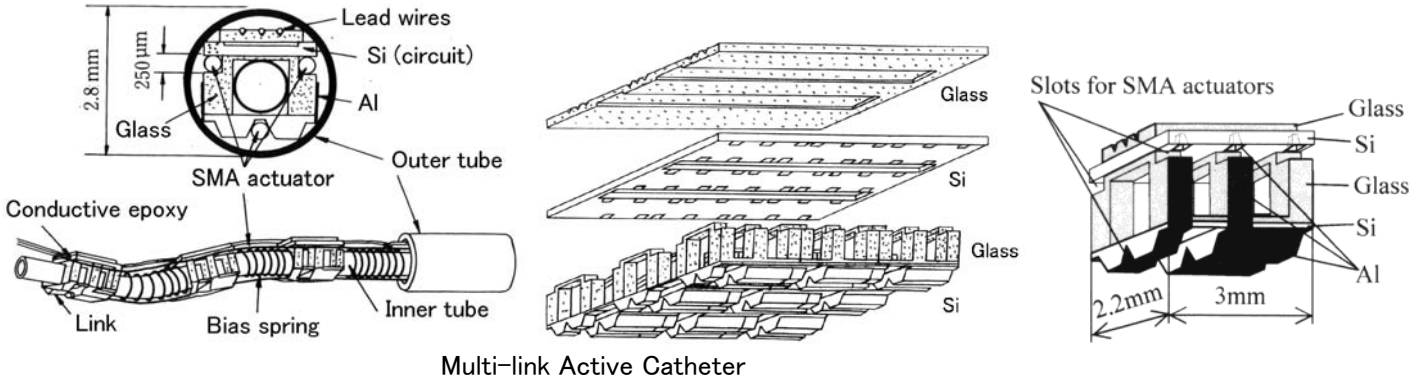
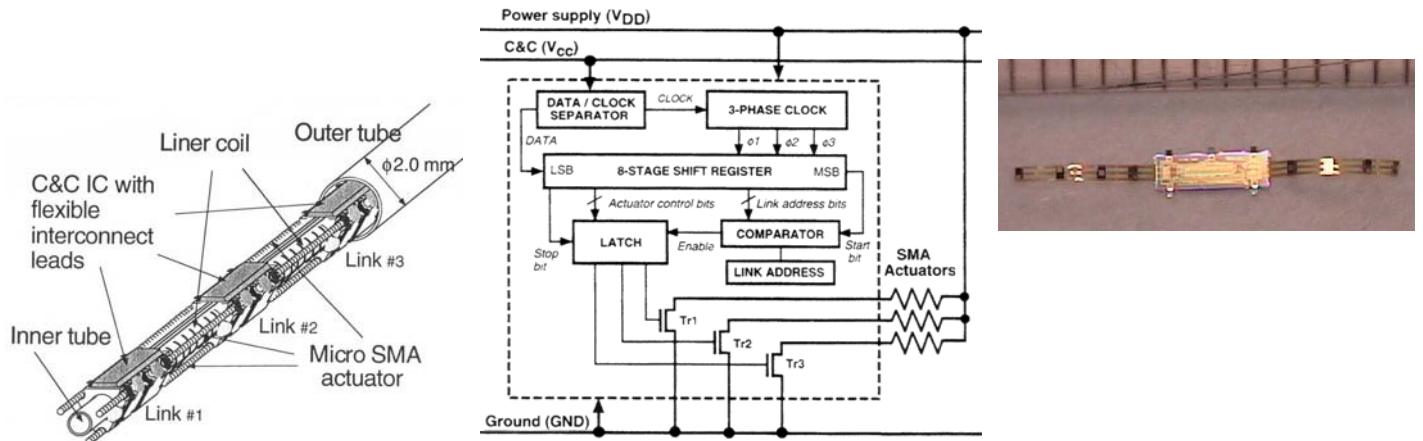


Multi-link Motion Mechanism Using Shape Memory Alloy (SMA)



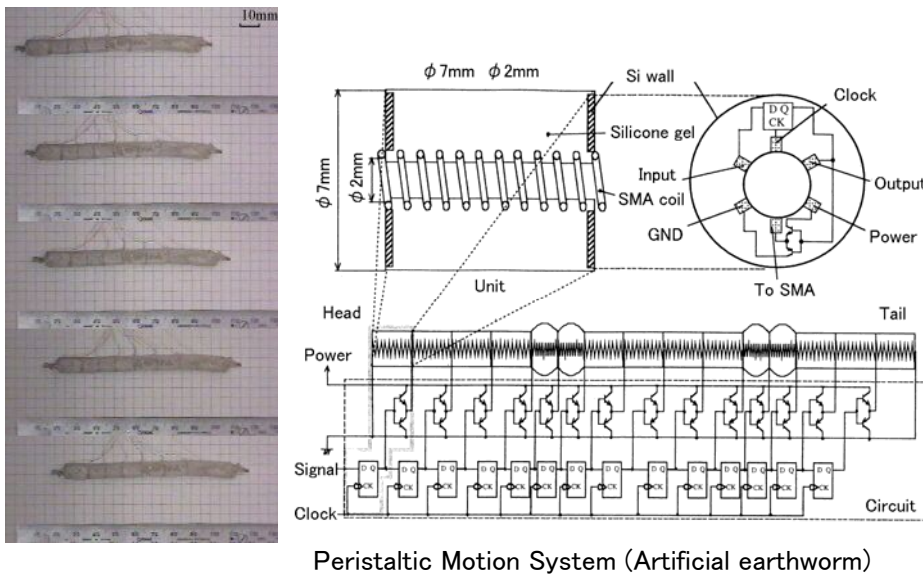
Multi-link Active Catheter

Reference : G.Lim, K.Minami, K.Yamamoto, M.Sugihara, M.Uchiyama and M.Esashi, Multi-link Active Catheter Snake-Like Motion, *Robotica*, 14 (1996) pp.499-506



Multilink active catheter with common 2-wire integrated CMOS communication control circuits

Reference : K.-T.Park and M.Esashi, A Multilink Active Catheter with Polyimide-Based Integrated CMOS Interface Circuits, *IEEE J. of Microelectromechanical Systems*, 8 (1999) pp.349-357



Peristaltic Motion System (Artificial earthworm)

Reference : E.Shinohara, K.Minami and M.Esashi, Peristaltic Motion System Like Earthworm, *Trans. IEE of Japan*, 119-E (1999) pp.334-339

