



JAMMU & KASHMIR Institute of Mathematical Sciences

Annual Newsletter 2022

Mathema



JKIMS VISION MISSION

DIRECTOR'S MESSAGE

EDITOR'S MESSAGE

INT. DAY OF MATHEMATICS
CELEBRATIONS

E-LECTURE SERIES

BOARD OF STUDIES @ KU

EDUCATIONAL TOUR

LECTURE SERIES @ JKIMS

SPECIAL LECTURE BY DR. FAIZAL MIR

SPECIAL LECTURE BY AVINASH TAIKOO

FACULTY ACHIEVEMENTS

PHOTO GALLERY

Jammu & Kashmir Institute of Mathematical Sciences
Campus Amar Singh College, Gogjibagh, Srinagar, J&K | India



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JAMMU & KASHMIR Institute of Mathematical Sciences



To see the Institution as the Centre of excellence



- To popularize Mathematical sciences among young generation.
- To disseminate the research findings for the use of mankind.
- To train young scientists in better equipping of knowledge and to for applied sciences.
- To invite eminent scientists and academicians for furtherance the objectives.
- To supervise and guide pre-doctoral and doctoral research.
- To offer technical expertise services to corporate sect government and other agencies.



Patron
Prof. Tariq A. Shikari

Convener
Prof. Mir Saleem



JAMMU & KASHMIR Institute of Mathematical Sciences

Annual Newsletter 2022

Mathema



Director's MESSAGE

Over more than half a century the field of mathematics and allied streams has established an enviable record of quality and accomplishment. In less than eight years since our inception, JKIMS Srinagar has built on this proud legacy and at the same time taken advantage of the opportunity to innovate and bring a unique perspective to all our activities.

JKIMS aspires to take its place among reputed Mathematics schools creating global knowledge and we have already achieved many significant milestones. JKIMS has gained approval for execution of research projects in November 2020. Through the efforts of our accomplished faculty, our talented students, we have been able to make rapid progress on our path of continuous growth and innovation and make us confident that we can be among the prominent Mathematics institutions in near future.

Keeping in view the spirit and philosophy behind JKIMS, I look forward to put our integrated efforts together and receive the cooperation from all stakeholders including students, academics and members of civil society to achieve academic excellence in this campus. I pray for the growth and prosperity of the college and wish the staff and the student's success for their efforts. I also congratulate the students whose work has found a place in this publication. I wish them well and hope this creative process becomes a never-ending spring of Knowledge and wisdom for the society.

Prof. Tariq Ahmed Shikari
Director JKIMS



JAMMU & KASHMIR Institute of Mathematical Sciences

Annual Newsletter 2022

Mathema



From the Editor's Desk

Greetings!

It gives me immense pleasure to pen down for Newsletter of JAMMU & KASHMIR Institute of Mathematical Sciences (JKIMS).

JKIMS has completed its 5 years of establishment. During this period, the Institute has carved a niche for itself with several feathers in its cap. JKIMS is well known for its academic excellence and dedication towards dissemination of knowledge. JKIMS appreciates the role of research in education and is committed to developing an inclination towards research in both faculty and students.

JKIMS has come a long way and the journey has been quite enriching and rewarding. We are thankful to the indomitable spirit of the pioneer pillars of JKIMS, who played a vital role in taking this Institution to newer heights.

This issue the e-newsletter offers you an insight into the campus news, happenings and events. The activities carried out by students and our faculty/ staff members of different flavors keep on happening in the campus, making the campus full of excitement. The newsletter published annually, keeps all of us apprised about the major events and activities at JKIMS. I sincerely hope you enjoy the newsletter and send us your opinions and suggestions to improve.



JAMMU & KASHMIR Institute of Mathematical Sciences



International Day of Mathematics

The International Day of Mathematics is a project led by the International Mathematical Union with the support of numerous international and regional organizations. The main objective behind the celebration of International Mathematics Day is to make people aware of the development of mathematics and its importance in the growth of humanity. The International Day of Mathematics is the opportunity to explain and celebrate the essential role that mathematics and mathematics education play in breakthroughs in science and technology, improving the quality of life, empowering women and girls, and contributing to the achievement of the Sustainable Development. On this occasion of celebrating national Mathematics day many students and faculty presented topics related to the life of Ramanujan and his contributions in the field of Mathematics and at the conclusion, a quiz programme was held in which many students of the Institute participated. The Director JKIMS Prof. Tariq Ahmad Shikari appreciated the students for their extraordinary performance and honored the winners with the awards.





