



**DEPARTMENT OF MATHEMATICS**

Arul Anandar College (Autonomous),  
Karumathur – 625 514, Madurai.

# MathSpark

## Newsletter

ISSUE : 2

JULY 2022

### A commemoration of 50 years of Math Journey at AAC

#### Editor's Desk



The Department of Mathematics with its joy of accomplishing 50 years of remarkable educational service to the rural student community has stepped into the academic year 2021-22 with the same zeal of achieving a lot more in the dimensions of academics, research and extension. During this year the department has taken several initiatives to rejuvenate its association with the alumni and this has resulted in institutionalizing an Alumni Endowment Scholarship of **Rs. 2,00,000/-** in the name of **MATH ALUMNI 1981 - 84** to cater to the educational needs of the deserving students. The department has organized an International Conference on **Recent Advances of Pure and Applied Mathematics with Industrial Applications** together with a conclave of resource experts in the fields of mathematical modelling and business management. One of the significant breakthroughs in the dimension of research is the visit paid by the Inspection Commission appointed by Madurai Kamaraj University for approving the department with research centre status. I am highly obliged to appreciate the coordinated efforts of the faculty members behind the successful endeavours of the department especially at times of the NAAC peer team visit for accreditation (IV cycle) and also I wish the department to ascend in the ladder of success in the coming years.

**Dr. J. Xavier Adaikalaraj**  
Associate Professor & Head

#### Significant Events

##### Alumni Endowment

As a token of gratitude to the Department of Mathematics, the alumni of 1981-84 batch have constituted a MATH ALUMNI endowment of Rs. 2,00,000/- for empowering the student community. The Department of Mathematics has decided to utilize this endowment for the most deserving students.



Mr. Rajagopal, Branch Manager, LIC Coimbatore, Mr. Gopalsamy, Industrialist, Coimbatore and Mr. Muthu Chandrasekar, Businessman, Coimbatore have together played a key role along with Mr. J. Robert Dhiliban, Alumni member for this great endeavour.

##### Inspection for Research Centre Approval



In response to the submission of research centre proposal, the Madurai Kamaraj University has appointed a Two-Member Inspection Commission comprising of Dr. S. Soma Sundaram, Professor, Department of Mathematics, Manonmaniam Sundaranar University Tirunelveli and Dr. K. Nagarajan, Professor (Retd.), Department of Mathematics, Kalasalingam University, Krishnankoil who visited the department on 25 April 2021. The experts of the inspection commission were highly satisfied with the functioning of the department and infrastructure facilities provided by the college management to facilitate research activities. The inspection ended with the final meeting at the Principal's office.

#### New Appointments



**Mr. R. Chinnapparaj**  
M.Sc., M.Phil., SET, NET,



**Ms. P. Deepika**  
M.Sc., B.Ed., M.Phil., SET,

*Hearty wishes for your career at  
Arul Anandar College.*



### Curriculum Enrichment

The Board of Studies in Mathematics was held on 15 February 2022 to introduce new structure and syllabi (I & II Semesters) of both UG and PG programmes for the students joining from the academic year 2022-23 onwards. The meeting was headed by Dr. J. Xavier Adaikalaraj, Associate Professor and Head, Department of Mathematics together with the *University Nominee*, Dr. T. Asir, Assistant Professor of Mathematics, Directorate of Distance Education, Madurai Kamaraj University, Madurai; *External Members*, Dr. S. Vimala, Assistant Professor of Mathematics, Mother Teresa University, Kodaikanal and Dr. R. Muthuraj, Assistant Professor of Mathematics, HH The Rajah's College (Autonomous) (Affiliated to Bharathidasan University, Trichy), Pudukottai; *Industrial Expert*, Mr. S. Amalan, Senior Software Engineer, Korcomptenz Inc., Chennai; *Alumni Representative*, Mr. M. Dileepan, Assistant Professor of Mathematics, PMT College, Usilampatti and other faculty members of the department. Also, the syllabi for four career oriented courses for UG students and two value added courses for PG students were proposed and received the approval of the external experts. The suggestions given by the experts were also incorporated.

### Faculty Achievements

Besides, routine academic responsibilities, the faculty members of the Department of Mathematics have given their best contributions in various dimensions.

