

# Oshinobi (Japan)



## Development point

We challenge missions by combining a mobile robot and a snake robot. The mobile robot has high mobility and the snake robot has ability to enter narrow environments. Especially, we have developed the snake robot that can be operated as a manipulator on the mobile robot.

The snake robot. It has gripper and camera on the head.



The snake robot acts as a manipulator on the mobile robot.

## Introduction of your team

【Inspiration, motivation to form a team】

Our team was launched to exhibit the result of ImpACT TRC project in 2018. We restarted the team as PBL for student in our laboratory. We utilize and improve robots in our laboratory to tackle the mission of WRS.

【Future outlook】

Keep research and development of the robots to be a tool of large scale disaster response solution; to realize snake robot to adapt complex environment, and remote control system to reduce operator's burden.

Role	Name	Affiliation/Title	Specialty, Field of study
Team leader	Tetsushi Kamegawa	Okayama University, Associate Professor	Snake robot, rescue robot, medical robot
Development of snake robot	Wang Yongdong	2nd year PhD student	Motion planning and dynamic modeling of a snake robot
Development leader	Hajime Tamura	2nd year master student	Research on control of a snake robot by CPG network
Development sub leader	Taiga Teshima	2nd year master student	Control of a mobile robot using VR environment by HMD
Development of mobile robot	Sota Nakano	2nd year master student	A rescue robot using SLAM and radio wave conditions
Development of snake robot	Yuki Tada	1st year master student	Control of a snake robot using an extended Kalman filter
Development of snake robot	Daiki Nakano	1st year master student	Control of a snake robot using admittance control
Development of image processing software	Yuichi Sasaki	1st year master student	Research on applying Deep Learning to a rescue robot
Development of mobile robot	Taiga Sekito	1st year master student	Research of SLAM which use on rough terrain
Development of image processing software	Yuya Shimizu	4th year bachelor student	Research on reducing fall damage of a snake robot



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