ATRIA INSTITUTE OF TECHNOLOGY
Anandanagar, Bengaluru – 560 024

Department of Basic Science Engineering & Humanities

Highlights

For Internal Circulation

Department of Basic Science Engineering & Humanities
Atria Institute of Technology,
Anandanagar,Bengaluru 560024

+91 - 80 23631298

+91 99017 29710

About the Department

Dr. Nalinakshi N
M.Sc., M.Phil., Ph.D.
Professor & Head,
Department of Basic Science Eng. & Humanities
Atria Institute of Technology
Anandanagar, Bengaluru – 560 024

The department of Basic Sciences Engineering and Humanities is a first rostrum all the aspiring engineers step on to. It strongly believes that knowledge is the base of all basic sciences and it strives to achieve this power to its best. This Department is devoted to foster the fundamental principles and understanding of Science to enhance the students' basic knowledge of Engineering. It offers excellent introductory courses in Mathematics, Physics, Chemistry and English which will both instruct and stimulate students in all of the University's programs. The department believes that engineers are a significant source of technological innovation and expertise. To achieve this belief, the department continuously fosters students to focus on their brainpower on solving problems through the application of science and mathematics, discovering new ways to make life better for the general public. Students are guided by well experienced and highly qualified faculty members who strive to improve the students learning, research and development processes. The "spark" of creativity is a hallmark of the department and it endeavor to create the same zest amongst all the budding engineers and this process is unceasing.

Webinars/Guest Lectures

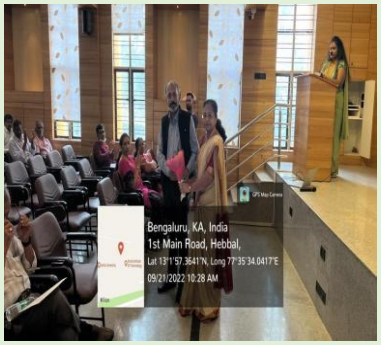
1. Teaching Learning Effectiveness

Speaker : Dr. Ashok D Belagundu
Topic : *"Teaching Learning Effectiveness- Techniques that have worked well for me"*
Date : July 1 2022

The department of Basic Science Engineering and Humanities in association with IUCEE organized a Motivational Talk on the 1st of July 2022. Dr. Ashok D Belegudu was invited as the speaker who spoke on the topic "Teaching-Learning Effectiveness - Techniques that have worked well for me".

The speaker mainly focused on how learning can be made more effective for students by adding creativity to their assignments. He expressed that when students are given a space to work on their own they overcome their boundaries and try learning something new. Moreover, the assignments must be crafted in such a way that they must enable them to work as a team and learn from each other. This talk helped teachers to move towards creating a space for students to work effectively and efficiently.

2. I-Stem



Speaker : Dr. Sanjeev Kumar Srivastava
Topic : I-STEM facility
Date : September 21 2022

The department of Basic Science Engineering and humanities organized a guest lecture on the implementation of the I-STEM facility at the institution for the welfare of the faculty on 21st September 2022. I-STEM elaborated as the Indian Science Technology and Engineering facilities Map, is an initiative by the Scientists of the Indian Institute of Science Bangalore, to strengthen the R&D ecosystem by connecting researchers with resources.

Dr. Sanjeev Kumar Srivastava, the man behind this initiative was invited as the speaker, who engaged the audience by briefing them about the implementation and growth of the I-STEM facility throughout the country. He stated that this facility will help faculty to pursue good lines with their research and that it would solve most of their queries.

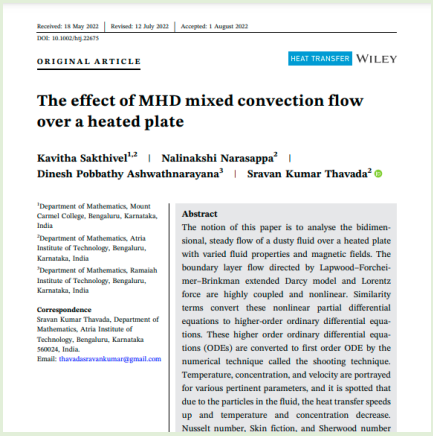
FACULTY ACHIVEMENTS

Hearty Congratulations to Dr. Nalinakshi N

Dr. Nalinakshi N

Hearty congratulations to Dr. Nalinakshi N

1. Receiving Best Professor Award
2. Publishing a paper on the topic "The effect of MHD mixed convection flow over a heated plate "
3. Lead coordinator Faculty for the courses offered in IUCEE
4. Team Leader of the IUCEE Atria Chapter NEP Program.