### Higher Qualifications



Dr. R. Premkumar has completed his Ph.D. viva-voce entitled "Some novel contributions to Nano Topological and Ideal Nano Topological Spaces" at Madurai Kamaraj University on 6 May 2022.

Dr. Nivetha Martin has completed M.Sc. Psychology at Alagappa University in distance mode.

### SWAYAM – NPTEL COURSES

- Dr. Nivetha Martin has completed a four weeks course on "Laplace Transform" in September 2021
- Mr. J. Robert Dhiliban & Dr. Nivetha Martin have completed a four weeks course on "Introduction to Machine Learning" in April 2022

### Project

Dr. Nivetha Martin has received a student project entitled, "Fuzzy Cognitive Study on the Post Pandemic Impact on the Occupational Shift with Special Reference to Usilampatti Block" from TNSCST, March 2022.

### Research

The faculty members have also contributed to research to a great extent by publishing patents, books and book chapters, articles in reputed and peer-reviewed journals, and presentations of research articles in conferences organized by other institutions both at national and international levels. In addition, the faculty members have also participated in conferences, seminars and workshops hosted by other institutions to enhance their knowledge in disciplinary areas and in other domains.

Patent Publications	02
Publications of Books	02
Contributions of Book Chapters	05
Publication of Articles in Journals	16
Paper Presentations	06
Participation	10

### Research Scholars:

A total of 10 Ph.D. research scholars are currently pursuing their research under the guideship of three research supervisors.

### Sharing of Expertise

The faculty members have served as resource persons and delivered lectures on various topics on Applications of Mathematics, Data Analytics, Skill Development, Cognitive Modelling and Outcome Based Education in both online and physical mode.



Faculty	Title of the Programme	Institution and Place	Date
<b>Dr. M. Gilbert Rani</b>	Online International Workshop on Personality Metamorphosis	Research Culture Society & Scientific Research Association, Gujarat	27.07.2021 to 31.07.2021
	Online International Workshop on Documentation through LATEX Software	Research Culture Society & Scientific Research Association, Gujarat	07.08.2021 to 11.08.2021
	Online International Workshop on Research Data Analysis using SPSS	Research Culture Society & Scientific Research Association, Gujarat	23.08.2021 to 29.08.2021
	Guest Lecture on Outcome Based Education	Thassim Beevi Abdul Kadar College for Women, Kilakarai	13.01.2022 to 15.01.2022
	Guest Lecture on A Prime Look of R Programming	S.Vellaichamy Nadar College, Madurai	10.03.2022
	Faculty Development Programme on Pedagogy about Software Development	VELS Institute of Science and Technology, Chennai	21.04.2022
<b>Dr. G. Ramkumar</b>	Guest Lecture on Amazing Analysis	V.H.N.Senthikumara Nadar College, Virudhunagar	04.03.2021
	Seminar on Recent Trends in Mathematical Research	Kaliswari College, Sivakasi	10.03.2021
<b>Dr. Nivetha Martin</b>	Online Workshop on Life Skills Management	REST Society for Research International (RSRI), Krishnagiri	07.06.2021 to 11.06.2021
	Online Three Day Workshop on Introduction to R Programming	G.T.N. Arts College, Dindigul	05.07.2021 to 09.07.2021
	Webinar Series on Transdisciplinary Research Approaches	G.T.N. Arts College, Dindigul	18.07.2021 to 21.07.2021
	One Day Hands on Session on Preparation of OBE Question bank	G.T.N. Arts College, Dindigul	26.08.2021
	STTP on Basic Business Analytics	REST Society for Research International, Krishnagiri	04.10.2021 to 09.10.2021
	Webinar on Pre and Post Pandemic Socio Cultural and Educational Realms: Trends Strategies and Paradigm Shifts	Gurudev Arts and Science College, Kerala	25.10.2021
	Workshop on National Service Scheme	Arul Anandar College (Autonomous), Karumathur	19.11.2021
	Online Installation Ceremony of I-math club	PSNA College Engineering and Technology, Dindigul	29.01.2022
	Guest Lecture in Career Guidance Programme	Periyarayagi Rengaswamy Matric Higher Secondary School, Nilakottai	23.03.2022
	Served as Judge in TNSCST Sponsored Dist. level Intercollegiate Science Exhibition	G.T.N. Arts College, Dindigul	25.03.2022
	Guest Lecture on Math in Machine Learning	V.H.N.Senthikumara Nadar College, Virudhunagar	13.04.2022
	Chaired Paper presentation session of the Online International Conference on Present Trends in Applications of Mathematics	Holy Cross College, Tiruchirappalli.	19.04.2022 to 20.04.2022
	Guest lecture on Fuzzy Machine Learning	VIT University, Chennai	23.04.2022
	National Level Webinar on Fuzzy Decision Making Methods	Bharath College of Science and Management	02.05.2022
	Guest Lecture on Assessment Strategy for Outcome Based Education	Sri Meenakshi Govt Arts College for Women, Madurai	27.05.2022
<b>Dr. I. Pradeepa</b>	Seminar on Recent Trends in Mathematical Research	Kaliswari College, Sivakasi	10.03.2021
<b>Dr. R. Premkumar</b>	Online International Workshop on Documentation through LATEX Software	Research Culture Society & Scientific Research Association, Gujarat	07.08.2021 to 11.08.2021

