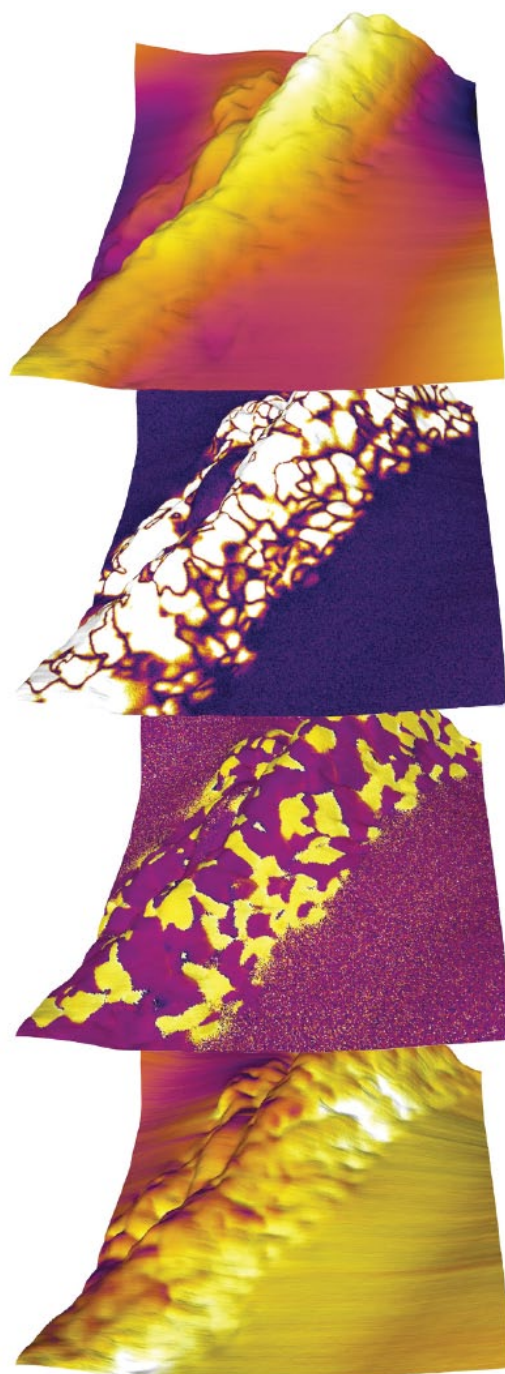


Microscopy TODAY

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JUST DUE'T.

Hitachi Focused Ion and Electron Beam System nanoDUE'T NB5000

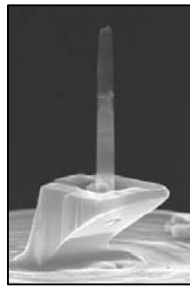
The Hitachi nanoDUE'T NB5000 Focused Ion and Electron Beam System enables high-throughput specimen preparation with high resolution imaging, analysis and precision nanofabrication. Innovations in sample loading, navigation and Micro-sampling increase analysis efficiency.

Low Cs FIB optics (patent pending) delivers 50nA or more of beam current at 40kV in a 1 μ m spot size. The high current enables unconventional large-area milling, hard material fabrication and multiple specimen preparation.

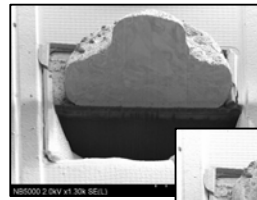
The SEM column and detector design – unmatched in the industry – allows high-resolution SEM imaging during and after FIB fabrication.

Hitachi's patented Micro-sampling (In-situ liftout) technology provides smooth probe motion. Precision end point detection with Mill & Monitor mode (M&M) complete with a user friendly template makes it a snap to reach your target step by step, picture by picture

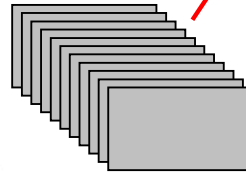
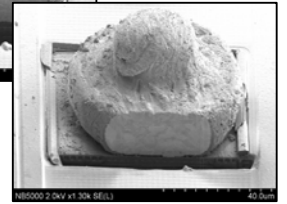
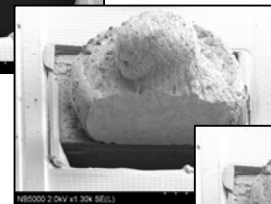
Legendary Hitachi reliability and performance in one integrated system.



