Faculty Profile of Dr. N. Nithyadevi

Dr. N. Nithyadevi
Assistant Professor
Department of Applied Mathematics

Email:nithyadevin@buc.edu.in

Phone No:0422 2428623

Research Area

- Computational Fluid Dynamics
- Boundary Layer Theory
- Mathematical Modelling

Education & Career

Education

Ph.D.
Subject : Mathematics (Fluid Dynamics)
Institution : Bharathiar University, Coimbatore

Affiliated University : Bharathiar University
Year of Award : 2007

M.Phil.,
Subject : Mathematics (Differential Equation)
Institution : Kongunadu Arts and Science College
Affiliated University : Bharathiar University
Year of Award : 2004

M.Sc.,
Subject: Mathematics
Institution : Kongunadu Arts and Science College
Affiliated University : Bharathiar University
Year of Award : 2002

B.Sc.,
Subject: Mathematics, Statistics and Physics
Institution : Kongunadu Arts and Science College
Affiliated University : Bharathiar University
Year of Award: 2000

Career

At Bharathiar University (Reverse Order)
Assistant Professor : February 2011 to Till Date

Past Experience
Assistant Professor : December 2010 to February 2011 at Sri Shakthi Institute of Engineering and Technology, Coimbatore
Assistant Professor : December 2009 to November 2010 at Kongunadu Arts and Science College, Coimbatore
Lecturer : June 2009 to December 2009 at Kongunadu Arts and Science College, Coimbatore.
Post Doctoral Fellow : September 2007 to August 2008 at National Cheng Kung University Taiwan, ROC

Awards

Membership

Visits

Sl. No. : 1
Countries Vistes : Taiwan
Duration of Visit : 1 year
Month and Year : Sep. 2007 – Aug. 2008
Purpose of Visit : Post Doctoral Fellow

Collaborators

Others

Projects

Funded Projects (National Level)

- Ongoing
- Completed

Ongoing Projects List with necessary Information

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1. XII plan grant under general development scheme, Bharathiar University

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Funding agency : XII plan grant under general development scheme, Bharathiar University
Title : Mathematical modeling of electronic equipment cooling by Nanofluid
Duration : One Year
Amount : Rs.1,00,000/-

Consultancy Projects

- Ongoing
- Completed

Ongoing Consultancy Project Informations

Completed Consultancy Project Informations

Research Guidance

- Post Doc.
- Ph.D.
- M.Phil.
- M.Sc.

Ongoing

Title

Name

Completed

Title

Name

Ongoing

Sample Data.

Completed

Sl. No. : 1
Name of the candidate : A. PURUSOTHAMAN
Title of the Thesis : Analysis of natural convection in 3D cavities with thermally active heaters.

Year : 2015

Sl. No. : 2
Name of the candidate : P. UMADEVI
Title of the Thesis : Convection heat transfer in enclosures with conducting and heat generating solid body.
Year : 2017

Sl. No. : 3
Name of the candidate : R. RAJARATHINAM
Title of the Thesis : Analysis on convection heat transfer of Cu-water nanofluid in an inclined non-Darcy porous square cavity.
Year : 2018

Sl. No. : 4
Name of the candidate : A. SHAMADHANI BEGUM
Title of the Thesis : Mixed convection analysis in a non-darcy porous enclosure using copper based nanofluids with active mid-horizontal moving.
Year : 2018

Sl. No. : 5
Name of the candidate : V. DIVYA
Title of the Thesis : Analysis of natural convection in three dimensional enclosures with different thermal boundary walls in the presence of nanofluid.
Year : 2018

Sl. No. : 6
Name of the candidate : T. MAHALAKSHMI
Title of the Thesis : Convection of nanofluid in enclosures with heater.
Year : 2018

Sl. No. : 7
Name of the candidate : P GAYATHRI
Title of the Thesis : Magnetohydrodynamics in three dimensional stagnation point flows.
Year : 2020

Ongoing

Sample Data.

