

# ATRIA INSTITUTE OF TECHNOLOGY

Anandanagar, Bengaluru – 560 024

Department of Basic Science Engineering & Humanities



## Highlights - February 2019

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A Cordial Welcome to the new tutors of the Department

# For Internal Circulation

Department of Basic Science Engineering
& Humanities
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# About the Department



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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.

## NATIONAL SCIENCE DAY - 2020

In order to commemorate the discovery of Raman Effect also known as National Science Day, the Department of Basic Sciences Engineering and Humanities had celebrated this day by organizing several activities for the first year students.

The day commenced with organizing a webinar by adhering to the theme "Women in Science." \_\_\_\_\_\_ was invited as the speaker of the day. The dais was also shared by the Principal Dr. K V Narayanaswamy, and the event coordinator Dr. Nalinakshi N, HoD of BSE Department. The event began with the formal invocation followed with Dr. Nalinakshi giving the welcome speech. This was followed with the guest of the day addressing the audience. Ma'am had enlightened the audience on the effective role played by women in the field of Sciences. She had quoted few instances in the field of sciences where women had played a prominent role in the development process. The event came to an end with the Principal felicitating the speaker continued by the closing ceremony.

In accordance with the day, various science events such as Quiz, Model Making, Sci-Hunt, and Best Out of Waste were conducted for the first year students. A separate workshop on IOT was organized by Prof. Sufiyan from the ECE department, to give a hands on experience to students on the new modern technology. The events were spread throughout the day and students actively participated in it. The valedictory ceremony was conducted in the evening and the winners of each of the events were awarded by the Principal.





The following are the winners of the respective events

Events	1 <sup>st</sup> winners	2 <sup>nd</sup> Winners
Quiz/Debate	Yaseen Ahmed & Ashik R Reddy from E Section	Chetas & Harshith from J Section
Sci Hunt	Manohar ,Vamshi Krishna ,Amrut Wali & Chandu M T from D, D, D and J Section	Pavithra Hegde, Nayana N & Rashmi from H Section
Best out of Waste	Anay Malviya & Ankit Sharma from A Section	Ashwin Krishna U, Ayush Roy & Manjunath V from A, A and G Sec
Project Expo	Harini from C Section	





## Quiz conducted during Lock down

- 1. Organized "Basic Mathematics Quiz" at the Departmental level. (<a href="https://forms.gle/An7dbMVPQV8dtZs98">https://forms.gle/An7dbMVPQV8dtZs98</a>)
- 2. Organized "Basic Chemistry Quiz" at the Departmental level. (<a href="https://forms.gle/n5xzyzBMNgBNFBXu9">https://forms.gle/n5xzyzBMNgBNFBXu9</a>)
- 3. Organized "Basic Physics Quiz" at the Departmental level. (https://forms.gle/Fpnsd3sX4WtCtKTH7)
- 4. Organized an intercollegiate "Basic English Quiz" at the Departmental level. (<a href="https://forms.gle/QWZo18oQTycJaCa17">https://forms.gle/QWZo18oQTycJaCa17</a>)

Quiz Name	No. Registered	No. Took Certificate
"Basic Mathematics Quiz"	1648	975
"Basic Chemistry Quiz"	1220	892
"Basic Physics Quiz"	1282	921
"Basic English Quiz"	1437	665









## Skill Development Program

The department of Basic Sciences Engineering and Humanities had organized a Skill development program for the first year students on 18th of February 2020. The program aimed at improving the skills pertaining to communication and employment. Students were trained on the effective ways of workplace communication and were later asked to give an individual seminar, by using the skills they had gathered during the program, by choosing any topics pertaining to their syllabus. They were given a period of one week for the same and then were asked to give a presentation. Students actively participated and came up with innovative strategies to engage with the presentation which further helped them to build confidence developing their in workplace communication skills





## **Faculty Achievements**

### **Hearty Congratulations to Kshama Jain**



Title: H-R iterated functions. Journal of National Journal of Arts, Commerce and Scientific Research Review- Vol.6, Issue 01, 2019. The Emergence of Start up Eco system in India organized at Indo Asian Academy, Bangalore on 30<sup>th</sup> April 2019.

### H-R Iterated Function Systems

Kshama Jain
Indo Asian Academy Co-Ed Degree College, Bangalore, India

The study of fractals is an exciting science that offers research possibilities in any number of application areas and in pure mathematics itself. One of the more exciting and profound developments in the construction of fractals sets, is the use of iterated function systems (IFS). Different contractive mappings have been used in generating IFS. In this paper, we are introducing Hardy-Rogers iterated function system (H-R IFS) in the setting of b-metric space which will cover a larger range of mappings.

