mechanics in Medicine and Biology	**17**	*1750109* *(29 pages)*	2017
R. Ponalagusamy and S. Priyadharshini	Numerical Investigation on Two fluid model (Micropolar-	Computational and Applied Mathematics	**37**	719-743	2018

	Newtonian) for Pulsatile flow of blood in a Tapered Arterial Stenosis with radially variable Magnetic field and Core fluid viscosity				
R. Ponalagusamy and S. Priyadharshini	Pulsatile MHD Flow of a Casson fluid through a porous bifurcated arterial stenosis under periodic body acceleration	Applied Mathematics and Computation	**333**	325-343	2018
R. Ponalagusamy	Mathematical analysis of flow of non-Newtonian fluid due to metachronal beating of cilia in a tube and its physiological applications	Applied Mathematics and Computation	**337**	545-561	2018
S. Priyadharshini and R. Ponalagusamy	An Unsteady flow of Magnetic Nanoparticles as Drug Carrier suspended in Micropolar fluid through a porous tapered arterial stenosis under non-uniform magnetic field and periodic body acceleration	Computational and Applied Mathematics	**37**	4259-4280	2018
S. Priyadharshini and R. Ponalagusamy	A numerical study on unsteady flow of Herschel-Bulkley Nanofluid through an inclined artery with body acceleration and magnetic field	Int. J. Appl. Comput. Math.	**5**(6)	1-26	2019

R. Padma, R. Tamil Selvi and R. Ponalagusamy	Effects of slip and magnetic field on pulsatile flow of Jeffrey fluid with magnetic nano particles in a stenosed artery	The European Physical Journal Plus, **134**(2019): 221(Pages 1-15).	**134** Article no. 221	1-15	2019
R. Ponalagusamy and S. Priyadharshini	Mathematical modelling for pulsatile flow of Casson fluid along with magnetic nanoparticles in a stenosed artery under external magnetic field and body acceleration	Neural Computing and Applications	**31**	813-826	2019
R. Ponalagusamy and Ramakrishna Manchi	A four-layered model for flow of non-Newtonian fluid in an artery with mild stenosis	Sadhana	**44** Article No. 158	1-14	2019
R. Ponalagusamy and S. Priyadharshini	A numerical model on pulsatile Flow of magnetic nanoparticles as drug carrier suspended in Herschel-Bulkley fluid through an arterial stenosis under external magnetic field and body force	International Journal of Computer Mathematics	**96**	1763-1786	2019
R. Padma, R. Ponalagusamy and R. Tamil Selvi	Mathematical modeling of electro hydrodynamic non-Newtonian fluid flow through tapered arterial stenosis with periodic body acceleration and applied magnetic field	Applied Mathematics and Computation	**362** Article No. 124453	1-24	2019

R. Ponalagusamy and Ramakrishna Manchi	A study on two-layered (K.L-Newtonian) model of blood flow in an artery with six types of mild stenosis	Applied Mathematics and Computation	**367** Article No. 124767	1-22	2020
R. Ponalagusamy and Ramakrishna Manchi	Particle-fluid two phase modelling of electro-magneto hydrodynamic pulsatile flow of Jeffrey fluid in a constricted tube under periodic body acceleration	European Journal of Mechanics-B/Fluids	**81**	76-92	2020
R. Padma, R. Ponalagusamy and R. Tamil Selvi	Corrigendum to "Mathematical modeling of electro hydrodynamic non-Newtonian fluid flow through tapered arterial stenosis with periodic body acceleration and applied magnetic field" [Applied Mathematics and Computation, 362(2019) 124453]	Applied Mathematics and Computation	**373** Article No. 125031	1-3	2020
R. Ponalagusamy and Ramakrishna Manchi	Mathematical modelling of electro-magneto hydrodynamic pulsatile flow of an elastico- viscous fluid through an inclined porous tapered arterial stenosis	Mathematics in Engineering, Science and Aerospace (MESA)	**11**	237-254	2020
Kamalika Roy, R. Ponalagusamy and P.V.S.N. Murthy	The effect of double diffusion and viscous dissipation on the oscillatory	Physics of Fluids	**32** Article No. 094108	1-15	2020