Completed

Sl. No. : 1
Name of the candidate : P. NANDHINI
Title of the Thesis : Combined buoyancy and surface-tension flows in an enclosure with partially active vertical walls
Year : 2013

Sl. No. : 2
Name of the candidate : H.M. ROHINI
Title of the Thesis : Buoyancy and thermocapillary driven flows in an open cavity with bottom heating and symmetrical cooling from sides
Year : 2013

Sl. No. : 3
Name of the candidate : J. SANTHYA
Title of the Thesis : Buoyancy and thermocapillary driven convection in an open cavity with partially active vertical walls in the presence of a magnetic field
Year : 2013

Sl. No. : 4
Name of the candidate : A. SHAMADHANI BEGUM
Title of the Thesis : Combined surface tension and buoyancy driven convection in an open enclosure with partially bottom heating: Effect of magnetic field
Year : 2013

Sl. No. : 5
Name of the candidate : R. BRINDHA
Title of the Thesis : An analytical study of radiation effect on transient magnetohydrodynamic natural convection flow with heat generation
Year : 2014

Sl. No. : 6
Name of the candidate : V. DIVYA
Title of the Thesis :Magnetic field effects on natural convection in a laterally heated square cavity with internal heat source

Year : 2013

Sl. No. : 7
Name of the candidate : C. KAUSIKA
Title of the Thesis : Double diffusive convection in a porous medium with an internal heat source
Year : 2013

Sl. No. : 8
Name of the candidate : M. RAJARATHINAM
Title of the Thesis : Numerical analysis of MHD natural convection in a partially open square cavity with internal energy source
Year : 2013

Sl. No. : 9
Name of the candidate : G. SANGEETHA
Title of the Thesis : Effect of non-uniform thermal boundary condition on magnetoconvection in an open cavity
Year : 2013

Sl. No. : 10
Name of the candidate : P. GAYATHRI
Title of the Thesis : The boundary layer of an unsteady MHD stagnation point flow in a nanofluid with porous stretching/shrinking surface
Year : 2014

Sl. No. : 11
Name of the candidate : S. RAJESWARI
Title of the Thesis : Analytical solution of 3D Navier-stokes equation of flow between two stretchable disks using homotopy analysis method
Year : 2014

Sl. No. : 12
Name of the candidate : S. SELVARANI
Title of the Thesis : HAM solution of an unsteady three dimensional Navier-stokes equations of flow between two parallel disks
Year : 2014

Sl. No. : 13
Name of the candidate : R. DHARANI

Title of the Thesis : Destabilising a shallow horizontal fluid saturated porous layer heated from above with heat generation
Year : 2016

Sl. No. : 14
Name of the candidate : P. KOUSALYA
Title of the Thesis : Mixed convection in a Cu-water nanofluid through a fluid saturated porous medium with mid-horizontal moving wall
Year : 2016

Sl. No. : 15
Name of the candidate : K.B. NIVETHITHA
Title of the Thesis : Study on the effect of magnetic field in a porous cavity using nanofluid with mid-horizontal moving lid
Year : 2016

Sl. No. : 16
Name of the candidate : S. SUBHA
Title of the Thesis : Convective stability in a gravity modulated horizontal porous layer heated from below with heat generation
Year : 2016

Sl. No. : 17
Name of the candidate : N. SURESH
Title of the Thesis : Double diffusive mixed convection flow of water near its density extremum in a lid-driven porous square cavity with Soret and Dufour effects
Year : 2016

Sl. No. : 18
Name of the candidate : S. ARTHY
Title of the Thesis : Existence and stability of unsteady Navier-Stokes type system related to Soret convection
Year : 2017

Sl. No. : 19
Name of the candidate : T. KARTHIKA
Title of the Thesis : Numerical Investigation of 3D MHD squeezing flow with rotating parallel plate in a nondarcy porous medium filled with nanofluid
Year : 2017

Sl. No. : 20
Name of the candidate : V. SATHYA PRABHA
Title of the Thesis : Convection in fluid saturated porous layer with thermal and gravity modulation
Year : 2017

Sl. No. : 21
Name of the candidate : K. SATHYASRI
Title of the Thesis : An unsteady stagnation point flow of a third grade nanofluid past a porous shrinking sheet using three temperature model
Year : 2017

Sl. No. : 22
Name of the candidate : C.THIRUCHITRAMBALAM
Title of the Thesis : Multiple solutions of MHD slip flow and heat transfer for the viscoelastic fluid over a stretching sheet
Year : 2017

Sl. No. : 23
Name of the candidate : C.S. GOMATHI
Title of the Thesis : Boundary layers of couple stress fluid past a stretching sheet: Exact solutions
Year : 2018

Sl. No. : 24
Name of the candidate : D. REVATHI
Title of the Thesis : Double diffusive convection of water near its density maximum in an enclosure
Year : 2018

Sl. No. : 25
Name of the candidate : P. GOWRI
Title of the Thesis : Review on magnetic field effect
Year : 2019

Sl. No. : 26
Name of the candidate : K. NIVETHITHA
Title of the Thesis : Two – fluid model in blood vessels
Year : 2019

Sl. No. : 27
Name of the candidate : R. SHANMUGAPRIYA
Title of the Thesis : A study on overview of nanofluid
Year : 2019

Sl. No. : 28
Name of the candidate : R. SOWNDARIYA
Title of the Thesis : Review on three-dimensional flows in cavities
Year : 2019

Sl. No. : 29
Name of the candidate : PRITHA K
Title of the Thesis : Natural convection of Al2O3 – water Nanofluid in a square cavity with an isothermal block: magnetic effect
Year : 2020

Ongoing

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M.Phil.

