

AG MNC

All Girls Math Nurture Camp

Report 2023

December 23 to 30, 2023

followed by weekly sessions
from January to March 2024



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ORGANIZERS

AG MNC 2023 was a collaboration between **Raising A Mathematician Foundation** and **Azim Premji University**.

Raising A Mathematician Foundation (RAM)

RAM is a not-for-profit organization that promotes education in mathematics, nationwide through various initiatives. From its flagship residential mathematics camp ‘Raising A Mathematician Training Program’ (RAM TP) to annual camps like Epsilon India, Roots Camp, Math.Biz and AG MNC, RAM exposes school students to diverse range of areas of pure and applied mathematics.

Additionally, RAM offers Math and Informatics Olympiad Training Programs that provide year-round training for students aiming to participate in the International Mathematical Olympiad and Indian Computing Olympiad. RAM also conducts Maths Circle for non-English medium school students in the suburbs of Mumbai which happens to be the first Maths Circle in India for non-English medium students.

Azim Premji University



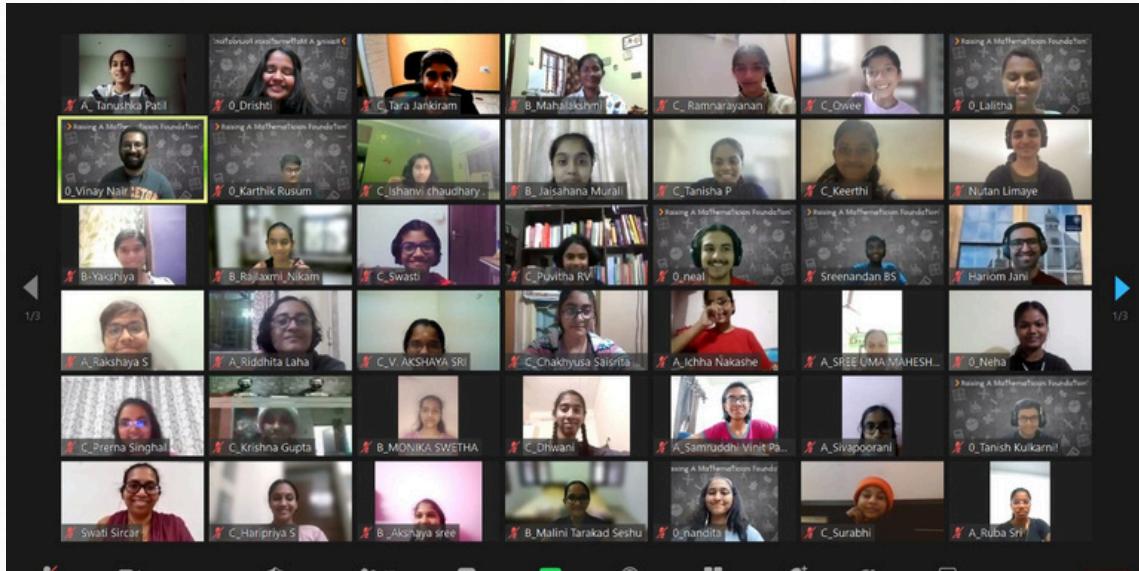
Azim Premji
University

Azim Premji University was established in 2010 by the Azim Premji Foundation, which initially focused on improving education in Indian government schools. The university was created to address the need for qualified professionals in the social sector. It offers a range of undergraduate and postgraduate programs in fields like education, development, economics, public health, sciences and the humanities. The university emphasizes creating a just, equitable, humane, and sustainable society through education, research, and capacity-building initiatives, impacting the social sector significantly.

For more details, visit the

<https://azimpromjiuniversity.edu.in/our-story>.

DETAILED REPORT



➔ OBJECTIVE

To inspire young girls aged from 12 to 15 years who are passionate about mathematics through early exposure into diverse areas in pure and applied mathematics by providing opportunities to learn from Women Mathematicians and Scientist.

➔ STUDENT PARTICIPATION

More than 600 girls across India applied for the camp. Total 89 girls from 11 states were selected for the online camp.