## MOU



A Memorandum of Understanding (MOU) was signed with the Department of Mathematics, GTN Arts College, Dindigul on 31 August 2021 to collaborate in the areas of resource sharing, internship, organizing joint conferences, seminars, workshops and many other academic affairs.

As a part of the MOU signed, a three day online workshop on **R Programming (Phase I)** was organized collaboratively during 18-20 November 2021. Dr. P. Pandiammal, Assistant Professor, Department of Mathematics, GTN Arts College and Dr. N. Ramila Gandhi, Associate Professor of Mathematics, PSNA College of Engineering and Technology were the resource persons. A total of 43 students participated in the workshop and gained knowledge on the fundamentals of R Programming.

## Association Activities



The Department of Mathematics has organized several activities through the Mathematics Association for promoting learner's interest and mathematical skills. The **Inauguration of Mathematics Association** and **Fresher's Day** were conducted on 27 September 2021. Dr. M. Azhagappan, Assistant Professor & Head, Department of Mathematics & Controller of Examinations was the special invitee and he delivered a talk on "Thinking Out of the Box".



An **Orientation Programme** for the I year students was conducted from 07 - 09 September 2021 by the department to make the students gain familiarity on the modalities followed in the college and in the department. The faculty of the department discoursed on curriculum aspects, examination system, college common activities, association activities and discipline. As a result, the students understood their responsibilities and became committed to the department by taking part in all academic, association and extracurricular activities.



A Bridge Course for I year students was conducted from 13 - 17 September 2021 to aid the students get attuned to the new learning environment, also special focus was given to the Tamil medium students to make them overcome the language barriers of learning.

A workshop on **Fostering Analytical Skills in Students on Banach Space theory** was organized on 19 November 2021 for post graduate students. The resource person of the workshop was Dr. S. Lalithambigai, Assistant Professor, School of Mathematics, Madurai Kamaraj University, Madurai. A total of 54 students participated in the workshop and acquired the skill of analytical thinking.



The PI mathematical club organized an **Intra-Department Quiz** event on 25 October 2021. The students of II M.Sc. conducted the quiz events and a total of five groups participated in it. Each group comprised of three undergraduate students, one from each year. This event was conducted to prepare the students participating in inter-collegiate competitions organized at other colleges. Prizes were distributed to all the participants as a token of appreciation for their active participation.



A UGC sponsored International conference on **Recent Advances of Pure and Applied Mathematics with Industrial Applications** was organized on 11 April 2022. The resource persons from various fields discoursed on the applications of mathematics in the context of emerging trends in industries. Dr. Antony Jeevarajan, Deputy Chief, NASA Johnson Space Center, USA rendered an excellent lecture on "Space: A promising Frontier". Dr. W. G. Samanthi Konarasinghe, Academic Director, IMM, Sri Lanka deliberated on "Role of Mathematical models to Combat Epidemics and Pandemics". Mr. Thirumugan Subburaj, Centre Head, HCL, Madurai discoursed on "Role of Mathematics in Industrial Growth". Dr. Antony Vijesh, Associate Professor of Mathematics, IIT Indore, Madhya Pradesh conferred on "A note on existence and uniqueness result for catalytic converter model". Around 15 participants presented their research works on various topics of Mathematics. The PG students of the department of Mathematics and from other colleges also presented their novel project works. A total of 285 students of our college and 33 outside participants took part in this conference. A total of around 77 papers were presented on various arenas of Mathematics.



