

KERALA PHYSICS CONGRESS 2024

9 & 10 NOVEMBER 2024, GOVT. ARTS & SCIENCE COLLEGE
CALICUT

Kerala Physics Congress 2024:” Where Equations Met the Stars”

Association of Physics Teachers (APT), KERALA

Day 1: Saturday, 09/11/2024 — The Sky Was Never the Limit

The session starts with the morning, as registration opens and the host college awakens to footsteps from every schools in Kozhikode district. More than two hundred students and teachers arrive, notebooks in hand, eyes carrying the quiet weight of expectation. The air is not loud, but alive — with rustling paper, whispered names, the sense that an ordinary Saturday is about to become a page in someone’s life story. This is not just entry. It is arrival.



Soon after, the Inaugural Ceremony is led by Dr. S Suresh Babu, Scientist G and Head ATRF, VSSC Thiruvananthapuram. With the lighting of the lamp, he does more than open a congress — he kindles an idea: that in a world of fleeting signals, the deep flame of inquiry



still matters. The hall feels the gravity of APT Kerala's fourth gathering. For four years, KPC has been a quiet promise to Kerala's +2 students -your curiosity has a home, and today, it has an address

Moments later, Dr. S Suresh Babu returns to deliver the Keynote Address. Here stands the bridge between a problem on gravitation from page 87 and a satellite that carves its path through orbit.



He speaks of trajectories of rockets, yes, but also of lives. Students who have only ever solved for 'g' now see that g governs nations. The blackboard has become a launch control, and the syllabus, a star chart. To inaugurate and then illuminate — the message was seamless: physics is both the ceremony and the substance.

A brief pause for tea arrives like a breath. It is not empty time. It is where a teacher from Wayanad and a student from Kollam discover they are asking the same question.

As the morning deepens, *Physics – Backbone of Technology* unfolds with Dr. Premlet B., Former Head of Dept., TKM



Engineering College, Kollam. He does not lecture; he unveils. The phone in your pocket, the MRI that reads the body, the solar panel that drinks sunlight all are physics made flesh. Teachers hear their +2 chapters echo in India's rise. Students see formulas not as hurdles, but as blueprints. The burden of memorizing becomes the thrill of building.

After lunch, the hall grows still for *100 Years of Quantum Mechanics* with Dr. Harikrishnan, HOD of Physics, Govt College Madappally. He guides us through a century that broke the world open



and refused to put it back together. No equations drown us — only wonder. Uncertainty is presented not as a flaw in knowledge, but as a feature of reality. Wave and particle, living together in defiance of common sense.

As afternoon leans forward, *India's mission to Sun–Aditya L1* rises with Dr. Sreejith Padinjatteeri, Project Scientist & Operations Manager for SUIT onboard Aditya-L1. He speaks not as a distant expert, but as a witness. He tells how India watches its star — what

SUIT sees, why the Sun's moods matter to Earth. This is no PowerPoint. It is an invitation. Chandrayaan was their childhood. Aditya-L1 is their present. The next mission could be their hands. The line between “what we study” and “what we do” dissolves like morning mist.

Evening tea passes, and with the day's last light, the *Local Trip to the Planetarium* begins — a deliberate overture to the night.



Under the dome, the artificial sky turns and the constellations are called by name. This is not simulation; it is preparation. Science becomes storyteller, and the delegates learn to read the sky before they meet it. The planetarium does not replace wonder. It rehearses it.

As true night falls, *Wonders of Night Sky* with Prof. Papputty, Former HOD of Physics, Govt. College Madappally, turns anticipation into understanding.



He teaches the sky as map, calendar, compass. Constellations become coordinates. The celestial dome becomes a laboratory. Minds are primed. Eyes are ready.

