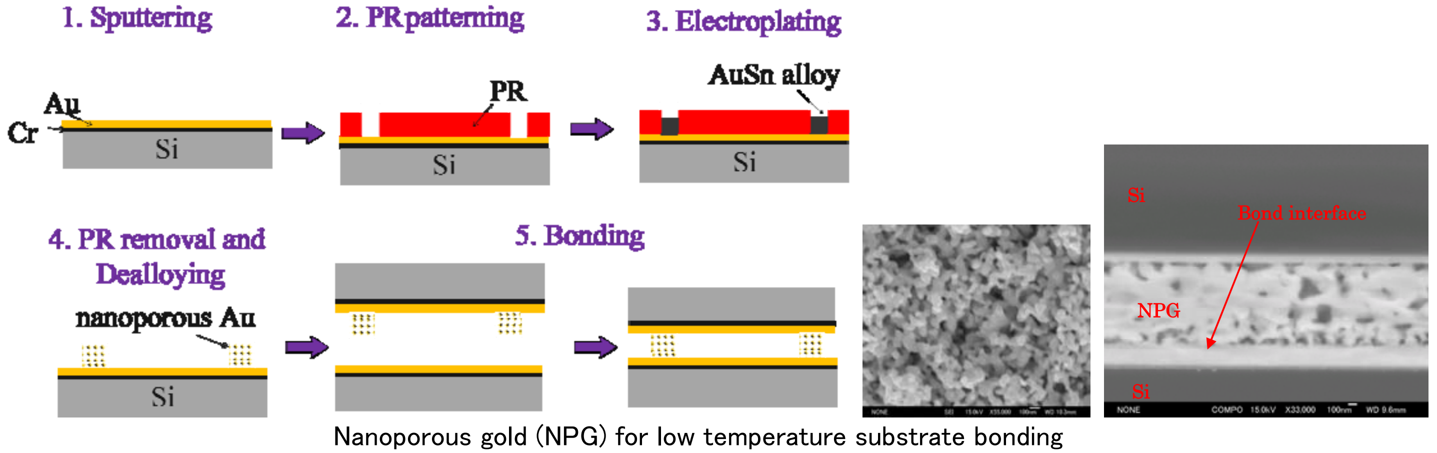
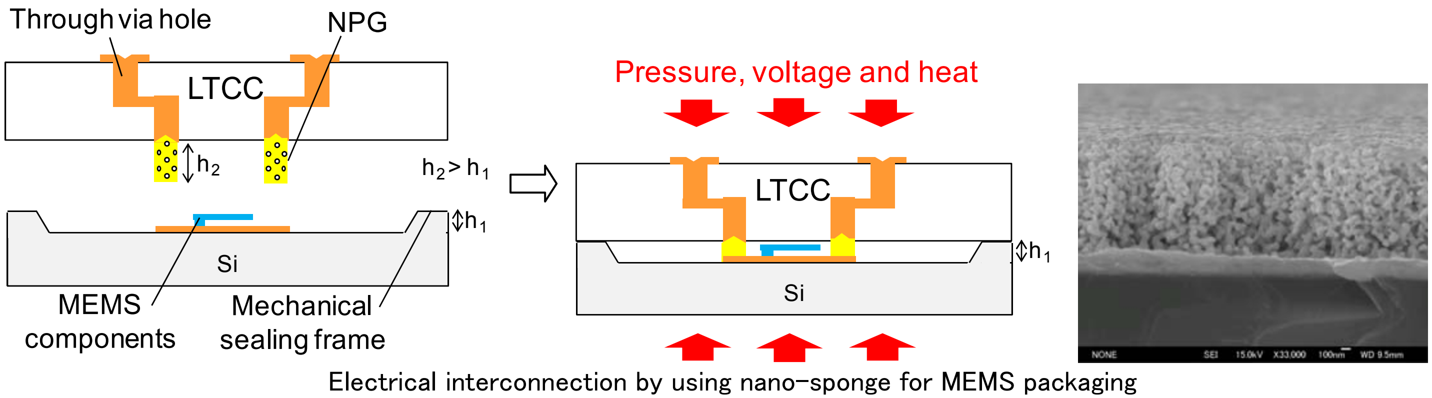
MEMS Materials (WPI-AIMR, Fraunhofer ENAS – Tohoku University)



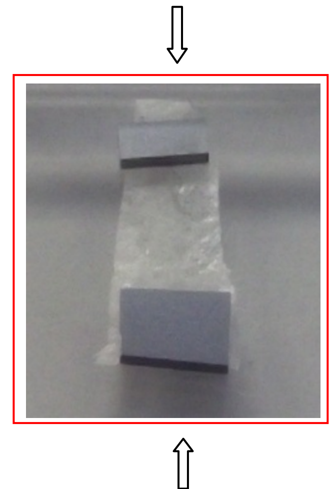
Nanoporous gold (NPG) for low temperature substrate bonding

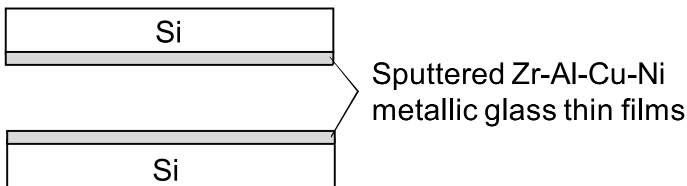
Reference : W. –S. Wang, Y. –C. Lin, L. Y. Chen, M. W. Chen, T. Gessner and M. Esashi, Demonstration of Substrate Bonding utilizing Au Film and Nanoporous Gold Structures, Proceedings of the International Conference on Wafer Bond '11, Dec. 7–8 (2011)

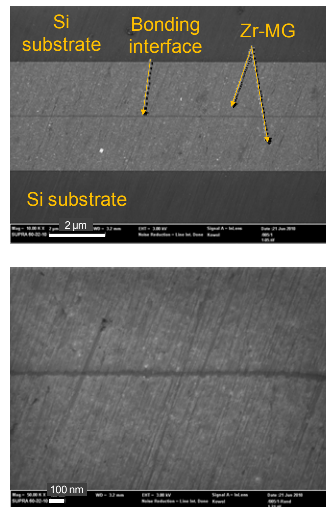


Electrical interconnection by using nano-sponge for MEMS packaging

Reference : Y. –C. Lin, W. –S. Wang, L. Y. Chen, M. W. Chen, T. Gessner and M. Esashi, Anodically-bondable LTCC substrates with Novel nano-structured electrical Interconnection for mems packaging, Proceedings of the international conference on solid-state sensors and actuators (Transducers '11), June 5–9 (2011) pp. 2351–2354







MEMS bonding technology with Zr-based metallic glass ($Zr_{55}Cu_{30}Al_{10}Ni_5$)

Reference : Y.-C. Lin, J. Froemel, P. Sharma, A. Inoue, M. Esashi and T. Gessner, Zr-based metallic glass as a novel MEMS bonding material, Proceedings of the international conference on Micro Electro Mechanical Systems (MEMS 2011) , Jan. 23–27 (2011) pp. 509–512