The Department of Mathematics organized **MATAAC 2022**, a one day State level Intercollegiate Mathematical Competitions, on 12 April 2022. The students from various colleges in and around Madurai participated in various mathematical competitions such as Math Quiz, Paper presentation, Dumb Charades, A Beautiful Mind, As U like it, Math Rangoli and Math Model. Dr. N. Kamatchi, Associate Professor, Kamaraj College of Engineering and Technology served as the Quiz Master. The overall trophy was bagged by the students of Ayya Nadar Janaki Ammal College, Sivakasi. A total of 130 students participated in all the events.



The Womentics Club organized an **Orientation programme** on 12 May 2022, exclusively to the women students on "Contributions of Women Mathematicians".



A workshop on **Presentation Skills** was exclusively organized for the post graduate students of Mathematics on 25 May 2022 by Pi Mathematical club to make the students learn the nuances of power point preparation and content presentation.



To provide opportunities for the students to exhibit their creative ideas and to enrich their interest in learning, **MECHANICS MODEL EXPO** was conducted on 10 May 2022. The students of II B.Sc. Mathematics exhibited various static and working models based on the theoretical concepts of Mechanics. All the students of the department visited the exhibition and it was made a colourful expo by the coordinated efforts of the students.

The Department of Mathematics is making strenuous efforts to organize many activities of the above kind towards the comprehensive growth of the student community.

## STUDENT'S ACHIEVEMENTS

### Student's Council Elections



A. Margret Angel



C. Ayyanar



S. Rabin



M. Venkatesh

Ms. A. Margret Angel of III B.Sc. Mathematics was elected as the Women Secretary of Shift I and Mr. C. Ayyanar of II M.Sc. was elected as the PG Representative. Mr. S. Rabin and Mr. M. Venkatesh of III B.Sc. Mathematics were elected as the Mathematics Association Secretaries of Shift I & II respectively.

### NBHM Sponsored Programme

Ms. R. Harinica, of II B.Sc. Mathematics participated in the Online Foundation Course in Mathematics organized by MTTs Trust funded by the National Board for Higher Mathematics from 19.09.2021 to 11.10.2021

### Inter-Collegiate Competitions

- \* Ms. T. R. Deepthy of II B.Sc. Mathematics bagged second prize in Paper Presentation and Ms. R. Harinica of II B.Sc. Mathematics won second prize in story telling in State level Student's Online Competition, organized by Madurai Sivakasi Nadars Pioneer Meenakshi Women's College, Poovanthi, Sivagangai Dt on 17.11.2021.
- \* Ms. A. Sheeba of III B.Sc. Mathematics received third prize in Arts from Waste competition organized by Mangayarkarasi College for Women, Madurai on 27.04.2022.

### National Cadet Corps (NCC)



- \* Cdt. B. Jeevitha of II B.Sc. Mathematics received the Best Cadet award in the Pre IGC RDC selection, held at 14 TN BN NCC, Dindigul on 03.09.2021.
- \* Cdt. R. Sachina of II B.Sc. Mathematics bagged first prize in the Unit level Shooting Competition held at The Cadet Academy, Bitchandarkoil, Trichy on 16.03.2022

## National Service Scheme (NSS)



- \* Ms. P. Eswari of II B.Sc. Mathematics has participated in the National Integration Camp – 2021 held at Sri Ramakrishna College of Arts and Science, Coimbatore from 14.12.2021 to 20.12.2021 and in the 25<sup>th</sup> National Youth Festival hosted in virtual mode on 12.01.2022 to 13.01.2022.
- \* Ms. K. Kowshika of II B.Sc. Mathematics has participated in the South zone Pre-Republic Day parade selection camp – 2021 organized by the Regional Directorate of NSS, Bengaluru, at University of Agricultural Sciences, GVKV, Bengaluru from 22.12.2021 to 31.12.2021.

## Inter-Department Competitions

Ms. A. Boomika of II B.Sc. Mathematics won second prize in Speech Competition organized by the Department of Chemistry, Arul Anandar College, Karumathur on 18.03.2022.

