

Today's Paper » NATIONAL » KERALA

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CSIR reaches out to college students

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Offers role in global initiative for drug development

Postgraduate students of chemistry in selected colleges across Kerala will soon be part of a global effort to develop affordable drugs for tropical infectious diseases.

The students could soon be synthesizing compounds with the potential to be developed as drugs for diseases like tuberculosis and malaria, under a project piloted by the National Institute for Interdisciplinary Science and Technology (NIIST), a CSIR laboratory at Pappanamcode.

Named Open Source Drug Discovery (OSDD), the programme seeks to link researchers across the globe to solve key challenges in designing drugs for tropical diseases which fail to draw the attention of research-based pharmaceutical enterprises. It is based on a portal that provides an open source platform for scientists, doctors, technocrats, software professionals, and students to share knowledge. The collaborative approach is designed to keep the cost of drug discovery low, thereby making treatment affordable.

Practical training

The outreach component of OSDD will provide practical training for a large number of postgraduate students specialising in organic chemistry in various universities, IITs, IISERs, and other academic institutes across the country

“The idea is that, as part of their practical classes, the students undergo training in research and get to know how to carry out the modern synthetic reactions that they study as part of their course. They will synthesize small molecules using simple and easy-to-do reactions. The molecules would later be tested for their efficacy in treating tropical diseases,” says K.V. Radhakrishnan, senior scientist, CSIR-NIIST and Academic Coordinator of the M.Sc. Chemistry Outreach Programme in Kerala.

“It is also expected to transform colleges into mini research centres and improve the quality of higher education in the State, Dr.” Radhakrishnan said.

Suresh Das, director, CSIR-NIIST, Thiruvananthapuram, says the OSDD is expected to bring about an openness and collaborative spirit in drug research by networking scientists, doctors, and students.

“The CSIR will mentor the students and expose them to some of the latest research techniques and sophisticated analytical instruments. The initiative will motivate teachers also to participate in advanced drug discovery research,” he says.

As many as 12 M.Sc. students from five colleges in Kerala have been selected for the first batch. Each student gets a project to synthesize a particular molecule. The students do part of the work at the NIIST and the rest at the respective colleges with the help of teacher guides. The results are submitted online to the OSDD and the same submitted to the university as the student's M.Sc. dissertation. Every 50 mg of synthesized molecule also fetches Rs.7,000 for the team.

The college receives an assistance of Rs.10 lakh for upgrading its laboratory infrastructure. Teachers and students alike benefit from the e-learning sessions that are part of the OSDD package.

According to I.G. Shibi, general secretary, Academy of Chemistry Teachers of Kerala (ACT), the outreach programme will help students shape a good career in science. He says the students from Kerala are expected to submit 50 to 75 compounds by August.

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