JEOLink

JEOL USA Newsletter September 2007

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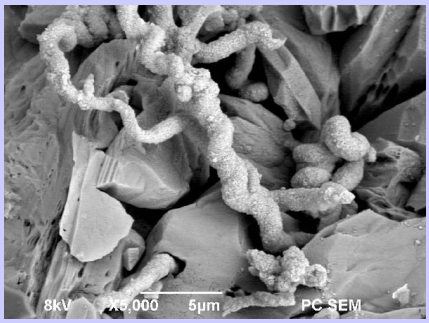

The sample is travertine of Pleistocene age from Belen, New Mexico. The rock is composed mostly of calcite (CaCO3) with minor aragonite (CaCO3). The iron oxide inclusions are interpreted as material secreted or aggregated by iron-oxidizing bacteria that lived in the springs that deposited the travertine. The spiraled forms are similar to the iron-oxide stalks produced by the modern iron-oxidizing bacterium Gallionella.

The sample was cut with a small rock saw, then polished, then etched for 1 minute in 1% HCl in order to make the non-carbonate inclusions stand out in relief.

courtesy of:
Kitty L. Milliken
Sr Research Scientist
The Univ of Texas at Austin
Dept of Geological Sciences

Test Drive the JEOL SEM at MS&T

A perfect union of hardware and software

Get in the driver's seat of the JEOL Scanning Electron Microscope at the upcoming Materials Science and Technology conference in Motor City - Detroit, Michigan.

Experience the difference when hardware and software are designed concurrently to optimize all the hardware features of our advanced technological SEM with the most advanced, automated functions.

Automated functions make the JEOL JSM-6490LV easy to control:

* Large specimen chamber and stage
* Stage navigation with top-down color camera
* Optimal detector geometries
* Filament saturation (pre-centered filaments)
* Automated gun alignments
* Continuous auto bias
* Automated zoom condenser
* AVI movie acquisition
* Secondary and backscatter live detector mixing
* Automated focus, stigmatism correction, contrast and brightness control
* Internet remote operation

User logins can be created for recipe-controlled operating parameters. Novice users can run the SEM using Smile Shot software, for point and shoot operation.

User friendly software and online help menus ensure ease of use for all levels of expertise.

If you're going to MS&T, drop by the JEOL booth # 511-512. For a live demonstration of the JSM-6490LV SEM, contact your local sales representative, or contact Bill Powell at 248-366-8351 (wpowell@jeol.com).

Quick Links...

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JEOL USA Mission Statement

Achieve customer fulfillment and loyalty by delivering outstanding technology and superior support while maintaining a leadership position in the industries and institutions that we serve.

See Us at These Upcoming Meetings and Tradeshows

BACUS
Sep 17-21, 2007
Monterey, California

Materials Science & Technology (MS&T)
Booth 511-512
Sep 18-19, 2007
Detroit, Michigan

SOFT
Oct 13-20, 2007
Chapel Hill, North Carolina

XVI International Materials Research Congress
Oct 28-30, 2007
Cancun, Mexico

High Speed Chemical Analysis for Polymers

The large 13" wide specimen chamber of the JSM-6490LV accommodates an entire automobile part.

Ernst Ruska Prize Winner Visits JEOL USA

Dr. Hiroshi Jinnai (center), winner of the 2007 Ernst Ruska Prize, visited JEOL USA. Shown are Izumi Oi, Sales Manager, S. Watanabe, Chairman, Dr. Jinnai, Robert Santorelli, President and CEO, and Dr. Mike Kersker, TEM Product Manager and Vice President of JEOL USA.

JEOL USA hosted a distinguished guest at our Peabody, Massachusetts office in August when the 2007 Ernst Ruska Prize winner, Professor Hiroshi Jinnai of Kyoto Institute of Technology, visited our headquarters.

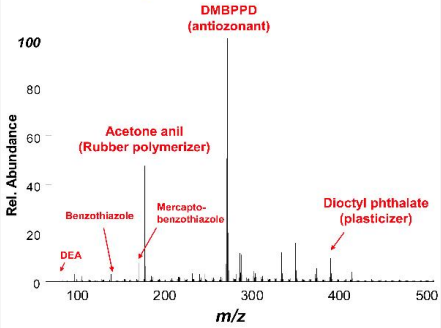
Professor Jinnai's current research interests include 3D imaging and analysis of block copolymers and nano-composites using Transmission Electron Microtomography, a process which he has developed using the JEOL JEM-2200FS TEM.

The **Ernst Ruska Prize** is given in honor of the inventor of the transmission electron microscope.

The German Society for Electron Microscopy awarded the biannual Ruska prize jointly to Prof. Hiroshi Jinnai, Prof. Richard J. Spontak, and Prof. Paul A. Midgley for their work on "Novel and Quantitative Uses of Electron Tomography in the 3D Study of Nanostructured Materials." The prize will be presented at the 33rd Microscopy Conference organized by the Deutsche Gesellschaft fur Elektronenmikroskop in Saarbrucken, Germany, at SaarlandUniversity in September.

