

Young Scientist Award 2026

Objectives

- ❖ Introduce students to the innovation cycle and encourage an entrepreneurial mindset.
- ❖ Inspire students to solve local and global problems using design thinking and to develop leadership skills.

Awards and Recognition

- **First Prize: ₹50,000 + Trophy**
- **Second Prize: ₹30,000**
- **Third Prize: ₹20,000**

Program Phases

- ❖ Idea Submission and Initial Evaluation – Conducted by teachers.
- ❖ Student Registration and Access – Provided by VMRF.
- ❖ Team Formation and Prototype Development – To be completed by the first week of January.
- ❖ Regional Pitching (Level I).
- ❖ Final Pitch – To be held at VMCC.
- ❖ Demo Day and Award Ceremony – Organized by VMRF for prize distribution.

Key Roles

- ❖ Teachers/Mentors: Guide students through ideation, prototype development, and presentation preparation.
- ❖ Jury Members: Evaluate projects based on creativity, innovation, and feasibility.
- ❖ **Eligibility Criteria**
- ❖ Students must be able to clearly explain their prototype's function and potential improvements based on feedback.

- ❖ Prototypes should effectively demonstrate the main idea or provide a clear solution to the identified problem.

Problem Statements

Category 1: Transport and Logistics

1. Low-cost smart transport solution for moving agri-produce from remote farms to the nearest motorable road.
2. Design a simple, low-cost QR or visual-marker-based identification system that helps railway workers easily label, track, and verify different railway track fittings during installation and maintenance

Category 2: Smart Automation

1. Intelligent Microscopy Hardware for Marine Organism Counting

build a low-cost microscope setup with lighting and mechanical movement that helps capture clear images and count microscopic marine organisms using simple optical techniques (no AI).

2. Disaster-Response Drone for Remote Areas

Develop a basic, stable drone prototype capable of carrying small payloads (medicine, messages) to hard-to-reach places during disasters.

3. Gold Jewellery and Artefact Testing Device

Create a small hardware tool that can test gold jewellery using simple physical or electrical properties (density, conductivity, magnetism) without chemical processes.

4. Automated Compliance Checker for Product Labels (Hardware Only)

Design a handheld scanner or device that reads printed labels on products and checks if mandatory information (weight, price, expiry, etc.) is present.

5. Tamper Detection for Weighing Instruments

Build a hardware add-on that detects any tampering or unauthorized opening of weighing or measuring instruments and gives a warning signal.

7. Unauthorized Electric Fence Usage Detector

Create a hardware system that senses when an electric fence is activated or used illegally and sends an alert to the user or authorities.

Category 3: Clean and Green Technology

Smart Waste Segregation and Recycling System

Design a low-cost hardware system that automatically separates wet, dry, and recyclable waste using simple sensors and mechanical sorting mechanisms.

2. Microplastic Detection Hardware

Build a simple hardware device that filters water samples and uses optical or light-scattering techniques to help detect the presence of microplastic particles.

3. Camera-Based Beach Sand Grain Size Mapping Device

Create a low-cost setup using a basic camera and measurement frame to capture images of beach sand and map grain sizes using simple physical comparison methods.

4. Solar-Powered Dewatering Model for Mining Areas

Develop a scaled-down solar-powered system that can pump out water from a mock mining pit using a solar panel, battery, and small pump.

5. Wastewater Treatment and Reuse System

Build a small, low-cost hardware model that treats household wastewater using filtration, sedimentation, and natural media, making it suitable for non-drinking domestic reuse.

Category 4: Agriculture, FoodTech & Rural Development

1. Intelligent Pesticide Sprinkling System

Design a simple hardware system that detects basic signs of plant infection using sensors and automatically sprays pesticide only when needed, reducing wastage and protecting crops.

2. Improved Onion Storage System

Develop a low-cost storage structure for onions that improves airflow, controls moisture, and prevents early sprouting or rotting to extend shelf life.

3. Smart Agriculture Model for Hilly Regions

Create a small-scale hardware model that demonstrates efficient farming in hilly areas using terraced layouts, controlled irrigation, and sensors for soil moisture and water flow.

Category 5: Medtech

1. Simplified E-Tongue for Taste Identification

Design a simple electronic device that uses basic sensors (such as conductivity, pH, and salinity sensors) to distinguish common taste categories like sweet, salty, and sour.

2. Posture Correction and Ergonomics Device

Create a low-cost hardware system that monitors sitting or standing posture and alerts the user when they maintain incorrect posture for too long.

3. Assistive Hardware to Support Caregiver Rehabilitation

Build a simple hardware device that helps caregivers of differently-abled individuals reduce physical strain—for example, a lifting-assist tool, posture-support aid, or stress-monitoring module.