	convection in a viscoelastic fluid saturated porous layer				
A. K. Roy, A.K. Saha, R. Ponalagusamy and S. Debnath	Mathematical model on magneto-hydrodynamic dispersion in a porous medium under the influence of bulk chemical reaction	Korea-Australia Rheology Journal	**32**	287-299	2020
R. Ponalagusamy	Effects of magnetic force and non-Newtonian characteristics on squeeze film bearings	Asia-Pacific Journal of Chemical Engineering	**15** e2510	1-14	2020
R. Ponalagusamy and Ramakrishna Manchi	Biorheological Model on Pulsatile Flow of Blood (K-L fluid) through Flexible Stenotic Tapered Blood Vessels	Int. J. Appl. Comput. Math.	**7** Article No. 13	1-28	2021
R. Ponalagusamy and Ramakrishna Manchi	Mathematical Study on Two-Fluid Model for Flow of K-L Fluid in a Stenosed Artery with Porous Wall	SN Applied Sciences	**3** Article No. 50	1-21	2021
Ramakrishna Manchi and R. Ponalagusamy	Modeling of pulsatile EMHD flow of Au-blood in an inclined porous tapered atherosclerotic vessel under periodic body acceleration	Achieve of Applied Mechanics	**91**	3421-3447	2021
R. Padma, R. Tamil Selvi and R. Ponalagusamy	Analysis of MHD pulsatile flow of Jeffrey fluid in a diseased inclined tapered porous	Journal of Physics	**1850** Article No. 012039	1-14	2021

	artery exposed to an inclined magnetic field				
R. Tamil Selvi, R. Ponalagusamy and R. Padma	Influence of thermal radiation and electromagnetic field on the unsteady flow of Jeffrey fluid suspended with magnetic particles in stenosed tapered porous artery	Int. J. Appl. Comput. Math.	**7**(6) Article No. 216	1-25	2021
R. Ponalagusamy and D. Murugan	Dispersion of a solute in blood flowing through narrow arteries with homogeneous first-order chemical reaction	Proc. National Academy of Sciences, India Section A: Physical Sciences	**91**(4)	675-680	2021
R. Ponalagusamy and D. Murugan	Impact of electro-magnetohydrodynamic nature on dispersion of solute in the peristaltic mechanism	Journal of Physics	**1850** Article No. 012097	1-12	2021
Ramakrishna Manchi and R. Ponalagusamy	Pulsatile flow of EMHD micropolar hybrid nanofluid in a porous bifurcated artery with an overlapping stenosis in the presence of body acceleration and Joule heating	Brazilian Journal of Physics	**52** Article No. 52	1-25	2022
R. Ponalagusamy, R. Tamil Selvi and R. Padma	Modeling of pulsatile EMHD flow of non-Newtonian blood with magnetic particles in a tapered stenosed tube: A	The European Physical Journal Plus	**137** Article No. 230	1-27	2022

	comparative study of actual and approximated drag force				
R. Ponalagusamy and D. Murugan	Effect of electro-magneto-hemodynamic environs on dispersion of solute in the peristaltic motion through a channel with chemical reaction, wall properties and porous medium	Korea-Australia Rheology Journal	**34**	69-90	2022
R. Ponalagusamy and D. Murugan	Impact of variable viscosity, chemical reaction and electro-osmotic mechanism on the dispersal of solute through a uniform channel with permeable walls	Int. J. Appl. Comput. Math	**8** Article No. 55	1-25	2022
R. Ponalagusamy, D. Murugan and S. Priyadharshini	Effects of rheology of non-Newtonian fluid and chemical reaction on a dispersion of a solute and implications to blood flow	Int. J. Appl. Comput. Math.	**8** Article No. 109	1-12	2022

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
P. Chaturani and R.Ponnalagarsamy	A Two Layered Model for Blood Flow Through Stenosed Arteries	Proc. 11th National Conference on Fluid Mechanics and Fluid Power	16-22	Fluid Mechanics	BHEL, Hyderabad, India	1982