Received: 18 May 2022 | Revised: 12 July 2022 | Accepted: 1 August 2022
DOI: 10.1002/htj.22675

ORIGINAL ARTICLE — HEAT TRANSFER — WILEY

The effect of MHD mixed convection flow over a heated plate

Kavitha Sakthivel[1,2] | Nalinakshi Narasappa[2] | Dinesh Pobbathy Ashwathnarayana[3] | Sravan Kumar Thavada[2]

[1]Department of Mathematics, Mount Carmel College, Bengaluru, Karnataka, India
[2]Department of Mathematics, Atria Institute of Technology, Bengaluru, Karnataka, India
[3]Department of Mathematics, Ramaiah Institute of Technology, Bengaluru, Karnataka, India

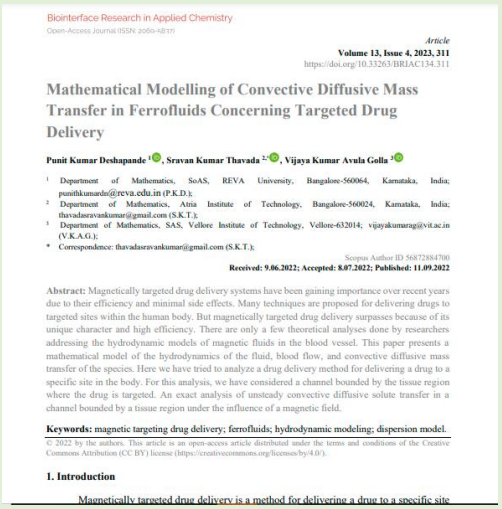
Correspondence
Sravan Kumar Thavada, Department of Mathematics, Atria Institute of Technology, Bengaluru, Karnataka 560024, India.
Email: thavadasravankumar@gmail.com

Abstract
The notion of this paper is to analyse the bidimensional, steady flow of a dusty fluid over a heated plate with varied fluid properties and magnetic fields. The boundary layer flow directed by Lapwood–Forchheimer–Brinkman extended Darcy model and Lorentz force are highly coupled and nonlinear. Similarity terms convert these nonlinear partial differential equations to higher-order ordinary differential equations. These higher order ordinary differential equations (ODEs) are converted to first order ODE by the numerical technique called the shooting technique. Temperature, concentration, and velocity are portrayed for various pertinent parameters, and it is spotted that due to the particles in the fluid, the heat transfer speeds up and temperature and concentration decrease. Nusselt number, Skin fiction, and Sherwood number

Faculty Achievements Contd

Hearty Congratulations to Dr. SravanKumar T

Dr. Sravankumar T



Biointerface Research in Applied Chemistry

Article

Volume 13, Issue 4, 2023, 311

https://doi.org/10.33263/BRIAC134.311

Mathematical Modelling of Convective Diffusive Mass Transfer in Ferrofluids Concerning Targeted Drug Delivery

Punit Kumar Deshapande [1], Sravan Kumar Thavada [2,*], Vijaya Kumar Avula Golla [3]

[1] Department of Mathematics, SoAS, REVA University, Bangalore-560064, Karnataka, India; punithkumards@reva.edu.in (P.K.D.);
[2] Department of Mathematics, Atria Institute of Technology, Bangalore-560024, Karnataka, India; thavadasravankumar@gmail.com (S.K.T.);
[3] Department of Mathematics, SAS, Vellore Institute of Technology, Vellore-632014; vijayakumarag@vit.ac.in (V.K.A.G.);
* Correspondence: thavadasravankumar@gmail.com (S.K.T.);

