



Korea outreach program for underwater glider

Yumi Song (1) and JongJin Park (2)

(1) Kyungpook Marine Science Institute of Kyungpook National University, South Korea (ymsong@knu.ac.kr), (2) Kyungpook National University, South Korea (jjpark@knu.ac.kr)

Outreach in oceanography works as a mutual motivation among scientists, engineers, students and the public. ABISS (centre for Autonomous Best-Integrated Surveillance System) in Kyungpook National University, South Korea, has undertaken the autonomous ocean surveillance and observation system using underwater glider fleet. With supports of the local governments, ABISS has developed an education program to instruct about autonomous ocean observing platforms, their practical applications, and new technical developments for underwater gliders since the year of 2016. The education program is for young students as well as the public, providing an awareness of them about the importance of autonomous ocean observation and its relevant technology.

The program was conducted for a total of 82 students from elementary and middle schools (from 9 to 16 years old) in Pohang city near the coast, consisting of 6 sessions for 2 hours each. Our well-organized program deals with the variety of fundamental topics like difficulty of ocean observation, necessity of autonomous ocean observation robots, theories of movement and also covers more technical topics such as underwater flight principle and various applications of underwater gliders. Most importantly, the program includes two kinds of experiential hands-on activities for young students.

Experiential activity 1. Experience with buoyancy adjustments using mini-gliders; students perform ballasting of Seaglide by them in order to understand how buoyancy adjustment affects the flight performance.

Experiential activity 2. Experience controlling autonomous ocean robots; students operate the remote-controlled mini AUV to have interests in ocean observation robots.

Through this program, students show us the substantial improvement of their interests in marine science and technology by experiencing hands-on autonomous ocean observation robots that they did not know before. A survey of the attendants revealed about 89% satisfaction on the outreach program and about 83% re-participation intention. All the engineers and scientists who helped at the outreach education program also experienced the increase of the self-esteem and realized the importance of their works afresh.