P.Chaturani and R.Ponnalagarsamy	Blood Flow Through Stenosed Arteries	Proc. of First International Conference on Physiological Fluid Dynamics	63-67	Physiological Fluid Dynamics	Indian Institute of Technology Madras, India	1983
P.Chaturani and R.Ponnalagarsamy	Analysis of Pulsatile Blood Flow Through Stenosed Arteries and Its Applications to Cardiovascular Diseases	Proc. 13th National Conference on Fluid Mechanics and Fluid Power	463-468	Fluid Mechanics	Regional Engineering College, Tiruchi-rappalli, India	1984
P.Chaturani and R.Ponnalagarsamy	Dilatancy Effects of Blood on Flow Through Arterial Stenosis	Proc. of 28th Congress of ISTAM	87-96	Fluid Mechanics and Solid Mechanics	Andhra University, Visakha-patnam, India	1986
R. Ponnalagarsamy and M.Kawahara	A finite Element Analysis of Laminar Unsteady Flows of Viscoelastic Fluids Through Planar Abrupt Expansions/ Contractions	Proc. Of International Conference on Computational Methods in Flow Analysis	288-295	Finite Element Techniques	Okayama University of Science, Japan	1988
R.Ponnalagarsamy	Bio-Fluid Mechanics of Heart Diseases	Proc. of Three Day Seminar on Applications of Mathematics in	60-68	Applications of Mathematics in various Applications	Seethalakshmi Ramaswami College, India	1991

		various Disciplines				
R.Ponalagusamy	A non-Newtonian model for pulsatile flow of Blood Through an Artery with mild stenosis	Proc. Int. Conf. on Mathematical modeling	6	Mathematical modeling	University of Roorkee, India	2001
R.Ponalagusamy and K.Ponnammal	New Generalized Plasticity Equation for Compressible Powder Metallurgy Materials: A New Parallel RK-Butcher Method	Porc. of 23rd International Manufacturing Conference "Innovations in Manufacturing	299-304	Innovations in Manufacturing	University of Ulster, Belfast, Northern Ireland, U.K.	2006
R.Ponalagusamy and C.Saravanan	Medical Image Compression using Bi-orthogonal Wavelets and Artihmetic Coding	Proc. of International Conference on Mathematics and Computer Science,[ICMCS]	460-463	Mathematics and Computer Science	Loyola College, Chennai-600 034, India	2007
R.Ponalagusamy and S.Senthilkumar	Parallel Numerical Integration Algorithm for Time-Multiplexing CNN Simulation	Proc.of International Conference on Information and Communicaion Technology(IICT-07)	358-363	Information and Communicaion Technology	Dehradun Institute of Technology Uttaranchal, Dehradun, India	2007
B.S.E.Zoraida, Michael Arock, B.S.M.Ronald and R.Ponalagusamy	A Novel Generalized Model for Constructing Reusable and	Proc. of Fourth International Conference	353-357	Natural Computation	IEEE Computer Society, Jinan,	2008

	Reliable Logic gates using DNA	on Natural Computation, IEEE Press			Shandong, China	
R.Ponalagusamy R.Tamil Selvi and A.K.Banerjee	Flow of Non-Newtonian Fluid Through Model Vascular Stenosis	Proc. 53rd Congress of Indian Society of Theoretical and Applied Mechanics [ISTAM-2008], An International Meet	198-205	Fluid Mechanics and Solid Mechanics	Osmania University, Hyderabad, India	2008
R.Ponalagusamy, P.J.A.Alphonse and M.Chandru	Numerical Methods on Ordinary Differential Equation	Proc. of the International Conference on Emerging Trends in Mathematics and Computer Applications	188-191	Emerging Trends in Mathematics and Computer Applications	MEPCO Schienk Engineering College, Tamil Nadu, India	2010
R.Ponalagusamy, P.J.A.Alphonse and M.Chandru	New Algorithm of Fifth-Order Heronian Mean Runge-Kutta Method	Proc. of the 2nd Europian-SIAM Conference for the Applied Mathematics and Informatics	67-72	Applied Mathematics and Informatics	Montreux, Switzerland	2011
A. K. Banerjee, R. Ponalagusamy and R. Tamil Selvi	Flow of a Micro polar Fluid Through a Stenosed Artery with Radially Variable Viscosity	Proc. of The 2013 International Conference on Scientific Computing (CSC	79-84	Scientific Computing	Las Vegas Nevada, USA	2013

