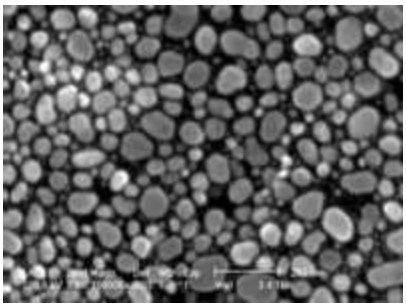
Field-Emission Environmental SEM XL30 Images

All magnifications are given as original magnificatins (for pictures 4"x5")

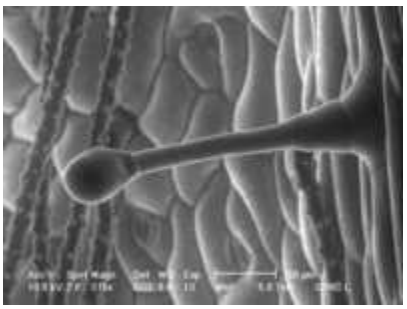
Wet Mode

Resolution in Wet Mode is practically the same as in high vacuum mode

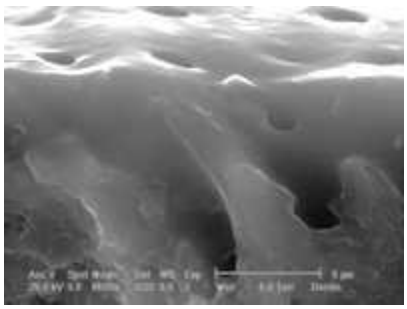


100,000x. Vaporized gold.
Chamber pressure 3.4 Torr.

Wet samples

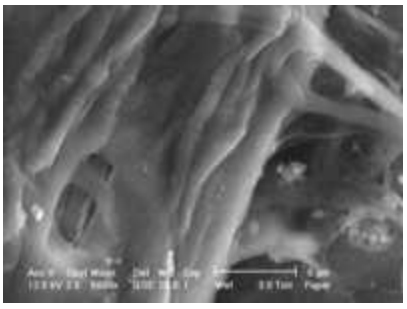


350x. Alfalfa. The cells were alive in the microscope.

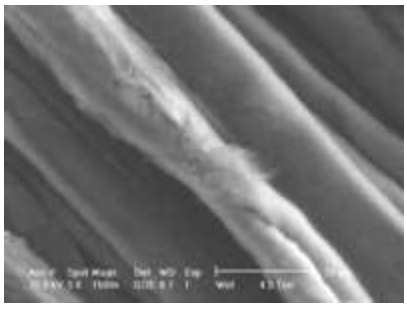


6500x. Dentin. On the top is a very wet layer of proteins.

Non-conductive samples



5000x. Paper.