Scopus Author ID 56872884700

Received: 9.06.2022; Accepted: 8.07.2022; Published: 11.09.2022

Abstract: Magnetically targeted drug delivery systems have been gaining importance over recent years due to their efficiency and minimal side effects. Many techniques are proposed for delivering drugs to targeted sites within the human body. But magnetically targeted drug delivery surpasses because of its unique character and high efficiency. There are only a few theoretical analyses done by researchers addressing the hydrodynamic models of magnetic fluids in the blood vessel. This paper presents a mathematical model of the hydrodynamics of the fluid, blood flow, and convective diffusive mass transfer of the species. Here we have tried to analyze a drug delivery method for delivering a drug to a specific site in the body. For this analysis, we have considered a channel bounded by the tissue region where the drug is targeted. An exact analysis of unsteady convective diffusive solute transfer in a channel bounded by a tissue region under the influence of a magnetic field.

Keywords: magnetic targeting drug delivery; ferrofluids; hydrodynamic modeling; dispersion model.

1. Introduction

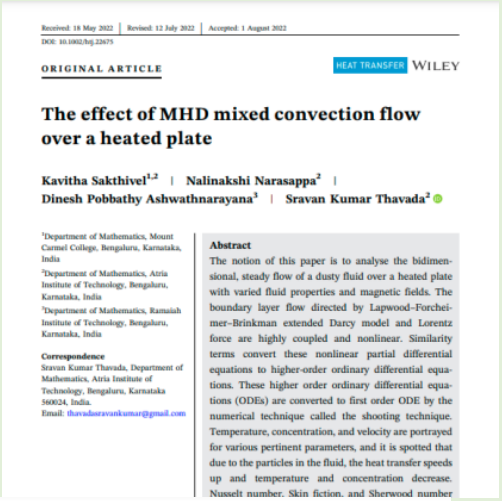
Magnetically targeted drug delivery is a method for delivering a drug to a specific site

Hearty congratulations to Dr. Sravankumar T for

1. Publishing a paper on the topic "Numerical Study of moving fin with thermal properties.

2. Publishing a paper on the topic "Mathematical Modelling of Convective Diffusive Mass transfer in Ferrofluids concerning Targeted drug delivery.

3. Receiving the guide ship under VTU.



Received: 18 May 2022 | Revised: 12 July 2022 | Accepted: 1 August 2022

DOI: 10.1002/htj.22675

ORIGINAL ARTICLE

HEAT TRANSFER WILEY

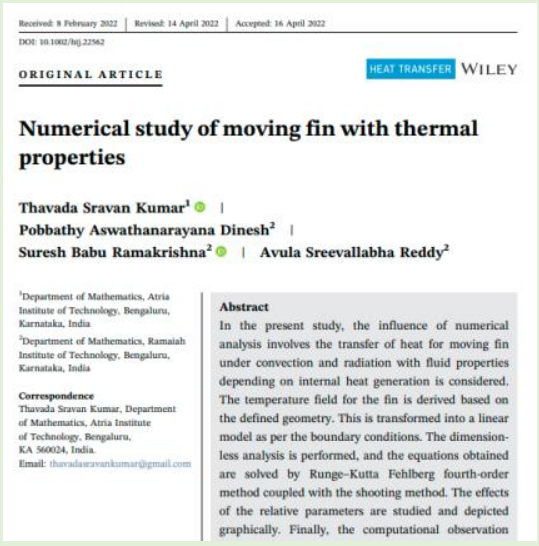
The effect of MHD mixed convection flow over a heated plate

Kavitha Sakthivel[1,2] | Nalinakshi Narasappa[2] | Dinesh Pobbathy Ashwathnarayana[3] | Sravan Kumar Thavada[2]

[1]Department of Mathematics, Mount Carmel College, Bengaluru, Karnataka, India
[2]Department of Mathematics, Atria Institute of Technology, Bengaluru, Karnataka, India
[3]Department of Mathematics, Ramaiah Institute of Technology, Bengaluru, Karnataka, India

Correspondence
Sravan Kumar Thavada, Department of Mathematics, Atria Institute of Technology, Bengaluru, Karnataka 560024, India.
Email: thavadasravankumar@gmail.com

