TSUCHIYA LAB.

[Micro machining technology for micro devices]

Department of Mechanical and Biofunctional Systems

http://cossack.iis.u-tokyo.ac.jp/top-j.html

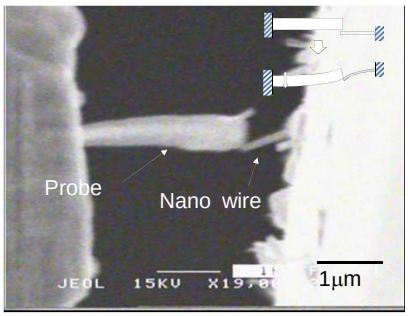
Research Field: Applied Micro Manufacturing

Department of Mechanical Engineering

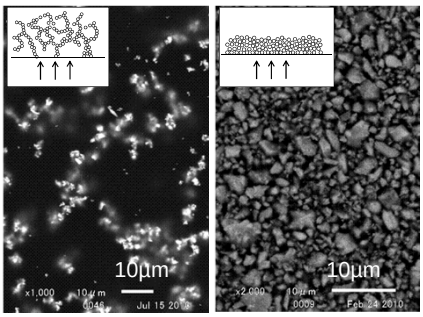
Micro machining technology for micro devices

Our research concept is "production technology in micrometer/nanometer scale." We are researching on mainly following three fields: (1) micro machining technology for generating micro shape, (2) micro handling technology of the micro structures, and (3) developing micro biomedical devices using the technologies above.

- **Micro assembly under scanning electron microscope**
- **Development of multilayered metal micro-reactor with cooling channel**
- **Development on fixed abrasive tool with continuous pore**
- **Study on characteristics of polishing slurry for glass materials with microscopic observations**
- **3D mixing of powder using dividing channel**
- **Nano structure reproduction by heat flux control in injection molding**
- **Pinpoint measurement of mechanical property of blood vessel**



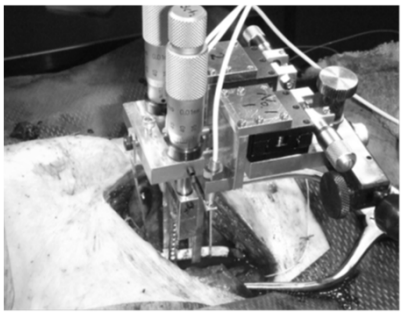
Measuring mechanical properties of tungsten oxide nanowire.



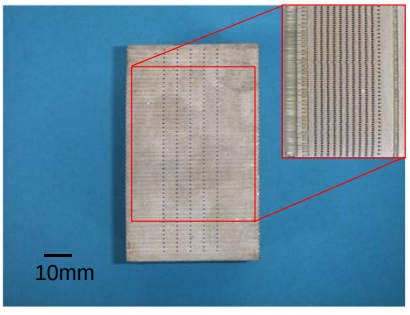
Microscopic view of polishing slurry.

Fixed abrasive tool with continuous pore.

3D mixing system of powder using dividing channel, and mixture of Al_2O_3 and SiC.



Measurement system of mechanical property of blood vessel.



Multilayered metal micro-reactor with one hundred layers, and its cross sectional view.