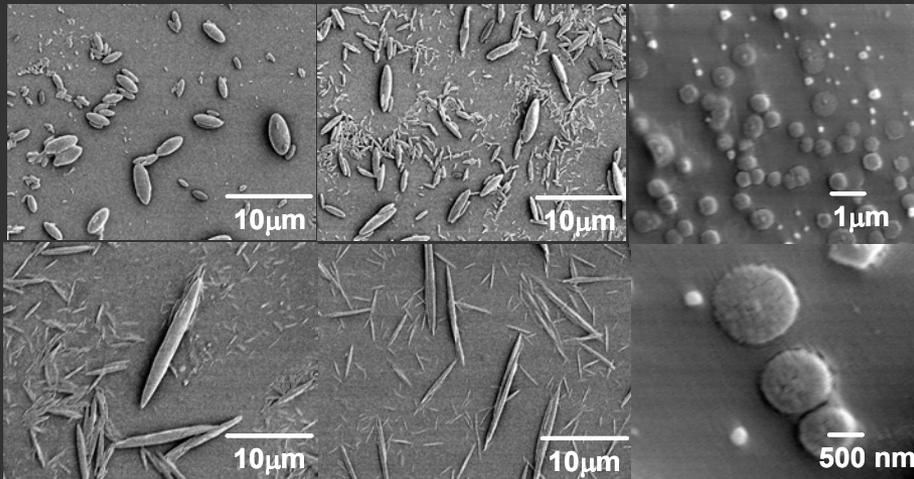
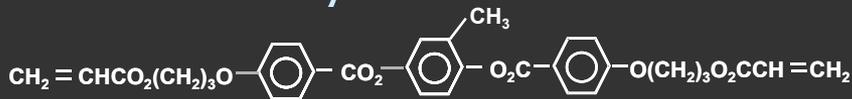




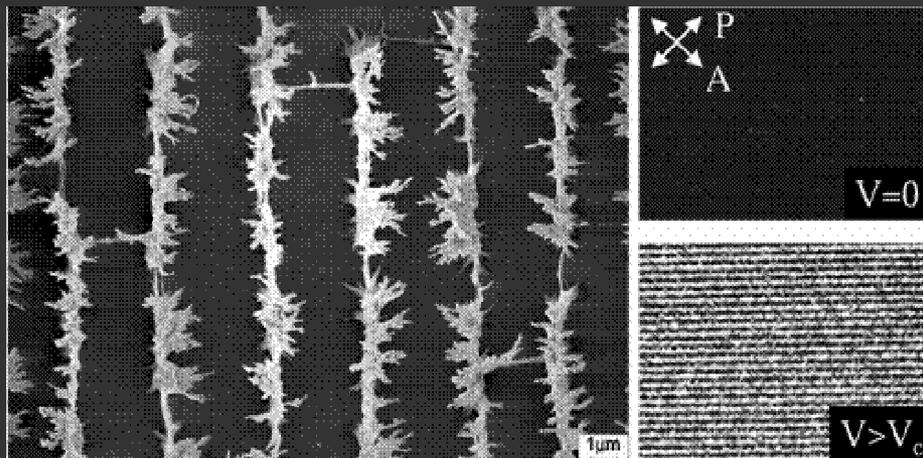
# Ordered Polymer Microstructures



## SEMs of Polymer Microstructures



Ordered polymer ellipsoids & disks (unpublished)



Holographic polymer walls in LC (unpublished)

Gregory P. Crawford

Brown University

Division of Engineering

Providence, RI 02912

- Creating novel ordered polymer ellipsoids by dispersing them in PVA/water, coating, stretching, ordering liquid crystal, capturing with UV light, and then releasing from PVA binder – uniaxial and biaxial stretching is possible to makes elliptical and discotic-like particles.
- Two students that have worked on the project: Dr. Pavel Kossyrev (now a Postdoc at *MIT*) and soon to be Doctor, I. Amimori (now a research scientist at *Fugifilm*).

### Example Recent Publications

Amimori, et al., *JAP* **93**, 3248 (2003).

Kossyrev, et al., *APL* **81**, 2986 (2002).

**NSF CAREER DMR-9875427**



# Synergetic Activities

## Education Outreach



- Co-organized science workshop for middle school girls & parents (April 26, 2003) entitled: *Empowering your Future!*



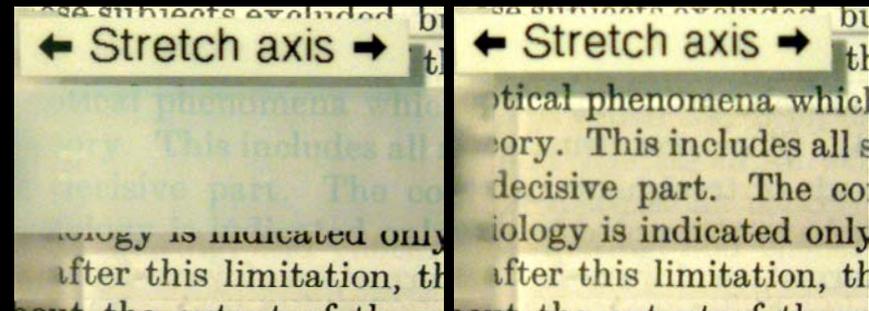
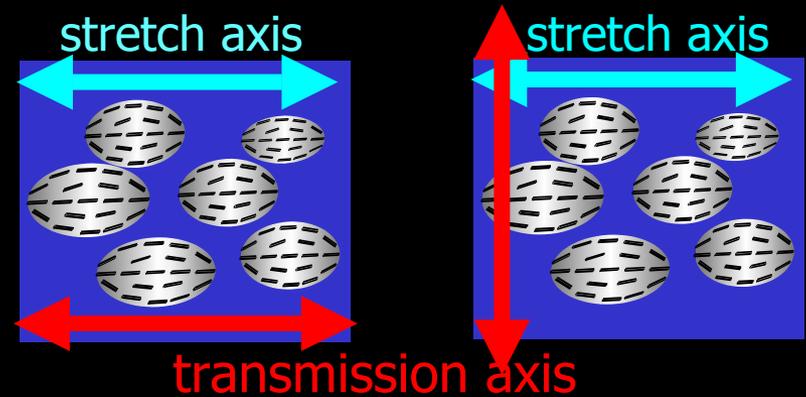
- Co-organized innovation workshop for graduate students (June 6, 2003) entitled: *Creating Value Out of Basic Research.*

These were also partially supported by our NSF MRSEC and the Division of Engineering

## Industrial Collaborations



- Deriving applications from basic research: *for example*, a temperature independent scattering polarizer.



Amimori, et al., *JAP* **93**, 3248 (2003)