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Title of the Thesis : Review on three-dimensional flows in cavities
Year : 2019

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Name of the candidate : PRITHA K
Title of the Thesis : Natural convection of Al2O3 – water Nanofluid in a square cavity with an isothermal block: magnetic effect
Year : 2020

Sl. No. : 30
Name of the candidate : GOWRI S
Title of the Thesis : Analysis of mixed convective ferrofluid flow of a rotating disk with vertical motion
Year : 2022

PG. Research

Sl. No. : 1
Name of the candidate : R. Banusree
Title of the Dissertation : Fundamental of Heat Transfer and Applications
Year : 2013

Sl. No. : 2
Name of the candidate : P. Gayathri
Title of the Dissertation : MHD Mixed Convection in a Lid-Driven cavity with Corner Heater
Year : 2013

Sl. No. : 3
Name of the candidate : A. Kousalya
Title of the Dissertation : The incompressible Navier-Stokes Equations
Year : 2013

Sl. No. : 4
Name of the candidate : M. Sanjitha
Title of the Dissertation : Types of Flow
Year : 2013

Sl. No. : 5
Name of the candidate : S. Selvarani
Title of the Dissertation : Thermal Boundary Layers
Year : 2013

Sl. No. : 6
Name of the candidate : N. Suriya
Title of the Dissertation : Fluid Flow through Porous Media
Year : 2013

Sl. No. : 7
Name of the candidate : P. Tamilselvi
Title of the Dissertation : Cauchy’s Functional Equations
Year : 2013

Sl. No. : 8
Name of the candidate : M. Arul
Title of the Dissertation : Regularization of Inverse Problems
Year : 2014

Sl. No. : 9
Name of the candidate : K. Geetha
Title of the Dissertation : Fuzzy Set Theory
Year : 2014

Sl. No. : 10
Name of the candidate : T. Kanaka Priya
Title of the Dissertation : Aerodynamics
Year : 2014

Sl. No. : 11
Name of the candidate : T. Parthiban
Title of the Dissertation : Kortweg De Vries Equation
Year : 2014

Sl. No. : 12
Name of the candidate : D. M. Pradheeba
Title of the Dissertation : Convective Heat Transfer
Year : 2014

Sl. No. : 13
Name of the candidate : S. Premalatha
Title of the Dissertation : Fluid Flow in Polymer Electrolyte Membrane Fuel Cells
Year : 2014

Sl. No. : 14
Name of the candidate : R. Sivaranjani
Title of the Dissertation : Bifurcation Theory
Year : 2014

Sl. No. : 15
Name of the candidate : S. Subha
Title of the Dissertation : Heat Transfer and Its Applications
Year : 2014

Sl. No. : 16
Name of the candidate : S. Arthy
Title of the Dissertation : Finite Element Method for Heat Exchangers
Year : 2015

Sl. No. : 17
Name of the candidate : R. Jayanthidevi
Title of the Dissertation : Mellin Transforms and their Applications
Year : 2015

Sl. No. : 18
Name of the candidate : T. Karthika
Title of the Dissertation : Turbulence Modeling and Simulation
Year : 2015

Sl. No. : 19
Name of the candidate : K. Nisha
Title of the Dissertation : Hermite Polynomials
Year : 2015

Sl. No. : 20
Name of the candidate : S. Nithya Rubini
Title of the Dissertation : Rotational Waves
Year : 2015

Sl. No. : 21
Name of the candidate : N. Rayshima
Title of the Dissertation : Boundary Layers
Year : 2015

Sl. No. : 22
Name of the candidate : N. Sindhuja
Title of the Dissertation : Mathieu Equation
Year : 2015

Sl. No. : 23
Name of the candidate : M. Sudhasri
Title of the Dissertation : Heat Transfer from a Solid Sphere at Low Reynolds Numbers
Year : 2015

Sl. No. : 24
Name of the candidate : S. Vignesh
Title of the Dissertation : Sound Waves
Year : 2015

Sl. No. : 25
Name of the candidate : P. Vinothini
Title of the Dissertation : Momentum Equation and its Applications
Year : 2015

