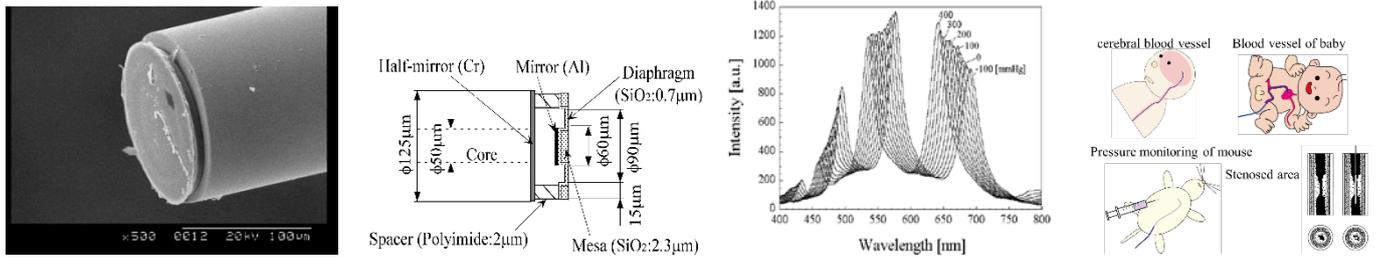
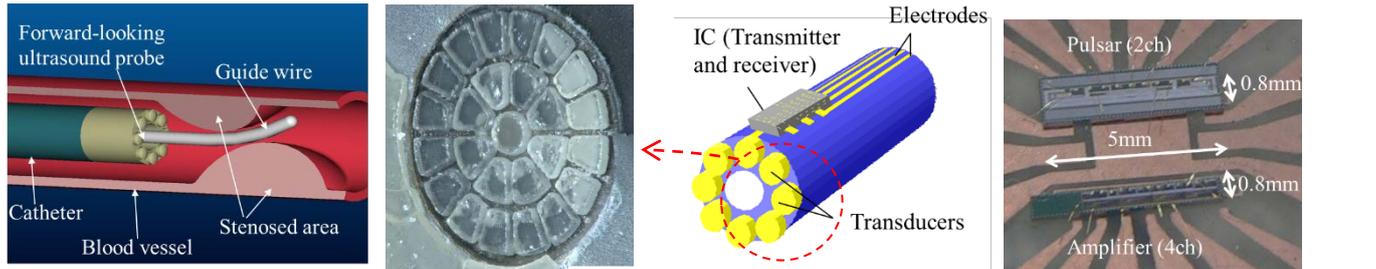


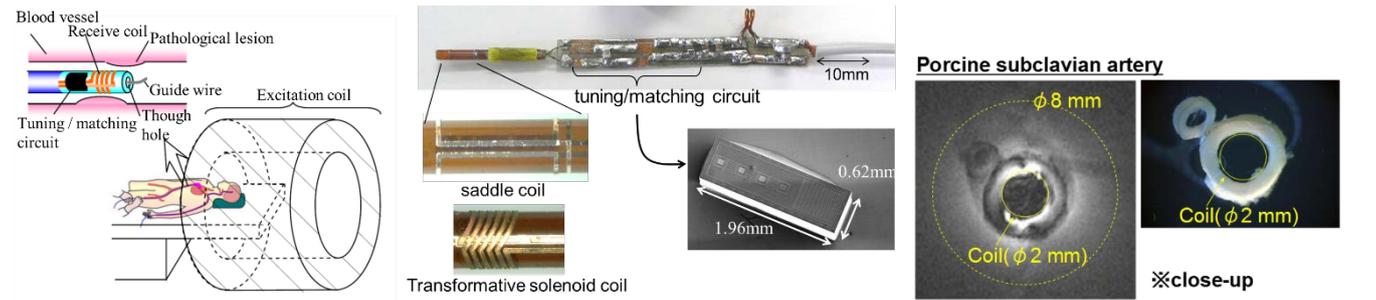
10 Minimally invasive medical devices and health care devices (Y. Haga)



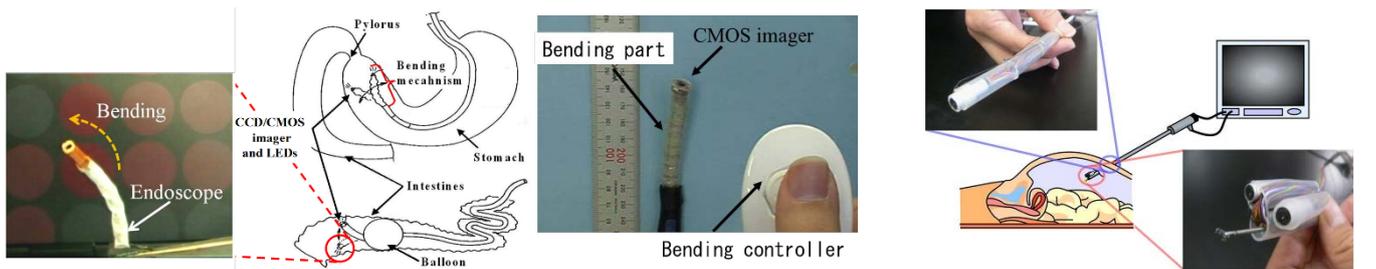
Ultra miniature fiber optic pressure sensor Structure Reflection spectrum for different pressures Applications (K. Totsu *et al.*, J.of Micromech. Microeng., 15 (2005) 71–75)



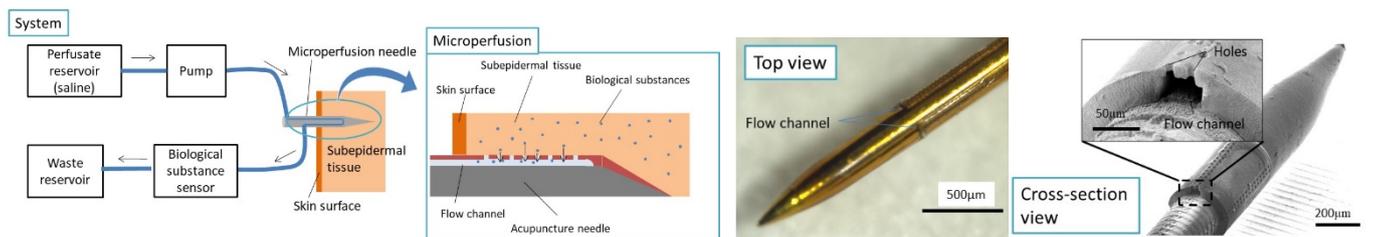
Forward-looking intravascular ultrasound imager and fabricated transducers, pulsar and amplifier (μ SIC) (J. J. Chen *et al.*, Proc. of MEMS (2004))



Intraluminal MRI probe Fabricated MRI probe and variable capacitor (μ SIC) Imaging results (S.Goto *et al.*, Proc. of MEMS (2007)) (S. Ichimura *et al.*, Proc. ISMRM (2010))



Disposable endoscope using shape memory alloy Thin endoscope ($\Phi 3.9\text{mm}$) Colonoscope ($\Phi 9\text{mm}$) (Y. Haga *et al.*, IEEJ Trans. SM, 131 (2011) 102–110) (S. Suda, *et al.*, J.JSCAS, 17 (2015), 83–90)



Minimally invasive continuous monitoring system for biological substances, and fabricated microanalysis needles with flow channel (N. Tsuruoka *et al.*, Biomed. Microdevices (2016) 18:19)