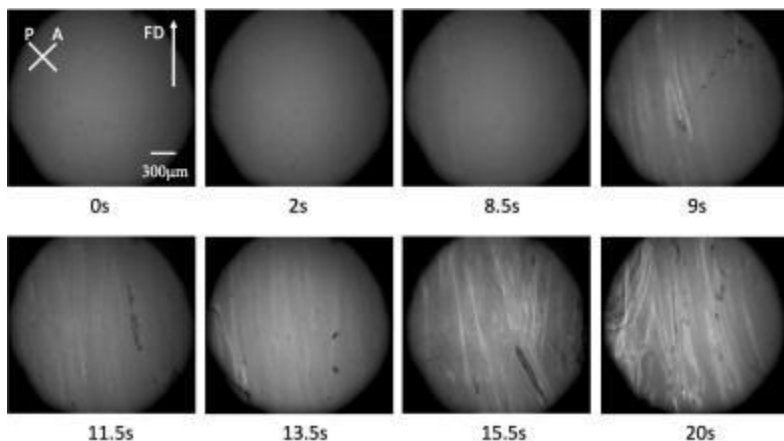


# Improvement of Polymer Properties with Controlling Crystals

Associate Professor Go Matsuba

## Control of Crystalline Polymers: Process of Orientation during Shear Flow



We succeeded orientation process of crystalline polymers during shear flow. We can help you about improving polymer properties/ strength/ strength etc... with controlling polymer crystallization processes.

## Various Apparatus for Analysis of Polymers

Synchrotron X-ray Scattering

Neutron Scattering

Optical Microscopy

FT-IR

DSC

Viscoelastic

In-situ measurements

Laser light scattering

### Content:

Our group carry out the precise analysis of “hierarchic” polymer structure with wide spatial and time scale to control/improve the polymer properties. We used synchrotron x-ray scattering, neutron scattering, optical/electrical micrograph, DSC and/or FT-IR techniques, viscoelastic measurements. The precise analysis of polymer structure could make polymer properties controlling from nanometer to micron. Especially, we performed on “in-situ” scattering measurements in order to the polymer structural formation process, and then we could improve higher performance, property and strengthening of polymers.

### Our current research themes:

- Structural formation process of polyolefin under external field
- Biodegradable polymers crystal and melting
- Polymer solution/Polymer gel
- Bio-polymers (especially bone/teeth)
- Organic/Inorganic Hybrid materials

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