JAMMU & KASHMIR Institute of Mathematical Sciences



E - Lecture Series

The Jammu and Kashmir Institute of Mathematical Sciences (JKIMS) organized a month long lecture series in its quest to popularize Mathematics among student Community. The lecture series was conducted in a virtual mode. Eminent speakers from reputed institutions delivered lectures to a keen audience comprising of students, teachers and researchers. The resource persons included Dr. Mani Mehra (Department of Mathematics, IIT Delhi, Topic: Computational methods for Ordinary Differential Equations), Dr. M.A.Sofi (NBHM visiting professor, JKIMS Srinagar, Topic: What does it take to learn Mathematics), Dr. Fozia Qazi (Department of Mathematics, IUST Awantipora, Topic: Symmetry and Art), Dr. Surinder Paul Singh Kainth (Department of Mathematics, Punjab University Chandigarh, Topic: An interaction with Pi), Dr. Fazli Ilahi (IASE, Srinagar Topic: New Education Policy, 2020) and Dr. Nisar Ahmad Lone (Department of Mathematics, JKIMS Srinagar, Topic: Impossibility of three Greek problems). The lecture series was coordinated by Dr. N.A.Lone. Prof. Tariq Ahmad Shikari, Director JKIMS appreciated the efforts of resource persons and thanked them for delivering informative lectures. He also had some praiseworthy words for the coordinator for managing modalities of the programme efficiently.





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BOARD OF STUDIES MEETING

The Board of studies meeting was held in September 2022 to reframe the syllabus and the Course Structure in consonance with NEP, 2020. The meeting was held under the chairmanship of the Director which was attended by the members of the Board. The syllabus and the Course structure was then taken up with our affiliating university and a review meeting was held under the chairmanship of Head Department of Mathematics, university of Kashmir, where the syllabus was finally framed and analyzed and later send for the approval of Vice chancellor.

Pertinent to mention here that the admission for the year 2022 was done purely on the patterns and under the guidelines of NEP-2020.





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Educational Tour

An Educational Tour or A Field Trip is a visit to a place away from their normal place of study. The purpose of educational tour is to provide students an experience outside the class rooms or labs. It also provides an opportunity non-experimental research and helps bring all the students to a common platform irrespective of their social, economic & cultural background.

While on an educational tour/field trip a student gets to experience first-hand the concepts which help in long term retention of the knowledge. If the class room teaching is followed up by a field trip, it helps in clearing the concepts & results in more effective learning. It also helps in application of ideas, theories & knowledge which ensure competence. Discussing during the tour help the students to find solutions to real life problems and makes them innovative. Tour helps to erase pressure the boredom & monotony of having to attend a lecture. It is fun way of learning & makes it more enjoyable.

The Institute went for an Educational Tour to Sonmarg in August 2022, where all the students along with the staff explored the beauty of nature viz mountains, waterfalls and glaciers.



JAMMU & KASHMIR Institute of Mathematical Sciences



Lecture Series @ JKIMS

Lecture—a period of continuous exposition by the instructor—is one of many distinct in-class learning activities an instructor can use. As with any learning activity, the decision to lecture should result from a careful consideration of the instructor's strengths, the students' capabilities, the nature of the course material, environmental factors, and learning objectives.

In August 2022, at Institute level an offline lecture series was conducted on "Recent trends in Mathematics and its applications" in which students from many institutes participated in order to get to know about the most recent trends and research advancements in Mathematics. The promotion of the value of Mathematical Research among the students and the fostering of their interest in research were two additional objectives of this lecture series.

A talk on FUZZY SETS AND THEIR APPLICATIONS was delivered by Dr. Firdous Habib from Mathematics Department of JKIMS while focusing on the advancement in research brought about by the introduction of these fuzzy-Sets, he provided the information about the wide range of application of fuzzy sets in Android phones, car navigation systems and automatic pilot systems.

A Lecture titled APPLICATION OF COMPLEX ANALYSIS IN DIFFERENT FIELDS OF SCIENCE was presented by Dr. Ishrat





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Special lecture Dr. Mir Faizal



Jammu and Kashmir Institute of Mathematical Sciences (JKIMS) organized a one-day extension Lecture at its Amar Singh College campus, as part of the National Education Week Celebrations. The lecture was delivered by Dr. Mir Faizal, **Scientific Director, Canadian Quantum Research Centre, Vernon, Canada**. Dr. Bashir Ahmad Rather, Principal Amar Singh College, Srinagar was the chief Guest at the event.



Prof. Tariq Ahmad Shikari, Director JKIMS, formally welcomed the participants to the event. Dr. Mir Faizal deliberated on the topic "Importance of Research in Mathematical Physics" and stressed upon the participants to inculcate scientific temper within themselves to excel in future. He also threw light on the recent developments in Mathematical Sciences. The Extension lecture was attended by the students and faculty members of JKIMS.