		2013), WORLD COMP'13				
Geetha Sivaraman, V. Lakshmana Gomathi Nayagam and R. Ponalagusamy	Multi-Criteria Interval Valued Intuitionistic Fuzzy Decision Making Using A New Score Function	Proc. of Knowledge and Informa-tion Manage-ment Conference (KIM2013)	122-131	Knowledge and Informa-tion Manage-ment	Meriden, CV7 7HR, U.K.	2013
R. Ponalagusamy	Pulsatile Flow of Hershel-Bulkley Fluid in Tapered Blood Vessels	Proc. of The 2013 Internatio-nal Conference on Scientific Computing WORLD COMP'13	67-73	Scientific Computing	Las Vegas Nevada, USA	2013
R. Ponalagusamy and Ramakrishna Manchi	A study on pulsatile flow of blood through stenosed blood vessels	Proc. 63rd Internation al Congress of ISTAM	56-62	Fluid Mechanics	Dayananda Sagar University, Bangalore, India	2018
R. Ponalagusamy and Ramakrishna Manchi	Computation al model on pulsatile electro-magneto hydrodynami c blood flow in a balloon catheterized arterial stenosis	Proc. of 64th Internation al Congress of Indian Society of Theoretical and Applied Mechanics (**ISTAM**)	1-11	Fluid Mechanics	Indian Institute of Technology Bhubaneswar	2019
Ramakrishna Manchi and R. Ponalagusamy	Analysis of nanoparticles (Cu, CuO) as a drug agent suspended in pulsatile	Proc. of 65th Internation al Congress of Indian Society of	1-13	Fluid Mechanics	GITAM Deemed to be University, Hyderabad	2020

	EMHD blood flow through an inclined artery with multiple stenoses	Theoretical and Applied Mechanics (**ISTAM**)				
R. Padma, R. Tamil Selvi and R. Ponalagusamy	Electromagnetic control of non-Newtonian fluid (blood) suspended with magnetic nanoparticles in the tapered constricted inclined tube	AIP Conference Proceeding **2336**	020008-1 to 020008-13	Bio-Fluid Mechanics	National Institute of Technology Calicut, Kerala, India	2021
R. Ponalagusamy and J. Sangeetha	A study on electro-hydro dynamic flow of two immiscible fluids in a circular tube	Proc. of 66th International Congress of Indian Society of Theoretical and Applied Mechanics (**ISTAM**)	1-9	Fluid Mechanics	VIT-AP University, Amaravati, Andhra Pradesh, India	2021

(C) Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number
Dr. R. Narayanasamy and Dr. R. Ponalagusamy	Theory of Engineering Plasticity	Ahuja Book Company, New Delhi, India	2000.	ISBN: 8176190039
Michael Arock and R.Ponalagusamy	"A Constant-time Selection Algorithm on An LARPBS", Advances in Computer Science and Engineering: Reports and Monographs	Imperial College Press, U.K	2007	ISSN: 1793-2416, ISBN: 978-1-86094-827-5

R. Ponalagusamy and C.Saravanan	"Analysis of Medical Images using Statistical Methods", Advances in Computer Science and Engineering: Reports and Monographs,	Imperial College Press, U.K.	2007	ISSN: 1793-2416, ISBN: 978-1-86094-827-5
C. Saravanan and R. Ponalagusamy	Analysis of Image Compression using Arithmetic Coding, NCRTCM	Narosa Publishers, India	2005	ISBN 81-7319-619-2
R. Ponalagusamy	Chapter-3 "Biological Study on Pulsatile Flow of Herschel-Bulkley Fluid in Tapered Blood Vessels", in: Quocnam Tam Hamid Arbnia (Eds.), Emerging Trends in Computational Biology, Bioinformatics, and Systems Biology-Algorithms and Software Tools	Elsevier Publishers, Boston, USA	2015	(ISBN: 978-0-12-802508-6),