TSUCHIYA LAB.

[Micro machining technology for micro devices]

Department of Mechanical and Biofunctional Systems

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

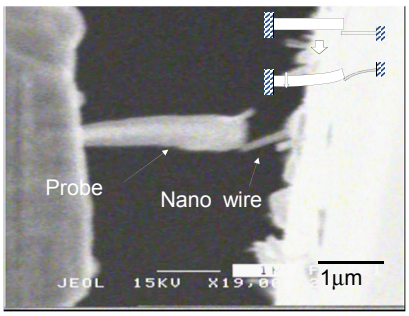
Applied Micro Manufacturing

Department of Mechanical Engineering

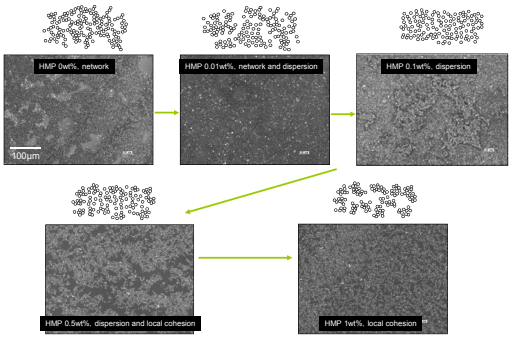
Micro machining technology for micro devices

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.

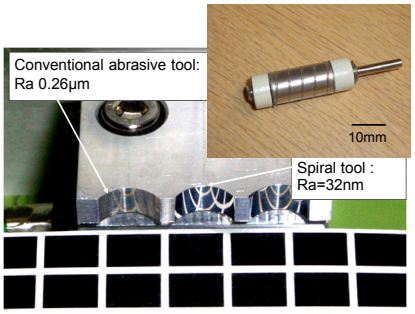
- ◆Micro assembly under scanning electron microscope
- ◆Development of multilayered metal micro-reactor with cooling channel
- ◆Development on fixed abrasive tool with continuous pore
- ◆Study on characteristics of polishing slurry with microscopic observations
- ◆Continuous replication of micro-structures applying electrodeposited metal foil method
- ◆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



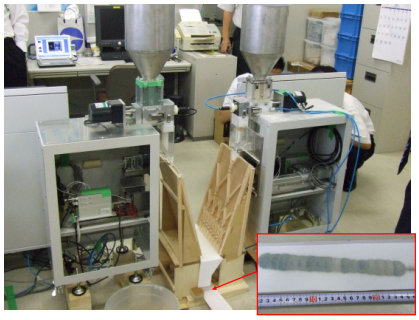
Measuring mechanical properties of tungsten oxide nanowire.



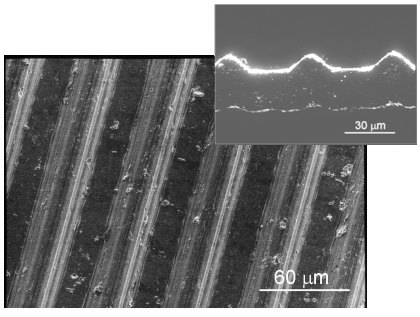
Dispersibility of abrasive grains in polishing slurry.



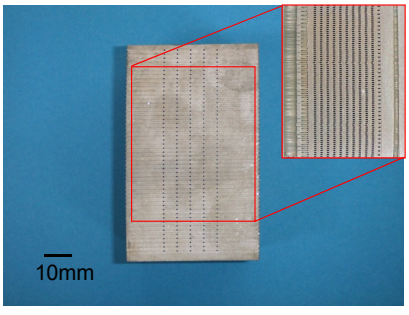
Fixed abrasive tool with continuous pore.



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



Nickel film with micro features on its surface replicated by continuous plating.



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