

The Ultimate Summer School on Rocketry

Brought to you by: **Rocketry Tamil**



Course Description

Rocketry Tamil, the educational arm of Rocket Factory India, is dedicated to making space science and rocketry accessible to young minds. This summer, we bring you **the Ultimate Summer School on Rocketry**, an engaging 7-day online program crafted for school students from Grades 8 to 12 (and open to interested learners from Grades 6 and 7). Dive into the thrilling world of rockets and space exploration through expert-led sessions, practical learning, and inspiring interactions with industry legends.

Course Details

Duration: 7 Days

The final day will feature the highly anticipated interactive session with the Guest Speaker, **Prof. RR. Elangovan Rajagopalan**.

Mode:

Online (Live Sessions via Online Meet Platform)

Certification:

- **E-Certificate:** Signed by **Prof. RR. Elangovan Rajagopalan**.
- **Special Rewards:** Top-performing participants will receive a hard copy certificate along with a surprise gift.



Be confident!



Be curious!



Be persistent!



Be engaged!

Mentor:

Natarajan Rajavel

Founder & CEO - Rocket Factory India

Natarajan specializes in rocket structural design and has extensive experience working with solid rocket motors and solid rocket propulsion systems. Under his leadership, the Rocket Factory India team has pioneered the development of advanced model rockets, demonstrating exceptional creativity and skill. Currently, his team is researching the indigenous development of sounding rockets,



Guest Speaker:



Prof. Elangovan Rajagopalan

Former ISRO Scientist

Professor RR Elangovan, a former ISRO scientist, has over 43 years of experience in the aerospace industry. A close colleague of Dr. APJ Abdul Kalam, he was a core team member of the GSLV Mk-1 project. With expertise in launch vehicle design from SLV to GSLV, he has also served as a consultant, advisor, and mentor to aerospace companies in India, the USA, Australia, and Canada.

Why join us?

- Build a **strong foundation** in space science and rocketry fundamentals.
- **Learn from renowned experts**, including a former ISRO scientist.
- Receive an **exclusive certificate** signed by Prof. Elangovan Rajagopalan.
- Enjoy a fun, engaging, and **affordable online learning experience**.
- Stand out by earning **additional rewards** and recognition as a top candidate.

The Summer School on Rocketry – Syllabus

Fundamentals of Space Science	Introduction to Rocketry and Fundamentals
<ul style="list-style-type: none">• Understanding the solar system: planets, moons, and other celestial objects.• Satellites and orbits: types, uses, and importance in modern technology.• Basics of space exploration: past missions and future prospects.• Role of rockets in space travel and satellite launches.	<ul style="list-style-type: none">• What is a rocket? Explore the basic components and how they work together.• Dive into Newton's Laws of Motion and how they power rockets.• Understand the Rocket Equation and what makes rockets soar.• Learn about different types of rockets: solid fuel, liquid fuel, and hybrid.• Decode key rocket terms like thrust, specific impulse, propellant, and oxidizer.
Rocket Propulsion Systems	Aerodynamics and Flight Mechanics
<ul style="list-style-type: none">• Discover how solid propellant rockets work, from composition to motor design.• Explore liquid propellant rockets, combustion chambers, and thrust chambers.• Learn the advantages and applications of hybrid propellant rockets.• Examine critical rocket engine design considerations: thrust, specific impulse, and mixture ratio.	<ul style="list-style-type: none">• Grasp the basics of aerodynamics: lift, drag, and thrust.• Understand rocket stability and control using the center of gravity and center of pressure.• Analyze flight trajectories, including altitude, range, and apogee.• Predict rocket flight performance using tools like OpenRocket.
Interactive Guest Session	Model Rocketry Introduction
<ul style="list-style-type: none">• Engage in an exclusive live Q&A session with Prof. RR. Elangovan Rajagopalan, Former ISRO Scientist and a trusted colleague of Dr. APJ Abdul Kalam. Hear inspiring stories and gain insights from his rich experience.	<ul style="list-style-type: none">• Learn how model rockets are designed, assembled, and launched.• Get a glimpse of safety measures and best practices during rocket launches.

FAQs

1. Do I need prior knowledge to join?

Not at all!

This course is beginner-friendly and perfect for students with a curiosity for learning.

2. What happens if I miss a session?

No worries!

Recorded sessions will be provided for self-paced revision.

3. Will there be hands-on activities?

Absolutely! The course includes practical lessons, especially on model rocketry.

4. Is this course entirely online?

Yes, all sessions are conducted online, making it accessible from anywhere.

Important Dates

- **April 7** : Registration Opens.
- **April 21** : Early Bird Offer Ends.
- **April 31** : Registration Closes.
- **May (First Half)** : Program Begins.

Offer Live!



(Early Bird Offer Ends April 21)

Ready to Launch?

Don't miss out on this chance to explore the fascinating world of rockets and space! Seats are limited, so grab your spot now and take advantage of the early bird offer.

How to Register?

Registration can be done via our official website only!

www.rocketrytamil.in/summer-school