3D Pillar Observation



Slice thickness: 10 μ m



Mill and Monitor: SEM Acquisition while FIB Milling

HITACHI
Inspire the Next

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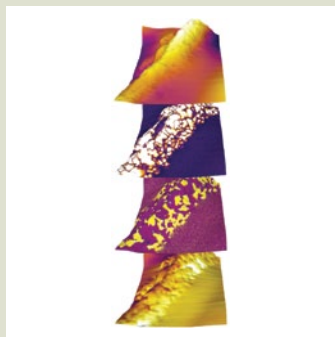
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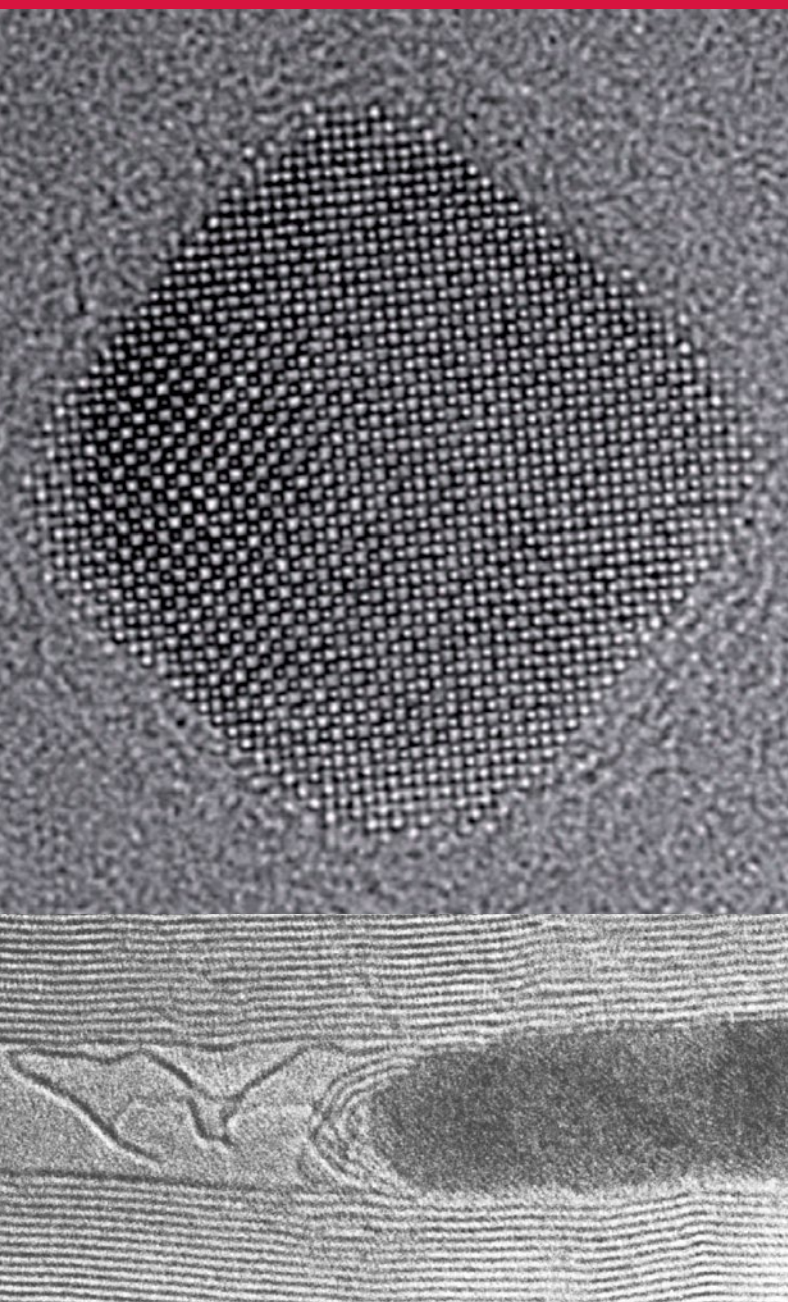


Piezoresponse force microscopy imaging of multiferroic BiFeO₃ nanofibers.

See article by Proksch and Kalinin.

Frontiers of energy research

Nanoscale solutions for global challenges



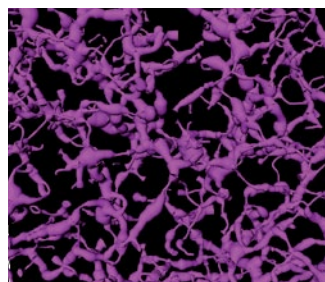
Discoveries at the atomic and nanoscales help solve challenges that affect all of us on a global scale, and FEI solutions are making a vital contribution to understanding the structure, property and function of energy-efficient solar cells, fuel cells and light emitting diodes, as well as enabling *in situ* visualization of catalytic reactions.

[See beyond at fei.com](http://www.fei.com)

Solid oxide fuel cell (left)
Kaneko *et al* NanoLetters (2007) 7(2).
Horizontal field width ~ 10 nm

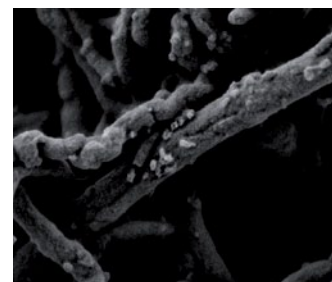
***in situ* catalysis** (below left)
Courtesy of M. Terrones, IPICyT, Mexico
Horizontal field width ~ 25 nm

Solar cell



Courtesy of S. van Bavel, TU/e, Netherlands
Horizontal field width ~ 100 nm

Carbon nanotubes



Sample courtesy of R. Gauvin and C. Probst, McGill University, Canada
Horizontal field width ~ 500 nm