MSC2010: 47H10. 54H25

### 1. Introduction

Many objects in nature are so complicated and irregular that it is hopeless to use just the familiar objects from classical geometry to model them. Dynamical behavior in nature can be complicated and irregular. The term fractal was introduced in 1975 by Benoit Mandelbrot, a

familiar objects from classical geometry to model them. Dynamical behavior in nature can be complicated and irregular. The term fractal was introduced in 1975 by Benoit Mandelbrot, a pioneer in the field of fractal geometry [7]. Iterated Function System is a method of constructing fractals, which consists of a set of maps that explicitly list the similarities of the shape. The mathematics was developed by John Hutchinson [6] and the method was popularized by Michael Barnsley [3] and others. The idea of firactals and especially IFS has been extensively studied because of its variety of application in fractal approximation, fractal modeling, computer graphics, image compression and so on. For years, IFSs have become powerful tools for construction and analysis of new typical fractal sets. In order to construct a fractal, one usually draws support from known fixed point results obtained in the setting of appropriate spaces (see, for instance [10-18]). Adrian Petrusel has discussed about finite family of single valued and multivalued operators satisfying Meir Keeler mapping by using Hutchinson Barnsley to prove the fixed point theorem in fractals [9]. S.L. Singh et al. [22] have presented a development of the Hutchinson Barnsley (HB) theory for a system of single valued and multi-valued contractions on metric spaces. Sahu et al. [20] have introduced K-Iterated Function System using Kannan mapping to prove fixed point theorem in complete metric space and theorem. In 2015, Xu et al. [24] followed Hutchinson, Sahu and Chakraborty and established a new more generalized iterated function system. In this paper, we are introducing Hardy-Rogers iterated Function System which is certainly contains many IFS exists in literature.

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## **Faculty Achievements**

with Magnetic field.

### Hearty Congratulations to Dr. Nalinakshi N

Paper published in Springer



Title:
Study of Viscous fluid flow past an impervious cylinder in a porous region

**Nalinakshi N**, Title: *Study of viscous fluid flow past an impervious cylinder in a porous region with Magnetic field* published in Applied Mathematics and Scientific computing-pp 265-273



## **Cordial Welcome to the New Tutors of the Department**



### Prof. Umadevi R

Prof.Umadevi R, holds her Masters' Degree in Mathematics – Fluid Mechanics from Bangalore University. She is currently pursuing her PhD program and has also completed her Open Seminar on Fluid Flow Past and Through a Composite Regions. She has presented three papers in International Conferences and actively participated in many Seminars and Faculty Development Programs. Ma'am has nearly 11 years of experience in the field of teaching. and is currently working as an Assistant Professor with AIT.

### Prof. Kshama Jain

Prof. Kshama Jain is an M.Sc. Mathematics Degree holder from Dr. Bhim Rao Ambedkar University. She has experience working in various renowned colleges of India and to add to her credit has also worked as the Sports coordinator, Cultural event coordinator and Aerobics trainer. Ma'am has also qualified her UGC-SET exam in 2017. She is currently pursuing her Ph.D. program from Dayananda Sagar University, Bangalore and is working on the research topic Mathematical Modeling of Infectious Disease Dynamics and Control.





Mr. Murali. T G

Mr. Murali. T G holds his M.Sc degree in Chemistry from Bharathidasan University, Thrichy. He has nearly 20 years of experience working in reputed Multinational Pharma industries such as M/S. Group pharma LTD, M/S. Medopharma LTD, M/S Choksi- lab Indore, M/S. Aurobindo pharma and M/S. Cadila pharma. He has nearly 10 years of experience working in various engineering colleges. Sir has qualified Laboratory Management Systems and Internal Audit as per ISO/17025 by NITS Noida (Bureau of Indian standard) quality manager pharma.

### Dr. Venkatesh . S

Dr. Venkatesh S has received his Doctoral degree from Vellore Institute of Technology in the research area of Organometallic Chemistry. During his research he has published nine research papers in various International journals. His research interest is "Organometallic Chemistry-synthesis, applications, Nanomaterials and Phytochemistry". Sir has qualified JRF AIR 90<sup>th</sup> (UGS-CSIR-NET) and GATE in 2011 and has served as a Research Scientist in two pharmaceutical industries like Organic India (R&D labs) Pvt Ltd and CIMED (R&D labs) Pvt Ltd.





### Dr. Shivaraj Madivalappa

Dr. Shivaraj Madivalappa holds a doctoral degree from Gulbarga University in the area of "Studies on Ferroelectric Polymer Thin Films". He has published 3 research papers in reputed International journals. He has 6 years of vast research experience in the field of material science and has taught Physics subject to post graduate students. Sir has a passion towards teaching and guiding students with research aspects. We welcome Dr. Shivaraj at BSE, AIT to guide our students with his academic and research experience in understanding the concepts of Physics in different core engineering subjects.

### Prof. Kanchana S K

Mrs. Kanchana S K holds Master degree in Physics, with Electronics specialization from Bangalore university. With a passion of teaching, she began her career as a lecturer of Physics and Electronics for PU, Polytechnic and graduate courses. She has 10 years of rich experience in academics. Presently she is pursuing her PhD in the area of "Nano Materials for Biomedical Applications" under VTU. We are glad to have Mrs. Kanchana at our department and wish her contribution would strengthen the growth of the department.





Prof. Savitha V

Prof. Savitha V is Pursuing her doctoral degree on Study of Nuclear Reactions Cross Section through Gamma Measurements at Dept. of Physics Bangalore university. She holds a Bachelor of education degree from Bangalore University. She has 7 years of experience in academics and taught physics subject to BSc and BE students. She has participated in many FDPs, conferences and faculty orientation programs. We are glad to have Ms. Savitha at our department and wish her contribution would strengthen the growth of the department

Editors: Dr. Nalinakshi N Mr. Chethan PB