Vote of thanks was presented by Prof. Ashiq Hussain (JKIMS), wherein he thanked the guest speaker for honouring the institution invitation and delivering such an enthralling lecture. He also had some words of appraisal for the organizing secretaries of the event Dr. Nisar Ahmad Lone (Mathematics, JKIMS) and Prof. Saleem Mir (Computer Sciences, JKIMS) for managing the event gracefully.



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Special lecture By Mr. Avinash Tiku

JKIMS organized a one-day programme titled “Mind Matters” (A Talk on Mind Management and Meditation) which was presented by Mr. Avinash Tiku (Director Youth Affairs, The Art of Living| Public speaker| Purpose Coach). The purpose of the event was to aware youth about the mental health and how to tackle the stress situation with ease.

Mind, an unexplored world for most of us. An entity which governs our entire life. Researchers say that a human mind gets thousands of thoughts every single minute. And every thought is the origin of a feeling. Many of us might have already heard that the mind as well have some definite patterns, for example; in the realm of the mind, whatever you resist will persist OR what you want to see, you see that only, etc.

In the Jet age the polluted environment, personal problems and work pressure take a toll on our mind and what remains is usually referred to as STRESS.

Research suggest that proactive approaches to stress-reduction, enhanced social connection, and service-based engagement with community can significantly enhance health, happiness and quality of life for students.

The Programme organized at JKIMS gave a glimpse of what a happy state of mind can do. Besides learning some practical techniques like meditation, the session took the audience into a new set of experience by humor and wit.





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Faculty Achievements (Session 2021-22)

❖ Prof. Tariq Ahmad Shikari (Director JKIMS)

- Invited for Programme at Doordarshan – JK Good Morning in the month of Dec-2021.
- Invited talk on Sri Ramanujan @ Boys Higher Secondary School, Sopore.
- Convener National level e-Lecture Series at JKIMS.
- Convener, Quiz Programme Titled “Mathematics and its applications”.

❖ Prof. Sameer Ahmad Gupkari (Assistant Professor, Mathematics)

- Attended 3-day National level workshop on “ Matlab for beginners” organized by Department of Mathematics, Srimad Andavan Arts and Science College, Trichy Tamil Nadu from 28/07/2021 to 30/07/2021.
- Delivered a lecture on “Numerical Techniques: for the students of S.P.College, Srinagar during one day study visit.
- Attended two weeks Refresher Course in Science w.e.f 2nd January- 15th January 2021.
- Attended teachers Enrichment workshop on Functional Analysis from 28th Nov -12th December organized by Department of Mathematics, university of Kashmir, Srinagar.
- Organized lecture series Programme for the propagation of Mathematics w.e.f 1st august to 6th august 2022.
- Published a paper on the Polar derivative of a Constrained polynomial in the Journal of analysis, UGC Care/ web of Science, Scopus.
- Participated in teachers Enrichment workshop on real Analysis, Multivariable Calculus and Linear Algebra w.e.f 17th Jan – 5th Feb 2022 organized by Department of Mathematics, St. Joseph’s College, Bangaluru.
- Participated in Advanced Instructional School, AIS on “Inverse Problems” hosted by TIFR centre for applicable Mathematics, Bangalore w.e.f 4th July – 23rd July 2022.



JAMMU & KASHMIR Institute of Mathematical Sciences



Faculty Achievements (Session 2021-22)

❖ Prof. Nisar Ahmad Lone (Sr. Assistant Professor, Mathematics)

- Delivered lectures (as resource person) in FDP. At HRDC, Punjab University Chandigarh.
- Delivered an extension Lecture at Govt. Degree College Pulwama.
- Published a Research Article in a Peer Reviewed Journal _____ dated _____.
- Delivered a special lecture in a Lecture series for popularizing maths organized by JKIMS.
- Published an explanatory article in

❖ Dr. Hilal Ahmad Reshie (Department of Physics):

- Organized the online webinar as Convener on the topic entitled “Cell Phones: their importance and adverse effects on our social lives” on 21/01/2022
- Published a Research article entitled “Enhanced Electromagnetic Interference (EMI) shielding in BiFeO₃-graphene oxide nano composites over X-band frequency region” in a renowned journal “ Journal of Applied Physics” on 05/05/2022.
- Participated in two-day National Conference entitled “Integrated approach in science & technology for sustainable future” in the department of Electronics, Govt. MAM College Jammu on 27-28 Feb, 2022.
- Participated in the Flag Celebration Ceremony on Independence day - 15th of August, 2022.

