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Prof. J. Baskar Babujee, MIT Campus, Anna University, Chennai

Prof. B. Prema Mayudu, Central University of Tamil Nadu, Thiruvarur

Prof. S. Lavanya, IIT(BHU), Varanasi

Prof. Kamalika Battachariee, NIT. Tiruchirappalli

#### **BANK DETAILS FOR ONLINE TRANSFER**

: Sri Ramanujan Mathematics Club Account **Account Name** 

Type : Savings Account **Account Number** : 7111751746 Indian Bank IFSC Code : IDIB000S181 MICR Code : 600019171

## HANDS ON SESSION

Prof. N. Balaji, SRMIST, Kattankulathur

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# " WORKSHOP ON MACHINE LEARNING APPROACHES IN COMBINATORICS AND AUTOMATA THEORY - 2025 (WMLACAT-2025)" (Mode: Offline)

Date: 18th -19th, September 2025

Venue: Prof. Peter Ducker Hall, MBA Block



## Organised by

**Department of Mathematics College of Engineering and Technology SRM Institute of Science and Technology** 

Kattankulathur - 603 203, Chengalpattu District, Tamil Nadu, India

In Association with





## **ABOUT SRM IST**

SRM Institute of Science and Technology (formerly known as SRM University) is one of the top-ranking Universities and most premier engineering destinations in India, established in 1985 by the Founder Chancellor, Dr. T. R. Paarivendhar. Now it is functioning across all the campuses – Kattankulathur, Ramapuram, Vadapalani Campus – all in and around Chennai, Tiruchirappalli (in TN), Modinagar (in UP) & Sonepat (in Haryana) – both of which are located near Delhi NCR, Amaravati (in AP), Gangtok (in Sikkim) wiith over 52,000 students and 3200 faculty members. It offers a wide range of programs to students applying for undergraduate, postgraduate and doctoral programs in Engineering, Management, Medicine & Health Sciences, Agriculture, Law and Science & Humanities. SRMIST has been engaged in nurturing minds through a rich heritage of academic excellence. Essentially a hub of bustling student activities, the green and beautiful campus has been a second-home to thousands of students in their journey to pursue higher education. The Institution has moved up through international alliances and collaborative initiatives to achieve global excellence. SRMIST International Advisory Board (IAB) is actively involved in building a stronger international dimension in research and teaching methodology, which creates avenues for research and successful careers. The SRMIST also collaborates with foreign universities like Massachusetts Institute of Technology, Carnegie Mellon University, Pittsburg University, etc., offering a postgraduate academic program MSIT-ESE. Over 650 students are sponsored to foreign universities like MIT, Carnegie Mellon, UC Davis, Warwick, and Western Australia. Now the Institute enjoys an unsurpassed reputation in academia and corporate circles being the preferred manpower source for vision to be recognized as a world-class learning institution. SRMIST has been categorized as grade "A" university by the Ministry of Human Resources Development (MHRD), Government of India. SRMIST is accredited by NAAC with "A++" Grade and placed in top positions in NIRF and Shanghai Ranking in the year 2024.

# **ABOUT THE DEPARTMENT OF MATHEMATICS**

The Department of Mathematics, College of Engineering and Technology, SRM Institute of Science and Technology is a thriving community of dedicat-

ed teachers, diligent researchers and devoted students sharing the enthusiasm for Mathematics. The department was established in the year 1985 and since then it has shown continuous improvement in both academic and research criteria. The department is ranked in the 451-500 in the QS World University Rankings for Mathematics. The department offers courses in Engineering Programmes and Research Programmes at SRMIST. There are 111 faculties; all of whom are PhD holders. Further 25 faculties are PDF. The department also supports 148 research scholars. Esteemed Professors Dr. Peeyush Chandra (IIT Kanpur), Dr. Mohan K. Kadalbajoo (IIT Kanpur) and Dr. Debabrata Datta (Senior Scientist, BARC, Mumbai) are the Adjunct Professors and they guide the department in all its endeavors. Since its inception, the department has obtained a substantial amount of Rs. 286 Lakhs from various funding agencies like DST, SERB, MoES, NBHM, SRMIST and BRNS for research projects. Apart from regular academic activities, the Department of Mathematics also conducts National/International research workshops, symposia, conferences and conventions, every year. This was mainly due to the incredible effort of the Mathematics Faculty members and the tremendous support from the Administrators of SRMIST.

#### **ABOUT THE WORKSHOP**

Combinatorics, Automata theory, and formal languages are vital parts of the AI and ML ecosystems. These all point back to automata theory, which has importance in machine learning since it provides a theoretical foundation for building algorithms that can learn and manage enormous quantities of data. Although formal languages are abstract mathematical constructions, they have real-world applications, such as natural language processing, where they enable parsing and the ability to 'read' human languages, giving expressive power to machine learning. The theory of finite automata has long been regarded as a cornerstone of theoretical computer science, providing a rigorous yet elegant paradigm for understanding computing at its most fundamental level. From early work on regular languages to present applications in text processing, embedded systems, and artificial intelligence, finite automata have shown to be both fundamental and amazingly practical.

Theory of Automata, Combinatorics and Its Applications in Science and Engineering compiles a wide set of topics that bridge the gap between theory and application. Each piece of work investigates a different aspect of finite automata, spanning from classical constructs to cutting-edge implementations in real-world contexts. Researchers in this field aim to demonstrate not just the mathematical elegance of automata theory and combinatorics, but also its expanding importance in fields such as compiler design, natural language processing, network protocol analysis, and DNA computing.

Present mathematical workshop scheduled from 18<sup>th</sup> - 19<sup>th</sup> September, 2025 at SRMIST, Kattankulathur.

#### **EXPECTED PARTICIPANTS**

Faculty members, Research Scholars and PG Students of any institute and Industry Persons.

#### REGISTRATION LINK

https://forms.gle/P2SpHuaadmoshM678

Email: wmlacat.2025@srmist.edu.in

Web Link: https://www.srmist.edu.in/events/wmlacat-2025/

## **REGISTRATION FEE**

PG Student / Ph.D. Research Scholars :

₹ 750

Faculty members / Industry Persons :

₹ 1000

(Registration fee includes tea/coffee working lunch and workshop kit. Outstation Participants have to pay accommodation charges as extra. Your cooperation is highly appreciated.)

REGISTRATION OPENS ON:

25-06-2025

REGISTRATION CLOSES ON:

31-08-2025