Abstract
The notion of this paper is to analyse the bidimensional, steady flow of a dusty fluid over a heated plate with varied fluid properties and magnetic fields. The boundary layer flow directed by Lapwood–Forchheimer–Brinkman extended Darcy model and Lorentz force are highly coupled and nonlinear. Similarity terms convert these nonlinear partial differential equations to higher-order ordinary differential equations. These higher order ordinary differential equations (ODEs) are converted to first order ODE by the numerical technique called the shooting technique. Temperature, concentration, and velocity are portrayed for various pertinent parameters, and it is spotted that due to the particles in the fluid, the heat transfer speeds up and temperature and concentration decrease. Nusselt number, Skin fiction, and Sherwood number



Received: 9 February 2022 | Revised: 14 April 2022 | Accepted: 16 April 2022

DOI: 10.1002/htj.22562

ORIGINAL ARTICLE

HEAT TRANSFER WILEY

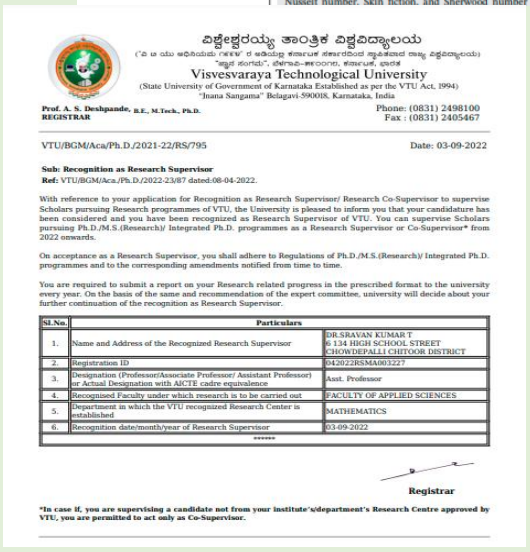
Numerical study of moving fin with thermal properties

Thavada Sravan Kumar[1] | Pobbathy Aswathanarayana Dinesh[2] | Suresh Babu Ramakrishna[2] | Avula Sreevallabha Reddy[2]

[1]Department of Mathematics, Atria Institute of Technology, Bengaluru, Karnataka, India
[2]Department of Mathematics, Ramaiah Institute of Technology, Bengaluru, Karnataka, India

Correspondence
Thavada Sravan Kumar, Department of Mathematics, Atria Institute of Technology, Bengaluru, KA 560024, India.
Email: thavadasravankumar@gmail.com

Abstract
In the present study, the influence of numerical analysis involves the transfer of heat for moving fin under convection and radiation with fluid properties depending on internal heat generation is considered. The temperature field for the fin is derived based on the defined geometry. This is transformed into a linear model as per the boundary conditions. The dimensionless analysis is performed, and the equations obtained are solved by Runge–Kutta Fehlberg fourth-order method coupled with the shooting method. The effects of the relative parameters are studied and depicted graphically. Finally, the computational observation



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

Visvesvaraya Technological University

(State University of Government of Karnataka Established as per the VTU Act, 1994)

"Jnana Sangama" Belagavi-590018, Karnataka, India

Prof. A. S. Deshpande, B.E., M.Tech., Ph.D.
REGISTRAR

Phone: (0831) 2498100
Fax : (0831) 2405467

VTU/BGM/Aca/Ph.D./2021-22/RS/795 Date: 03-09-2022

Sub: Recognition as Research Supervisor
Ref: VTU/BGM/Aca./Ph.D./2022-23/87 dated:08-04-2022.

With reference to your application for Recognition as Research Supervisor/ Research Co-Supervisor to supervise Scholars pursuing Research programmes of VTU, the University is pleased to inform you that your candidature has been considered and you have been recognized as Research Supervisor of VTU. You can supervise Scholars pursuing Ph.D./M.S.(Research)/ Integrated Ph.D. programmes as a Research Supervisor or Co-Supervisor* from 2022 onwards.

On acceptance as a Research Supervisor, you shall adhere to Regulations of Ph.D./M.S.(Research)/ Integrated Ph.D. programmes and to the corresponding amendments notified from time to time.

You are required to submit a report on your Research related progress in the prescribed format to the university every year. On the basis of the same and recommendation of the expert committee, university will decide about your further continuation of the recognition as Research Supervisor.