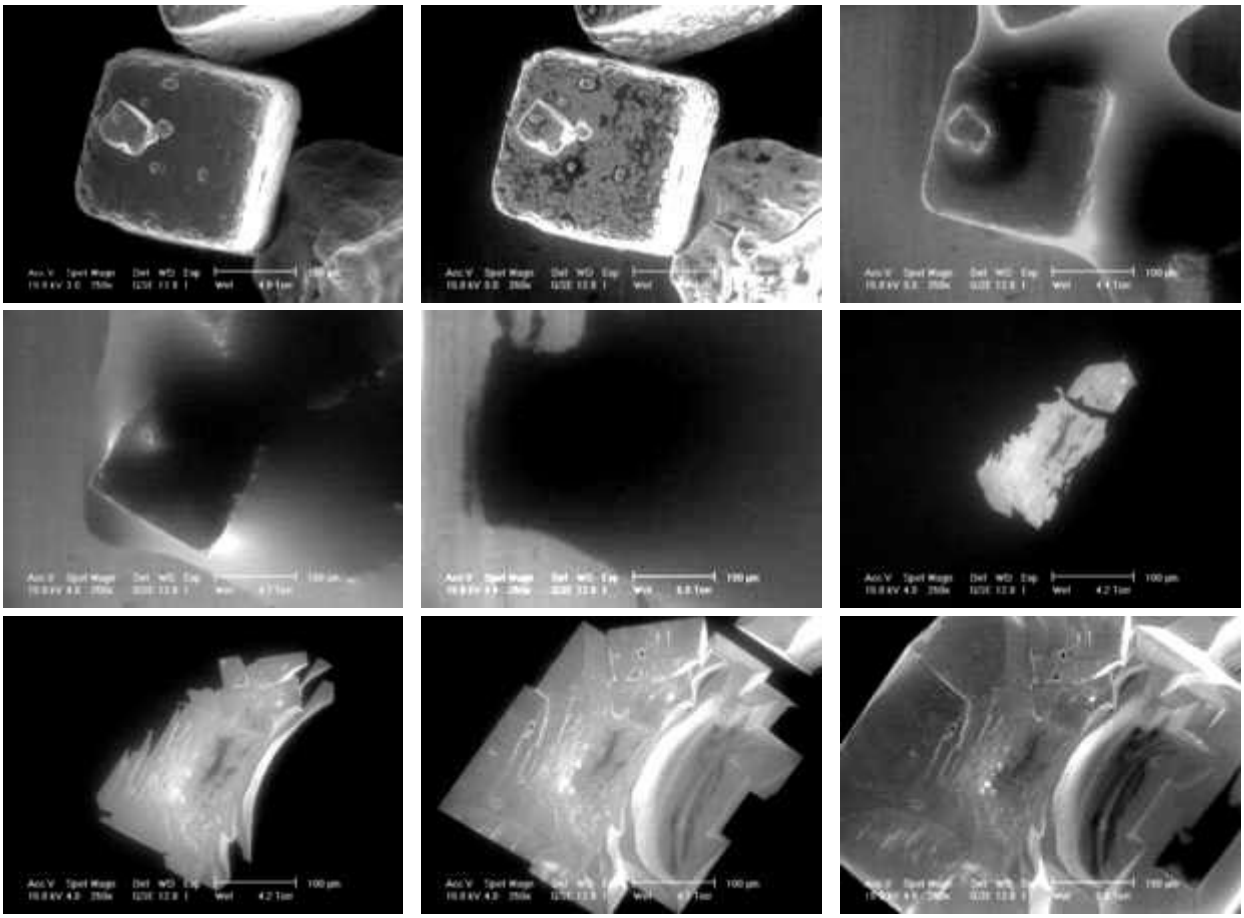


1500x. Cotton fabric

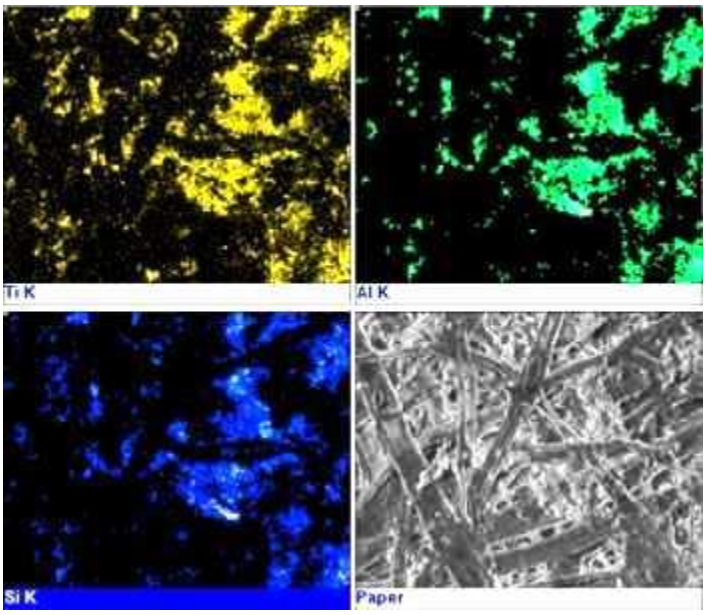
Dissolution and Crystallization of Table Salt (NaCl)

With the cooling Peltier stage, water vapor pressure in the specimen chamber can reach the dew point (100% humidity) and water will condense on the stage. Salt crystals were placed on the

stage at +5°C. Pressure in the chamber was gradually increased and crystals were dissolved in condensed water (first four pictures below) until there was nothing left but water solution of NaCl (picture in the center). Pressure then was decreased, and salt crystallized (last four pictures). 250x.