Sl. No. : 26
Name of the candidate : V. Akila ponmani
Title of the Dissertation : Integro-Differential Equations and its Applications
Year : 2016

Sl. No. : 27
Name of the candidate : M. Dhanasekaran
Title of the Dissertation : Elastic Waves in Solids
Year : 2016

Sl. No. : 28
Name of the candidate : M. Gaysel elze antrina
Title of the Dissertation : Helicopter Dynamics
Year : 2016

Sl. No. : 29
Name of the candidate : Hemamalini Rama
Title of the Dissertation : Tensors and Christoffel Symbol
Year : 2016

Sl. No. : 30
Name of the candidate : M. Indhumathi
Title of the Dissertation : Fixed Point Theory and its Applications
Year : 2016

Sl. No. : 31
Name of the candidate : S. Sasikala
Title of the Dissertation : Applications of Baire Hausdorff Theorem
Year : 2016

Sl. No. : 32
Name of the candidate : K. Sathya
Title of the Dissertation : Two Dimensional Compressible Fluid Flow
Year : 2016

Sl. No. : 33
Name of the candidate : S. Sujithra
Title of the Dissertation : Fourier transform and its applications
Year : 2016

Sl. No. : 34
Name of the candidate : R. Suresh
Title of the Dissertation : An Introduction to Wave Equation Solutions and its Applications
Year : 2016

Sl. No. : 35
Name of the candidate : P.V. Nivedhitha
Title of the Dissertation : Stochastic Differential Equations
Year : 2017

Sl. No. : 36
Name of the candidate : K. Nivethitha
Title of the Dissertation : A Study on Riemann Surface in Complex Analysis
Year : 2017

Sl. No. : 37
Name of the candidate : D. Palani Ananthi
Title of the Dissertation : A Study on Fundamental Concepts of Areodynamics
Year : 2017

Sl. No. : 38
Name of the candidate : S. Ramya
Title of the Dissertation : A Study on Blood Flow in Cardiovascular System
Year : 2017

Sl. No. : 39
Name of the candidate : P. Gomathi
Title of the Dissertation : Green's Function for Differential Equations
Year : 2018

Sl. No. : 40
Name of the candidate : A. P. Gunavathy
Title of the Dissertation : Topological Method in Combinatorics
Year : 2018

Sl. No. : 41
Name of the candidate : B. Prathiba
Title of the Dissertation : Laminar Unidirectional Flows
Year : 2018

Sl. No. : 42
Name of the candidate : P. Priyanka
Title of the Dissertation : Hydrodynamic Lubrication
Year : 2018

Sl. No. : 43
Name of the candidate : K. Savitha
Title of the Dissertation : Fundamentals of Turbulent Flow
Year : 2018

Sl. No. : 44
Name of the candidate : P. Soundarya
Title of the Dissertation : Stream Filament Theory
Year : 2018

Sl. No. : 45
Name of the candidate : M. Aswathi
Title of the Dissertation : A Study on Aerodynamic Modeling
Year : 2018

Sl. No. : 46
Name of the candidate : R. Geetha
Title of the Dissertation : Potential Flow
Year : 2018

Sl. No. : 47
Name of the candidate : P. Kavipriya
Title of the Dissertation : Internal and External Flows
Year : 2018

Sl. No. : 48
Name of the candidate : R. U. Keerathana
Title of the Dissertation : Sturm Liouville Theory
Year : 2018

Sl. No. : 49
Name of the candidate : B. Monisha
Title of the Dissertation : The Stokes Flow Problem for a class of Axially Symmetric Bodies
Year : 2018

Sl. No. : 50
Name of the candidate : B. Visakamoorthi
Title of the Dissertation : A Study on Boundary Layer Theory
Year : 2018

Sl. No. : 51
Name of the candidate : E. Divya Bharathi
Title of the Dissertation : A Study on Three Dimensional Flow
Year : 2019

Sl. No. : 52
Name of the candidate : S. Jayapriya
Title of the Dissertation : Exact Solution for Two-dimensional Laminar Flow over a Continuously Stretching or Shrinking Sheet in an Electrically Conducting Quiescent Couple Stress Fluid
Year : 2019

Sl. No. : 53
Name of the candidate : K. G. Lavanya
Title of the Dissertation : Computational Investigation on the Structure and the Occurrence of Separation in Nozzle Flows
Year : 2019

Sl. No. : 54
Name of the candidate : S. Meena
Title of the Dissertation : Hyperbolic Mean Curvature Flow
Year : 2019