Sl.No.	Particulars	
1.	Name and Address of the Recognized Research Supervisor	DR.SRAVAN KUMAR T 6 134 HIGH SCHOOL STREET CHOWDEPALLI CHITOOR DISTRICT
2.	Registration ID	0420222RSMA003227
3.	Designation (Professor/Associate Professor/ Assistant Professor) or Actual Designation with AICTE cadre equivalence	Asst. Professor
4.	Recognised Faculty under which research is to be carried out	FACULTY OF APPLIED SCIENCES
5.	Department in which the VTU recognized Research Center is established	MATHEMATICS
6.	Recognition date/month/year of Research Supervisor	03-09-2022
	******	

Registrar

*In case if, you are supervising a candidate not from your institute's/department's Research Centre approved by VTU, you are permitted to act only as Co-Supervisor.

Faculty Achievements Contd

Hearty Congratulations to Prof. Nagendra Naik K

Prof. Nagendra Naik

Congratulations sir for publishing the paper on the topic "A Remark on Normalized Laplacian eigenvalues of signed graph"

CORRECTION*
A remark on Normalized Laplacian eigenvalues of signed graph

B. PRASHANTH, K. NAGENDRA NAIK AND R. SALESTINA M

Abstract

With this article in mind, we have found some results using eigenvalues of graph with sign. It is intriguing to note that these results help us to find the determinant of Normalized Laplacian matrix of signed graph and their coefficients of characteristic polynomial using the number of vertices. Also we found bounds for the lowest value of eigenvalue.

Mathematics Subject Classification 2010: 05C50, 15A18, 05C22
Keywords: Marked graph; Signed graph; Switched signed graph Balanced signed graph.

1. INTRODUCTION

The readers should refer to [6] for expression and notations of graph theory and only simple and finite graphs are considered.
A Signed graph $\Gamma = (G(V, E), \nabla)$ is a graph with positive and negative signs in every edge, where G is the underlined graph without signs and ∇ is the function from the collection of edges E to the set having positive and negative signs.
One of the main applications of signed graphs is to represent the relationship among people where we assign a positive sign if the relationship between two individuals is pleasant, otherwise we assign a negative sign. [10] & [5].
The *balanced* signed graph was introduced by F.Harary[7] and he defines that *every* cycle of a *balanced* signed graph has negative edges in even number if not Γ is said to be *unbalanced*. In [8], Harary and Kebel showed a simple algorithm for balancing of a signed graph.
A graph that has been marked Γ_v is a signed graph with positive or

* Correction of the title of the paper B. Prashanth, K. Nagendra Naik and R. Salestina M, Restructured class of estimators for population mean using an auxiliary variable under simple random sampling scheme. Journal of Applied Mathematics, Statistics and Informatics 17 (2), 75-90, 2021. DOI: https://doi.org/10.2478/jamsi-2021-0010

10.2478/jamsi-2022-0008
©University of SS. Cyril and Methodius in Trnava

sciendo

110 B. Prashanth, K. Nagendra Naik and R. Salestina M

Hearty Congratulations to Dr. Prakashaiah B G

Dr. Prakashaiah B G

Congratulations sir for publishing the paper with Atria Affiliation on the topic "A study of Corrosion Behaviour of (E)-2 (3, 4-dihydroxybenzylidene) hydrabenzinecarbothoioamide and Bis[[3, 4- dihydrozybenzylidene} Carbothioicdehydrazide} Sealed Anodized AA204-T3.

A Study of Corrosion Behavior of (E)-2-(3,4-dihydroxybenzylidene) hydrazinecarbothioamide and Bis [[3,4-dihydroxyphenylmethylene] Carbonothioicdihydrazide]-Sealed Anodized AA2024-T3

B. G. Prakashaiah · Gururaj Kudur Jayaprakash · B. E. Amitha Rani

Abstract

Keywords

1 Introduction

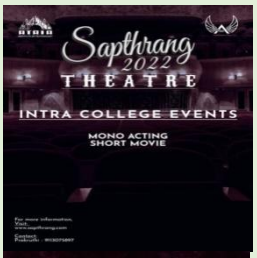
Jeslin G

Hearty congratulations for successfully completing the NPTEL Course

Anu S

Hearty congratulations for successfully completing the NPTEL Course

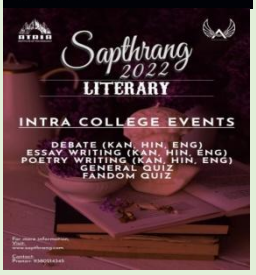
SAPTHRANG



Event Name: Sapthrang
Date: 24th June 2022

Sapthrang the most awaited cultural extravaganza was organized on 24th and 25th of June 2022. It is a platform for aspiring talents.

