



**Koji ASAKAWA Senior Research Scientist, Toshiba Corporation**

1992-present, Corporate Research and Development Center, Toshiba Corporation

2004-2006, Princeton Institute for the Science and Technology of Materials, Princeton University

1990-1992: Graduate School of Kyoto University (Master degree with Prof. Takeji Hasimoto)

**Activities:**

Nano materials study

Using block copolymers to fabricate nanostructured masks to apply microelectronics.

World first patterned magnetic media for hard disk drives (HDD) was made using this technique. The HDD density would be 25 times more using this technology.

High efficiency light emitting diode (LED) was fabricated by this technique and assembled. The efficiency doubled compare with conventional LED.

New concept nano-wiring

A unique new technique of wiring board was proposed. It is combination of photo resist, nano-materials, and light scattering technique.

Fundamental study of ArF and KrF excimer laser photo-resist.

The concept of alicyclic acrylic polymer with hydrophilic group was proposed and it is now major concept of ArF resist widely available in the semiconductor industry.

Development of GMR hard disk head

World first GMR head was successfully made during taking part in the development project of GMR. It becomes a major head technology in G-bit hard disk drive.

**Awards:**

Apr 2003: Japan Institute of Electronics Packaging, ICEP Outstanding Technical Paper Award, "Simultaneous Formation of Wiring and Via Using Photoinduced Selective Plating"-

Jan 2001: Japan fine ceramics association, Best Technical Presentation Award, "Nano-patterning technique using block-copolymers"

May 2000: Japanese society of applied physics, Young Scientist Award for the Presentation of an Excellent Paper, "Nano-patterning technique using microdomains of block-copolymers"