Then, under real stars, *Sky watch at Regional Science Centre, Kozhikode* makes theory incarnate. Telescopes turn toward truth. Saturn's rings , not in a textbook, but real, tilted, impossible. Jupiter's



moons there, just as Galileo saw. Nebulae — not illustrations, but light that left its home years ago to meet us tonight. For most students, this is a first communion with the cosmos. After the planetarium's rehearsal, this is the performance.



Dinner and *Cultural Activities* weave community from science. Songs rise from different schools. A student from farooq teaches one from Perambra a folk tune. The language of science has become the language of friendship. Lights off is official, but across hostel rooms, minds remain alight, turning over photons and planets.

Day 2: Sunday, 10/11/2024 — Hands, Minds, and Horizons

Breakfast passes in quiet purpose. Then with the new morning, *Exciting World of Experimental Physics* begins in the PG and Research Lab, Dept. of Physics. Here, students cease being spectators. They touch. They measure Planck's constant with an LED and feel the

shock of seeing a fundamental number emerge from their own data. Teachers watch, sketching upgrades for school labs. The session whispers its truth: _you do not know physics until your hands have done it_.

Soon the hall divides into parallel worlds, because learning is not one-size. For teachers, *Subtle issues in teaching Higher Secondary Physics* with Mr. Udayachandran names the quiet struggles — how to teach without extinguishing wonder, how to bridge textbook and thought. Alongside, *Some thing new* by Mr. Sethumadhavan, Former HOD of Physics, SN College Chelannur, offers students fresh angles, new problems, the thrill of an idea unmet. KPC, in its wisdom, nourishes both roots and branches.

After mid-morning tea, *Gravitational Waves* ripple through the hall. Dr. Sunil, Kannur University, tells of Einstein's century-old whisper



that became LIGO's thunder. He renders the Nobel Prize human. Students learn that the universe is still speaking, and we are only now learning to listen.

In the parallel room, a class on electromagnetic waves by Dr. Ajith, Prof., Dept of Physics, NIT Karnataka, Surathkal, gives teachers depth — the kind of content that transforms a good class into a great one.

As the morning approaches its end, *Mathematical Methods in Physics* with Dr. Suresh Babu K., Former HOD, Govt. College, Madappally, achieves something rare: it makes peace between students and mathematics. Calculus is not a gatekeeper, but a grammar. Vectors are not arrows to fear, but directions to follow. For many +2 students, this is the hour mathematics becomes an ally. Fear thins. Fluency begins.

Lunch passes, and then *A Quick Rewind – What You Learned* with Mr. Rajashekhar, Former HOD of Physics, Govt. Arts & Science College Kozhikode, does not revise.



He weaves. Quantum mechanics, Aditya-L1, gravitational waves — separate threads in the brochure, now a single tapestry. Students see the pattern. Teachers see what to carry back to Monday's class. It is integration, not repetition. The mind, like the universe, prefers coherence.

The *Valedictory Ceremony* distributes certificates, but that is not the measure. The real metric is posture — students who arrived hesitant now speak of research as if it belongs to them. Teachers who came weary now carry new demonstrations in their notes and new fire in their plans. The Congress ends. But in buses to various places, it continues: in a question asked on the way home, in a telescope fund planned, in a girl who now knows that Saturn is not a picture, but a place.

Kerala Physics Congress 2024 was two days. But its true duration is measured differently — in the narrowing gap between a student who says “I have to study physics” and one who says “I get to do physics.” The brochure gave us the schedule. The planetarium gave us the sky. The delegates gave it a soul. And in this ***fourth gathering of APT***, inaugurated and illuminated by ***Dr. S Suresh Babu, Scientist G and Head GTRF, VSSC Thiruvananthapuram***, that soul deepened. Somewhere in Kerala tonight, because of these two days, the next beautiful question is already being formed.



After valedictory function with Mr. Balaji, Director , planetarium , Kozhikode



These students arrived as learners bound by syllabus ,but they left us explorers bound by curiosity with notebooks full of equations, minds full of constellations,and the quite confidence that Physics is not something they have to study but something they get to do .