Students of our Basic Science Department participated and coordinated in many challenging events such as Fashion, Theatre, Literature, Music, Art, and Dance, and won awards and recognition.



INDUSTRIAL VISIT-ISRO

Event: Industrial Visit
Date: 25 August 2022

The department of Basic Science Engineering and Humanities, had organized an industrial visit to URSC - ISRO campus on 25 August 2022. The main objective of this visit was to help students identify and understand the advancements made in the field of space technology. And an industry collaboration would further help them to understand the different dimensions of academic study.
There were nearly 106 students and 4 faculty members, who had accompanied the students on the visit. The visit took place between 2:00 pm - 4:00 pm, where students were taken on a tour to the Clean Room, where they had an opportunity to view the scientists working on the Oceansat satellite. Students were thrilled to see a live satellite and had an idea of how they were prepared. This was followed by a walk through the museum, where various models of satellites and spacecraft were demonstrated. Students took time to understand the transitional shift made in the field of aerospace and were able to

connect a few items to their academics.

PARENTS TEACHERS MEET

Event Name: Parents Teachers Meet
Date: 30th July 2022

Parents Teachers Meeting was held on 30th July 2022 for I year BE Students at 10:30 AM in their respective classrooms to discuss the performance of the current semester and previous semester results with their parents. Parents had given feedback on their ward's performance and suggestions were noted.

PHOTO SESSION

Event Name: Photo Session
Date: 29th August 2022

Class Photograph session for all the sections (Physics cycle and Chemistry cycle) in formal dress code was conducted on 29th August 2022.
The students with the highest score and also the students with Centum were awarded during the session. The Class Representatives were also recognized with certificates for acting as a bridge between teachers and students.

The students of all sections decided on the same color dress code and made the day memorable.

INDEPENDENCE DAY

Event Name: Freedom March
Date:15th August 2022

Basic Science Department participated in the 'Freedom March- a march for freedom, for hope and for our pride" on the occasion of 75th independence day celebrations at Field Marshal Manekshaw Parade Ground. Many of our faculty and students participated in the march and received certificates for the same.

NAAC AWARENESS PROGRAM

Event Name: NAAC Awareness Program
Speaker: Dr. T N Sreenivas
Date: 17th August 2022

The Department of Basic Science Department collaborated with IQAC had organized a workshop on the NAAC Awareness Program on August 17 2022 at 2:00 pm. The session was held in the seminar for all the teaching and non-teaching staff.

Principal Dr. T N Srinivasa oriented the faculty on the steps to attain NAAC grades and motivated them to work for the same. A bird's eye view of all the 7 Criteria was briefed to the faculty.

INTERNSHIP ORIENTATION PROGRAM BY DEPARTMENT

Event: Orientation Program – CV Department – Dr. Surendra H J on 17th August 2022
Event: Orientation Program – ME Department – Dr. M S Rajendra on 22nd August 2022
Event: Orientation Program – CSE & CSD Department – Dr. Aishwarya P on 22nd August 2022
Event: Orientation Program – ISE Department – Dr. Shanthi Mahesh on 23rd August 2022
Event: Orientation Program – ECE Department – Dr. Arun Balodi On 24th August 2022

BSE department organized an orientation program for 1 year BE students. The main objective of the program was to introduce them to their Parent branch, academic aspects, faculties of the department, internships, fests, etc which would be held from the 2 years onwards.
Students were enthusiastic to know more about their parent branch and to coordinate with the stream.

Editors:
Dr. Nalinakshi N
Mr. Chethan P.B
Ms. Jeslin G
Ms.Anu.S