

Techno-Ocean 2016 Underwater
Robot Competition Junior Group
Competition rule

Date: October 8 Sat., 2016

Venue: KOBE PORT ISLAND SPORTS CENTER

Techno-Ocean2016 Underwater Robot Competition Committee

A Goal of Junior Group is to deepen knowledge of the micro-computer by a lecture of history and mechanism of computers and micro-computers and practices using a micro-computer, and to develop underwater robot using the knowledge. Junior group includes some contents as follows:

1. Lecture of computer and practices of micro-computer programming

1.1 Lecture of computer

Here, Lectures will be held about history of computers, difference between digital and analog signal and so on.

1.2 Practice of micro-computer programming using Arduino

Practices which are LED and motor control will be carried out. Each team constructs circuit and program of Arduino.

2. Workshop of underwater robot and competition

2.1 Workshop of underwater robot

Teams will be developed own underwater robot as shown in Fig.1. Contents of work are as follows.

(a) Programming of Arduino

A motor and a LED which are equipped in a robot are controlled by “Arduino” which is a micro-computer. Each team creates program and sets time and number of revolutions for a motor, and period of flash for LED.

(b) Fitting wings and head, and adjusting of balance

Teams install wing and head on their robot to move straight. And, the robot is adjusted balance so that can dive to target.

(c) Testing robots

Robots which are developed by each team are tested in a pool and adjusted motor speed, wing angle and so on.

2.2 Competition

Competition will be carried out using a robot developed by each team. The robot is moved toward a target on bottom of a pool.

3. ROV workshop (※There is a possibility of cancel due to time constraints)

Control experience of ROV(Remotely Operated Vehicle) will be held

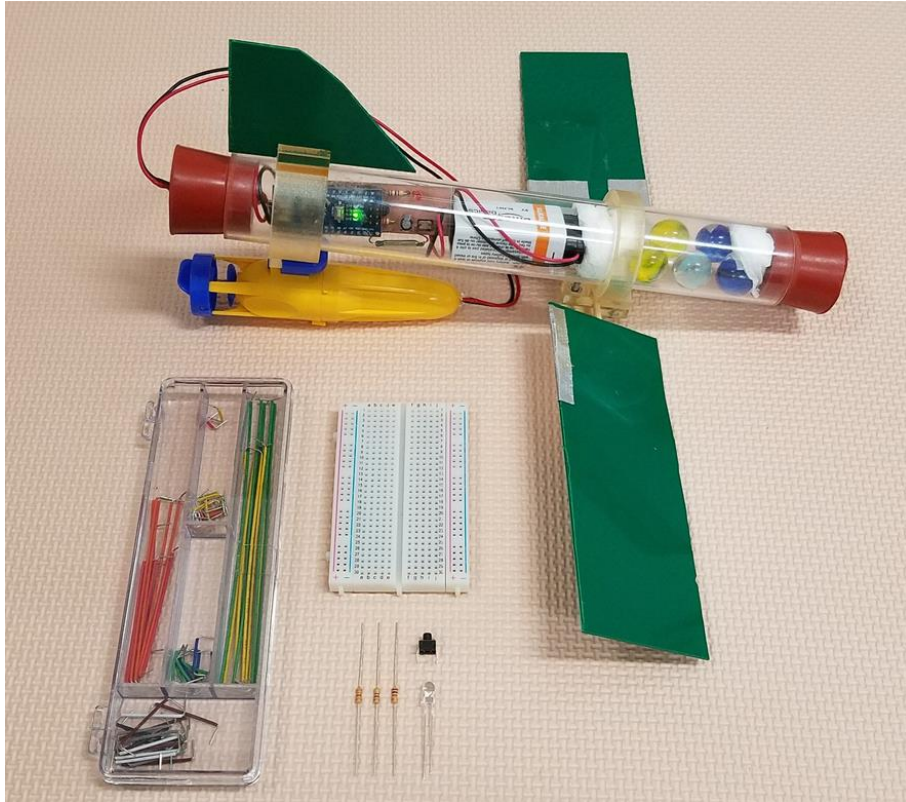


Fig.1 underwater robot which is developed by participants of workshop.