Sl. No. : 55
Name of the candidate : M. Pavithra
Title of the Dissertation : Wave Motion
Year : 2019

Sl. No. : 56
Name of the candidate : S. Seenuvasan
Title of the Dissertation : Exact Solution for the Flow and Heat Transfer near

the Stagnation Point on a Stretching or Shrinking Sheet in an Jefferey Fluid.
Year :2019

Research Publication

- International
- National
- Patents
- Conferences
- Books/Chapters
- Database

Reverse Chronological Order

2021

Number. Title
Author Names
Journal Name

2020

Number. Title
Author Names
Journal Name

2019-2004

46. Quantification of free convection within a hemispherical annulus through a porous medium saturated by water-copper nanofluid,
A. Bairi, N. Suresh, P. Gayathri, and N. Nithyadevi,
International Journal of Numerical Methods for Heat and Fluid Flow, 29, 1153-1166 (2019).
DOI: https://doi.org/10.1108/HFF-09-2018-0467

45. Numerical study of magnetohydrodynamic mixed convective flow in a lid-driven enclosure filled with nanofluid saturated porous medium with center heater,
N. Nithyadevi, T. Mahalakshmi, and H. F. Oztop,
Thermal Science, 23, 1861-1873 (2019).
DOI: https://doi.org/10.2298/TSCI171105313N

44. Numerical analysis of MHD natural convection in a partially open cavity with internal energy source,
N. Nithyadevi, and M. Rajarathinam,
International Journal of Engineering Systems Modelling and Simulation, 10, 215–225 (2018).
DOI: 10.1504/IJESMS.2018.095975

43. Numerical study on the effect of magnetic field in a porous enclosure using nanofluid with mid-horizontal moving lid: Brinkman-Forchheimer extended Darcy model,
N. Nithyadevi, and A. S. Begum,
Journal of Porous Media, 21, 1-14 (2018).
DOI: 10.1615/JPorMedia.v21.i5.50

42. Heat transfer enhancement of mixed convection in an inclined porous cavity using Cu-water nanofluid,
M. Rajarathinam, N. Nithyadevi, and A. J. Chamkha,
Advanced Powder Technology, 29, 590-605 (2018).
DOI: https://doi.org/10.1016/j.apt.2017.11.032

41. Convection in a sinusoidally heated square enclosure utilizing Ag-water nanofluid with heat generating solid body,
P. Umadevi, and N. Nithyadevi,
International Journal of Mechanical Sciences, 131-132, 712-721 (2017).
DOI: https://doi.org/10.1016/j.ijmecsci.2017.08.015

40. Density maximum effect of double diffusive mixed convection heat transfer in a two-sided lid-driven porous cavity,
N. Nithyadevi, M. Rajarathinam, and N. Suresh,
Special Topics and Review in Porous Media: An International Journal, 8, 245-261 (2017).

DOI: 10.1615/SpecialTopicsRevPorousMedia.v8.i3.60

39. Heat transfer enhancement of Cu-water nanofluid in an inclined porous cavity with internal heat generation,
M. Rajarathinam, and N. Nithyadevi,
Thermal Science and Engineering Progress, 4, 35-44 (2017).
DOI: https://doi.org/10.1016/j.tsep.2017.08.003

38. MHD natural convective Ag-water nanofluid flow in an enclosure having internal heat generation with centre heater and bottom heat source,
N. Nithyadevi, T. Mahalakshmi, and C. Udhaya Shankar,
International Journal of Nanoparticles, 9, 244-264 (2017).
DOI: 10.1504/IJNP.2017.089449

37. A numerical study on MHD natural convective heat transfer in an Ag-water nanofluid filled enclosure with center heater,
N. Nithyadevi, and T. Mahalakshmi,
Journal of Korean Society for Industrial and Applied Mathematics, 21, 225-244 (2017).
DOI: https://doi.org/10.12941/jksiam.2017.21.225

36. Boundary stratum exploration of unsteady 3D MHD stagnation point flow of Al–Cu water nanofluid,
N. Nithyadevi, P. Gayathri, and N. Sandeep,
International Journal of Mechanical Sciences, 131–132, 827-835 (2017).
DOI: https://doi.org/10.1016/j.ijmecsci.2017.08.003

35. Thermal design of a sensor for building control equipped with QFN electronic devices subjected to free convection. Effects of the encapsulating resin,
A. Bairi, N. Nithyadevi, I. Bairi, A. Martin-Garin, and J. A. Millan-Garcia,
Energy and Buildings, 141, 218-225 (2017).
DOI: https://doi.org/10.1016/j.enbuild.2017.02.022

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