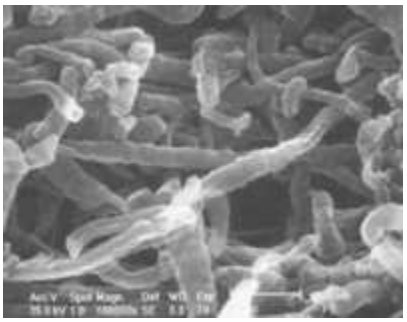


EDS analysis works fine in wet mode:

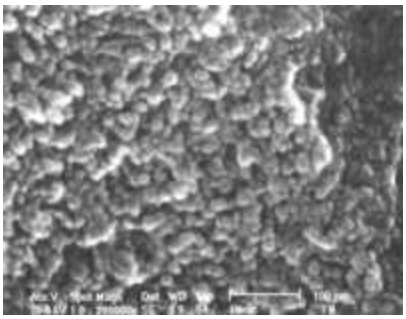


Sample: paper, not coated, non-conductive
Maps for Ti, Al, and Si

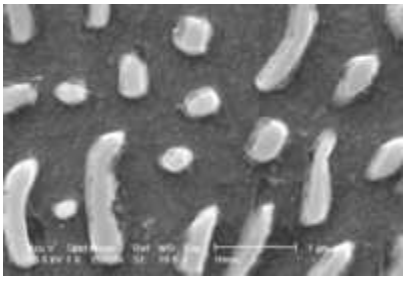
High Vacuum Mode



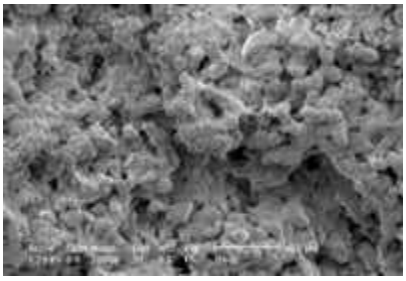
100,000x. Collagen in dentin. Au/Pd coated



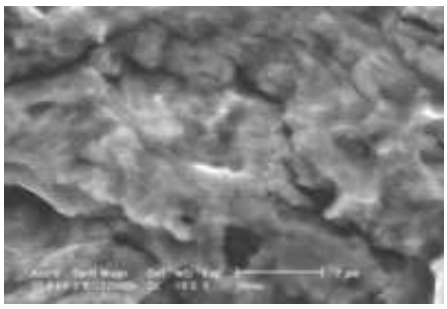
200,000x. Mineralized dentin. Au/Pd coated



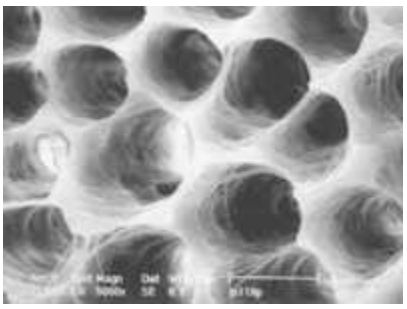
25,000x. Perlit colony in a steel



2000x. Corrosion products



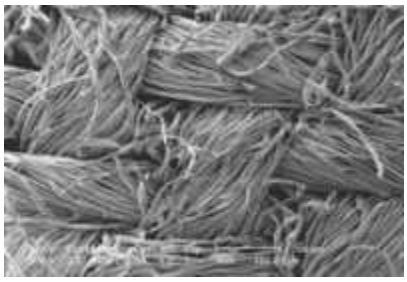
12,000x. Steel fracture.
Corrosion fatigue



5000x. Dentin

Low Voltage Mode (High Vacuum)

View of the specimen
chamber from the inside.
CCD camera.



100x. 300V.
Cotton fabric.