

세미나 초록

성명	박성영
소속	한국교통대학교 화공생물공학전공
발표 주제	Stimuli-Responsive Conductive Hydrogel Touch Sensor for Detection of Cancer Cells
발표 내용	<p>The naked-eye detection and wireless electrochemical diagnostic system were designed for a simple disease diagnosis by employing self-reporting and touch-responsive conductive hydrogel-based sensors. The sensor can sensitively respond to the stimuli in diseases microenvironment such as reactive oxygen species (ROS) in cancer and osteoarthritis (OA), due to the presence of stimuli-responsive polymer dots (PDs) incorporated into a hydrogel matrix. The interaction between sensor and stimuli in diseases triggers the change in hydrogel structural and physio-electrochemical properties, including pore size, viscosity, sol-gel transition and conductivity, which produces distinct features compared to the normal condition. Those physical changes can be easily assessed just by naked eye, while the change in conductivity can be reflected in strain-pressure electronic signal obtained by wireless sensing system <i>via</i> smartphone, which makes this system potential for future point-of-care diagnostics.</p>