

Development of Rescue Robots in Tokyo Institute of Technology

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I will introduce our research activities about robotic systems for rescue operation. I will discuss about snake-like robot suitable for the locomotion in a narrow and winding space and even in a dust-filled environment, and then demonstrates some of the examples; e.g. i) ACM-R3, basic 3D snake like robots, ii) Soryu-III, three joints snake-like robot with crawlers, iii) Slime Slime robots, mechanisms with pneumatic actuators and bridle bellows, and iv) HELIX -I, amphibious snake-like robot which makes specific spiral swimming motion just like spirochete. The effectiveness of the hyper-tether, robotic system utilizing tether traction mechanisms, will also shown. I will finally emphasize the effectiveness of ordinary-life-embedded rescue devices, and demonstrate several examples such as a versatile jack-up device for automobiles.