➔ PEDAGOGY AND PROGRAM SCHEDULE

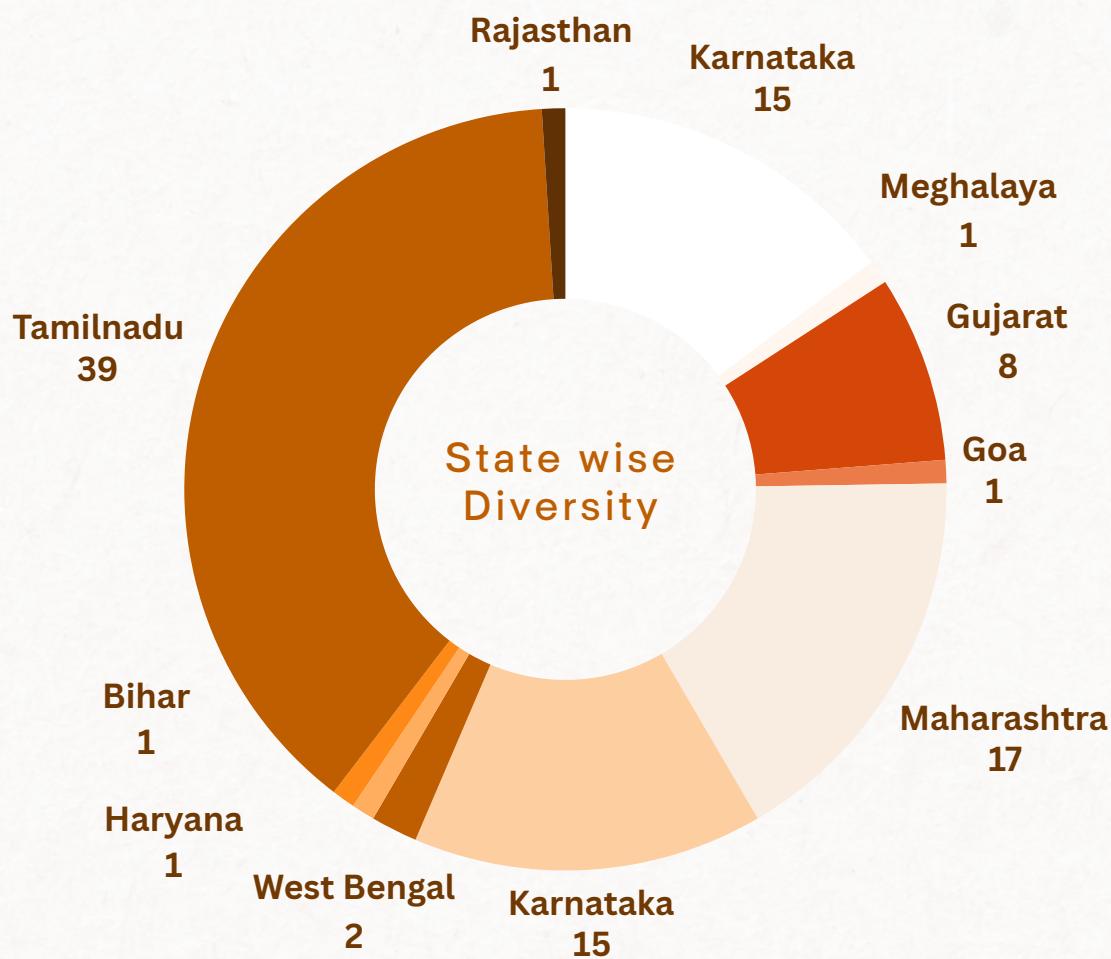
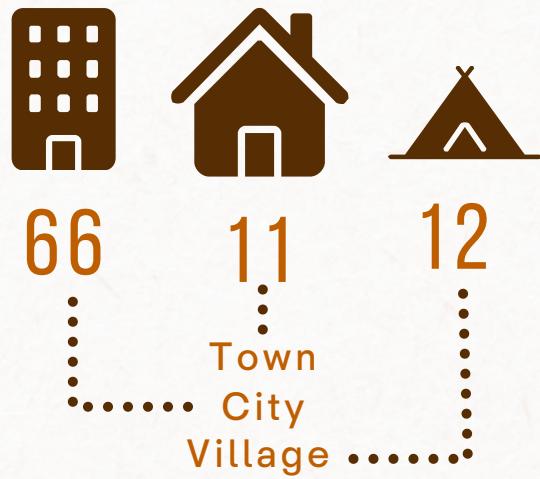
The 7 days camp typically had 6 hours of formal sessions daily with adequate breaks in between. The faculties introduced students to newer areas in mathematics.