Ms. M. Divya of II B.Sc. Mathematics received first prize in Tamil Essay Writing Competition and third prize in Thirukural Recitation organized by the Department of Tamil on 06.05.2022 and 09.05.2022.

Ms. R. Arthi of I B.Sc. Mathematics received third prize in Tamil Handwriting Competition organized by the Department of Tamil on 07.05.2022

## Women's Day



Ms. G. Maheshwari of II B.Sc. Mathematics received second prize in Speech Competition in Women's Day Celebration at Arul Anandar College, Karumathur on 08.03.2022.

## Sports Day



One of the significant events of AAC's Sports Day is the Marchpast Competition which is organised in a grand manner. On the event of the 52<sup>nd</sup> Annual Sports Day, our students won the first prize in the Marchpast Competition conducted on 29.10.2021. For consequent five years, our students are bagging prizes in marchpast.



## Camp Fest



Camp Fest is a colourful event that provides an excellent platform for the students to exhibit their talents in arts and music. Our students actively participate in all the events and earn laurels to the department. Ms. A. Sheeba of III B.Sc. Mathematics and Ms. J. Deepthi of II B.Sc. Mathematics won first prize in the Competitions - Handicraft & Start with 50, Mr. B. Vishwa of II B.Sc. Mathematics bagged second prize in Solo Singing Competition and Ms. B. Jeevitha of II B.Sc. Mathematics secured second prize in Case Study Competition. Our students also received second prize in Folk Music & Folk Song Competitions organized during 21.12.2021 and 22.12.2021.

## Theatre Fest





Theatre Fest is an English literary competition hosted by the Department of English every year. In the Theatre Fest 2022 organized on 30.04.2022, our students staged a wonderful play on the theme “In the hands of Youth” and bagged the first prize.

### Educational Tour



A total of 56 students comprising of final year UG and PG students along with 4 faculty members, Dr. M. Sajjan Joseph, Dr. Nivetha Martin, Ms. N. Angel and Mr. R. Chinnapparaj went on a Two day Educational tour to Kerala from 04 - 06 June 2022. The students and staff felt refreshed by gaining experiential learning on real life applications of mathematics.

### Internship

The final year UG students (2019 – 2022 Batch) completed their 25 days of internship (14.10.2021 - 07.11.2021) at various places such as Elroi Software Solutions, Madurai, Hatsun Agro Products, Madurai JIO Digital Life, Madurai, PS Events, Dindigul, Farm Agro, Madurai, Indus Diagnostic Lab, Madurai, P.V.K. Milk Agency, Madurai and Q-Tech, Elumalai. The students have acquired workplace exposure and have earned experiences on the applications of mathematics in real life.

An orientation on Internship programme is offered to the second year UG students (2020 - 2023 Batch) and the internship mentors are assigned.

*The Department of Mathematics has planned to actionize new student centric initiatives in the academic year 2022-23. It is also decided to lay a special focus on skill development of the students. At this juncture I extend my sincere gratitude to the management and all the stakeholders for their consistent support and encouragement.*

**Dr. J. Xavier Adaikalaraj**  
Chief Editor

### Placement

The final year undergraduate and postgraduate students attended an on-campus placement drive at Arul Anandar College on 07 July 2022 and 8 of the students got selected in various companies.

### INFRASTRUCTURE AUGMENTED

Room No. 904 in Golden Jubilee Block is allocated for Mathematics Department Library & Research Scholars. A laptop is given to the Department of Mathematics (SF) to facilitate teaching and research endeavours.

### Extension Activities

#### Math Model Competition for Rural Schools



On 12 April 2022, a Math model competition was organized exclusively for the students from the nearby rural schools. The students actively participated and presented their models and they were given prizes for exhibiting their best performance.

### ARISE

ARISE, an extension programme exclusively meant for the second year undergraduate students and it intends to make the students contribute to social transformation of the rural society. The II B.Sc. students actively took part in all the extension programmes inspite of corona obstruct. Visits were made to the villages Nathampatti and Othappati regularly and events like street play and awareness rally were also accomplished.

### Editorial Board

#### Chief Editor

**Dr. J. Xavier Adaikalaraj**  
Associate Professor & Head

#### Associate Editors

**Mr. J. Robert Dhiliban**  
Assistant Professor

**Dr. I. Pradeepa**  
Assistant Professor

**Dr. Nivetha Martin**  
Assistant Professor