❖ Dr. Firdose Habib (Department of Mathematics):

- Dr. Firdose Habib has completed his PH.D in Feb 2022 from MANUU, Hyderabad with 8 Research publications in many National and International Peer Reviewed journals.
- Participated in Lecture Series programme organized at JKIMS and delivered a Lecture on “Fuzzy sets and their applications” in the month of August-2022.
- In December 2021, he presented a paper titled “A Study on Fuzzy weakly g φ sets in Conference “ recent Advances in Computational mathematics and engineering”.
- Published a Research article entitled “On Fuzzy G_p^* neighbourhoods” in a Scopus Journal “ Journal Of XI’AN University” in May-2022.



JAMMU & KASHMIR
Institute of Mathematical Sciences

Annual Newsletter 2022

Mathema

❖ Dr. Jaffar Farooq Mir (Department of Physics)

- He was awarded Ph.D in Physics from NIT Srinagar in July 2022.
- He was a member of Organizing Secretariat of “International Conference on Nanotechnology for Better Living” organized by NIT Srinagar from 07-11 sep, 2021.
- Published a Research Article entitled “random Oriented ZnO nanorods through Anodization of Zinc in KHCO_3 Electrolyte” in ECS Journal of Solid State Science and Technology Vol. 8 of 2021.
- Published a Research article entitled “In Vitro and In vivo MRI imaging and phototherapy therapeutic of Hemalite nanorods” in Journal of Materials Science: materials in Medicine Vol 33:10(2021).
- Published book chapter entitled “Magnesium Oxide (MgO) : A viable agent for Antimicrobial activity” in applications of Nanomaterials in agriculture, Food Science and medicine PP.98-105 IGI Globe 2021.
- Published a book Chapter entitled “Advanced nanomaterials for infectious diseases therapeutics: in nanotechnology for infectious diseases -2022.
- Has present research at “Indo-South Korea International Conference on nano-Science and nanotechnology for energy, environment and bio medical application” organized by VINAYAKA Mission’s Research foundation and Gyeonsary National University from 07-08 Oct- 2021.
- Presented Research Paper at 6th International Conference on Nanoscience and Nanotechnology for energy, environment and bio medical applications” organized by VINAYAKA Mission’s Research foundation and Gyeonsary National University from 07-08, 2021.
- Presented Research paper at 6th international Conference on Nanoscience and Nanotechnology organized from 01-03 Feb 2021 by SRM institute of technology.



JAMMU & KASHMIR
Institute of Mathematical Sciences

Annual Newsletter 2022

Mathema

❖ Dr. Ishrat Jan (Department of Mathematics):

- Presented Paper: “An Operator Preserving Inequalities between Polynomials” at B K Birla Institute of Engineering and Technology Pilani Rajasthan, India.
- Presented Paper: “Bernstein type Inequalities preserved by Modified Smirnov Operator” at Baba Ghulam Shah Badshah University, Rajouri Jammu and Kashmir, India at International Conference on Mathematical Analysis and Applications Date: 30-31 March, 2022.
- Participated in One-Week Workshop on Mathematics and its Applications at Department of Mathematics, University of Kashmir, South Campus on 16-22 Sep, 2022.

❖ Prof. Saleem Mir (Computer Sciences)

- Attended Board of Studies meeting to finalize P.G syllabus of Integrated Computer Applications Course (Integrated BCA-MCA) @ Cluster University Srinagar.
- Published a Research paper entitled ‘Thyroid Prediction on Imbalanced Datasets Using Machine Learning Classifiers’ in International Journal of Applied Research on Information Technology and Computing (UGC Care Listed, open access/ refereed journal).
- The paper was shortlisted by B P International for publication as **Book-Chapter**.
- Attended Board of Studies meeting to finalize P.G syllabus of Integrated Information Technology (B. Sc-IT+ M. Sc IT) Course @ Cluster University Srinagar.
- Appointed as coordinator for MOOCS/ online course like SWAYAM for P.G students @ JKIMS Srinagar.
- Presented a Research paper ‘Improving Classification Accuracy of Machine Learning Algorithms for Thyroid Prediction using Ensemble Models’ at International Conference on Innovation in Applied Science and Engineering (ICIASE 2022) at NIT Jalandhar,
- Attended 2-week UGC -Human Resource Development Centre sponsored Refresher Course in ICT @ Sant Gadge Baba Amravati University (01-13 August 2022)
- Delivered e-lecture ‘Machine Learning Applications in Real World’ @ SGB University Amravati, Maharashtra)



Annual Newsletter 2022

Mathema

JAMMU & KASHMIR
Institute of Mathematical Sciences