The Teaching Assistants helped students with doubts clearing towards the end of the day. During the 3-month post camp sessions, students were introduced to topics like Proofs and areas from Theoretical Computer Science helping them lay a foundation on Discrete Mathematics.



KEY HIGHLIGHTS

STUDENT PARTICIPATION



SPEAKERS LINE-UP



ANAPURNI SUBRAMANIAM

Annapurni is the Director of the **Indian Institute of Astrophysics** in Bangalore. She delivered a session on *Math and Astronomy*.



ANURADHA VIBHAKAR

Anuradha is a post-doctoral research associate at the **Diamond Light Source**. Being a passionate speaker, she took students through *The Magical World of Material* including *Group Theory and Scattering*.



DIVAKARAN D

Divakaran is an Assistant Professor at **Azim Premji University**. He led an interesting session on the *Constructability of numbers*.



JENNIFER G. FOWLIE

Jennifer is an Associate Scientist in the Stanford Institute for Materials and Energy Sciences at SLAC National Lab and **Stanford University**. She has been our guest speaker for the event. She gave a detailed description on her *journey in STEM*.



JONAKI GHOSH

Jonaki is an Associate Professor in the Dept. of Elementary Education, **Lady Shri Ram College, University of Delhi**. She took students through an engaging session on the *Tower of Hanoi - Exploring multiple representation*.



KAVITA SUTAR

Kavita is an Associate Professor at **Sai University**. She delivered a very fun and fascinating session on *Ciphers*.



KRISHNA S.

Krishna is a Professor from the Department of Computer Science and Engineering at **IIT Bombay**. She introduced students to *Theoretical Computer Science*.



R. HARIHARAN

Hariharan is a co-founder of Raising A Mathematician Foundation and an Assistant Professor at **Frankfurt School of Finance and Management**. He delivered a talk on *origins of Risk in Mathematics*.



SHAILAJA SHARMA

Shailaja is a faculty member for Mathematics and Statistics at **Azim Premji University**. In her sessions, she covered *Logarithms and Trigonometry*.



SHANTHA BHUSHAN

Shantha is an Associate Professor at **Azim Premji University**. She explained the students about *Polyminoes* through a very engaging lecture.



SHREYA SHANKAR

Shreya is a Masters student at **Stanford University**. Her session was titled *Rolling the dice on Probability: a journey through concepts and puzzles*.



SHUBHANGEE DARYAPURKAR

Shubhangee is a course designer and faculty at **Vichar Vatika**. She introduced *Combinatorics* to the participants.



SWATI SIRCAR

Swati is an Assistant Professor at The School of Continuing Education and University Resource Center of **Azim Premji University**. She took sessions on *Geometry through tiling*.



TULSI SRINIVASAN

Tulsi is an Assistant Professor at **Azim Premji University**. She took sessions on *continued fractions and Introduction to Group Theory*.



VINAY NAIR

Vinay is a **co-founder of Raising A Mathematician Foundation**. He introduced *Algorithmic Thinking* through an interactive session.



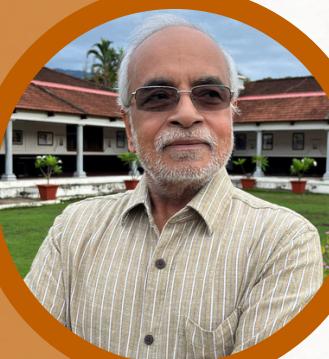
AJAYKUMAR K

Ajaykumar is currently at **Azim Premji University**. He is exploring book embedding problems in graph theory. He took a session on *Graph theory*.



ATANU R SINHA

Atanu R Sinha, a Principal Scientist at **Adobe Research, Bangalore**.



S. MURALIDHARAN

Muralidharan is Mathematician with a Ph.D. from TIFR, Retd Computer Scientist at TCS and **Chief Exam Coordinator for IOQM**. He took sessions on *Catalan Numbers*.



