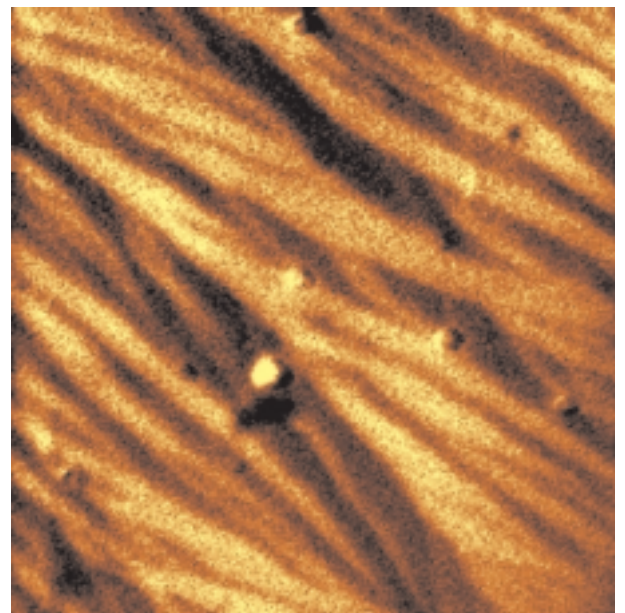
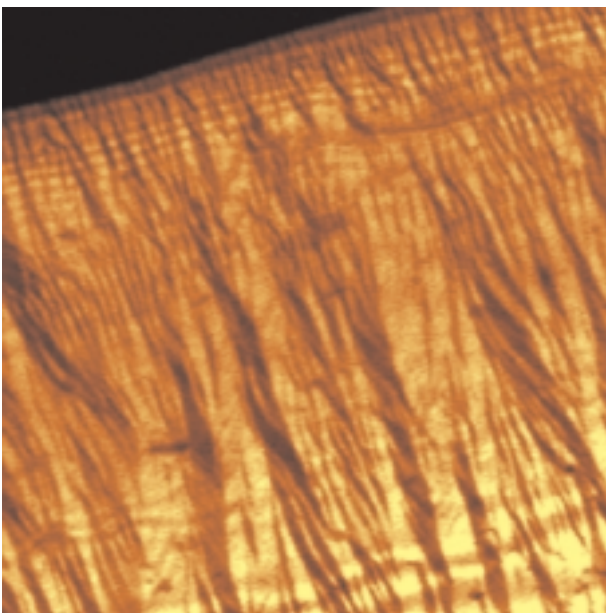


# Scanning Near-field Optical Microscopy

## Life Science Applications

### Fluorescence Measurements of DNA Droplets



The DNA was solved in liquid. One drop was deposited on a cover slip. An electric field was then applied. The DNA moved towards the boundary of the drop. The sample was fluorescence marked with ethidium bromide, showing absorption at 482 nm and emission at 616 nm.

On the left side is a confocal measurement at a scan range of 80 µm x 80 µm with a 100 x air objective. The dark region in the corner is part of the cover slip.

The sample was excited with an argon ion laser ( $\lambda = 488$  nm) at a power of about 5nW, as measured in the far-field of the tip and detected above 590 nm.

The image on the right shows a measurement in transmission on the same sample. Scan range: 30 µm x 30 µm.

Visible are not single DNA molecules but whole strands of several molecules.

*Samples courtesy of Prof. Miriam Rafailovich, State University of New York, USA*