Solved Environmental Problems, ITS Students Won International Awards

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The Chemical Research Team from ITS won three awards for the environmental category at the Intellectual Property, Invention, Innovation and Technology Exposition (IPITEx) event in Thailand

ITS Campus, ITS News - Students of Sepuluh Nopember Institute of Technology (ITS) Surabaya boast ITS name in the international level. Come from environmental problems, technology created by ITS Chemical Research Team managed to bring home three awards at once. Gold, silver, and special awards, its success at the Intellectual Property, Invention, Innovation and Technology Exposition (IPITEx) event in Thailand, on February 6, 2019.

The Chemical Research Team is consisted by Alvin Rahmad Widyanto, Wulan Aulia, Terry Denisa Syukrie, Anugerah Putri Anafiesma, Vina Rizky Andina, Alvin Romadhoni Putra, Isaiah Reformyada Nusantoro, and Ulva Tri Martia. In the competition and exhibition, the Chemical Research Team showed off with two works

The team leader, Alvin Rahmad Widyanto, explained that his first work, MnO2 / Zeolite Na-Y as Catalytic Converter (CC) for Removing High Toxicity Gas Emissions, is a catalytic converter that can be applied directly to motor exhaust to reduce the danger of exhaust gases motor vehicle.

“To convert toxic gas into a more environmentally friendly gas, we (he and the team, red) use Manganese Dioxide (MnO_2) catalyst which is impregnated into Zeolite Na-Y,” said the student from Mojokerto, East Java. Impregnation itself is a process of total saturation of a substance using certain substances.

In his second work entitled Elimination of Heavy Metal Chromium (VI) Using Microbial Fuel Cells that Adopt Sequential Mixed Methods, Alvin and the team created a reactor to reduce chromium (IV) waste by utilizing saccharomyces microbes and adding Y Zeolite adsorbents to cathode compartment to reduce the waste.

“Chromium (IV) waste, especially the results of the electroplating industry, is a very dangerous waste because it can cause lung illness, cancer, kidney, and liver,” said a student of the Chemistry Department who stepped on his third year.

Despite carrying out extraordinary works, Alvin and the team did not immediately get three champions easily. Because he must compete with 443 teams from 25 countries in the world. The team assisted by Ir Endang Purwanti Setyaningsih MT and Dr. rer nat Fredy Kurniawan SSi MSi also initially had no idea that they would get three awards at once. “Moreover, usually those who get special awards are not representatives from Asia,” he said.

When asked about a unique story, Alvin relates that when he and the team attended IPITEx, the index of air pollution was high in Bangkok. So the government requires its people to wear masks. “This incident added advantage for our research on catalytic converters to reduce air pollution due to exhaust emissions,” said the 1997-born student.

The gold medalist at the 31st National Student Scientific Week (Pimnas) also revealed that the preparations made for IPITEx had started since November last year. Apart from the supervisors, the team also received direction from Rahadian Abdul Rachman SSi, an alumnus of ITS Chemistry Department.

At the end of the interview with ITS Online, Alvin and the team hoped their research could continue to be developed. “With this research, we want to be useful and being a solution to environmental problems that have been one of the biggest problems both in Indonesia and the world,” he concluded hopefully. (jun/id/Anjani)

Source: https://www.its.ac.id/news/en/2019/03/01/ended-environmental-problems-its-students-win-international-awards/