SAEE PATIL

RAM Alumni and **Homeschooler**. She taught *Exploring Proof Techniques* in her sessions.



SHYLA BISHT

Shyla is a second-year undergraduate at **Carnegie Mellon University**. She taught about *propositional logic and how it is used, along with the reasoning for why it makes sense*.

TEACHING ASSISTANTS & VOLUNTEERS



Yamuna N
Math Teacher



Vidya V
Math Teacher



Malathy K
School Teacher



**Sruthi
Subramanian**
Student at IIT, Kanpur



**G. Dhanush
Krishna**
Student at Azim Premji
University



**Gauri
Ghormade**
Student at Azim Premji
University



Mamatha Gajja

Student at Azim Premji
University



Sunayana R.

Student at Azim Premji
University



B. Varsha

Student at Azim Premji
University



**Anju
Subramanian**

12th grader &
RAM Alumni



**Jayaditya
Gupta**

9th grader &
RAM Alumni



Karthik Rusum

10th grader &
RAM Alumni



**Monika
Mahaldar**

Student at Azim Premji
University



M Shiva Swamy

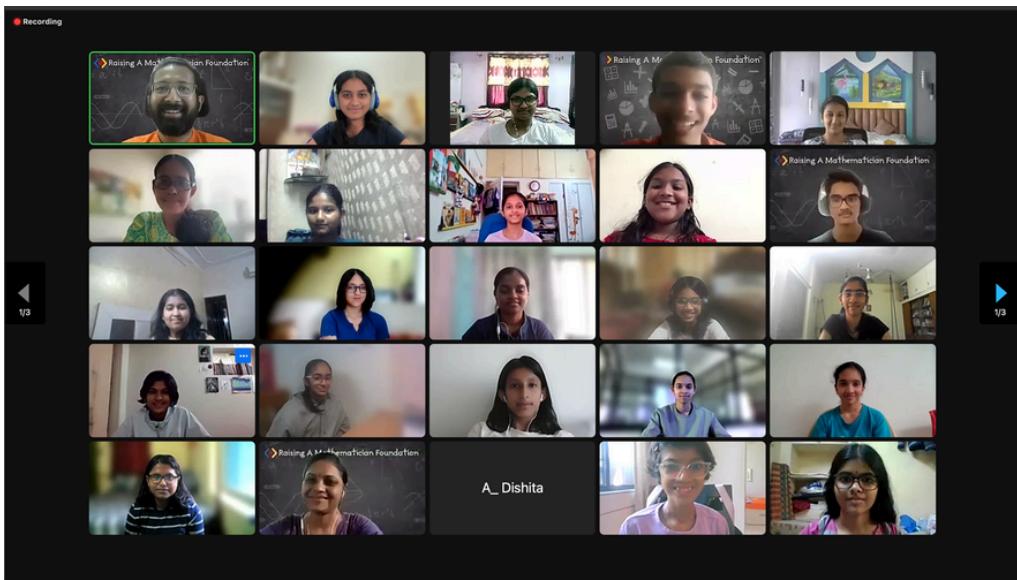
Student at Azim Premji
University



Ganesh C.

Student at Azim Premji
University

OUTCOME



The program helped students understand mathematics beyond the school curriculum thereby providing a more holistic view of the subject. The students were able to appreciate the application of mathematical concepts in allied areas and hence understand those subjects better. After the camp, they will be further mentored for 3 months. Further, the students with commitment and excellence got an opportunity to get selected for Raising A Mathematician Training Program (RAM TP) 2024. Two girls who were part of AG MNC 2022 and 2023, got accepted to the prestigious cohort of World Science Scholars program where they will get an opportunity to interact and learn from top Mathematicians, Scientists and Computer Scientists across the world.

SUPPORTERS



AG MNC 2023 couldn't have been completed smoothly without the support of dedicated volunteers and teaching assistants.

We thank Dr. Hariom Jani, Marie Curie Fellow at Oxford University for his continued support to AG MNC throughout the years.

WE ALSO THANK THE GENEROUS DONATION FROM MS. BHUVANA ARUN, MR. ANAND KUPPUSWAMI AND OTHER LIKE MINDED CONTRIBUTORS

CONTACT US



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