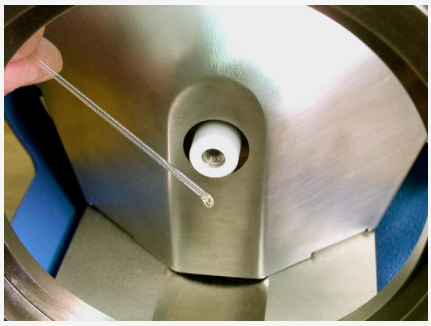
Dr. Jinnai is an invited speaker at the 11th Frontiers of Electron Microscopy in Materials Science (FEMMS) Conference to be held September 23-28, 2007. FEMMs is an international conference focused on the application of electron microscopy in the field of materials science, and its invited speakers are the most influential scientists in the field, attracting the best and brightest of the electron microscopy community and affording significant opportunities for students and post docs to meet and have substantive discussions with the leaders in the field.

DART Analysis of Automobile Tire



Real-time, open-air analysis of a rubber sample taken from an automobile tire.

The JEOL AccuTOF DART is a breakthrough in mass spectrometry. Now you can measure high-resolution, accurate mass spectra by simply placing a sample, in its native form, between the DART ion source and the AccuTOF mass spectrometer inlet. No solvents or sample preparation required. The DART source ionizes almost anything you put in front of it including solutions straight from your synthetic reaction pot, crude extracts, unknown sticky liquids, vapors, and more.



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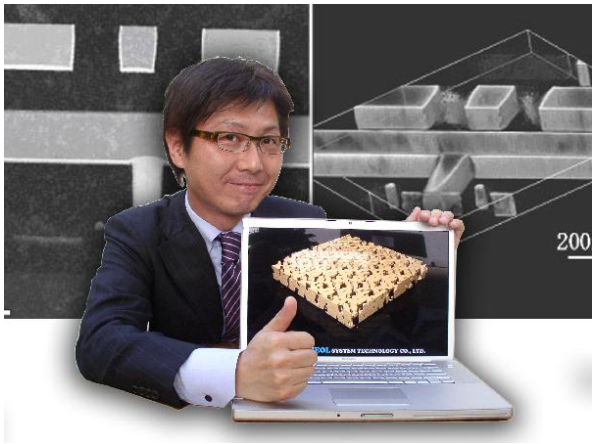
Follow our REALab link above to where we spotlight researcher's work using JEOL electron microscopy or JEOL analytical instruments, and how their scientific advances are impacting their field.

New this month:
McCrone Associates

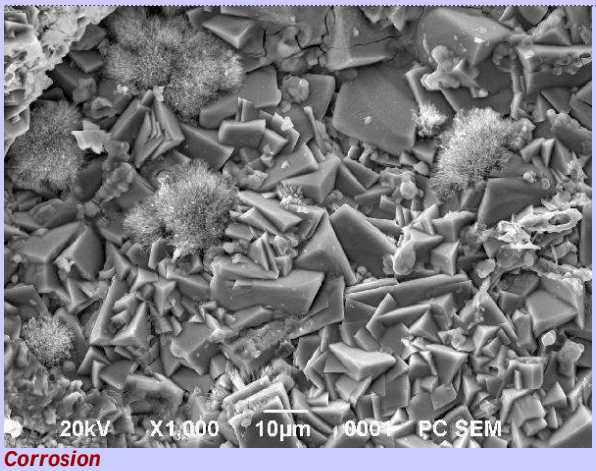
TEMography.com



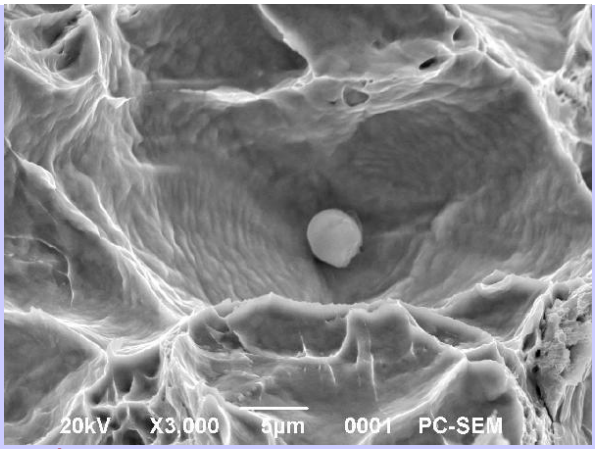
JEOL is extremely pleased to present **TEMography.com**, a new information and support website for TEM tomography software developed by JEOL System Technology Co., Ltd. TEMography software is a powerful visualization tool for 3D reconstruction of TEM images.

TEMography allows cross sectional and full 360º observation at any tilt angle. Automated alignment algorithms allow the operator to specify a reconstruction range after image acquisition. This unique ability eliminates the need to photograph the same sample more than once. TEM operators can now acquire images quickly and easily with observation of 3D images in approximately 40 minutes.
TEMography software was developed primarily by Hiromitsu Furukawa whose work at JEOL was aligned with 2007 Ernst Ruska Prize winner Dr. Jinnai.

Automotive Industry: Riding on polymers, metals, and fuel cell research



Corrosion



Metal Fracture

Visit JEOL at MS&T and see why JEOL SEMs and TEMs are the most-widely used electron microscopes in the automotive industry. JEOL EM users include General Motors, AISIN World Corp. of America, American Axle, Toyota Technical Center, DENSO Manufacturing, GKN Driveline, Goodrich Corporation, NHK International, Toyota Racing Development, AW North Carolina, Arvin Meritor, Inc., Delphi, Volkswagen, Goodyear Tire and Rubber Company, and more.

Additional research with alternative fuel technology is being done on JEOL instrumentation at numerous national laboratories, universities and private industry. JEOL will install the first high resolution, aberration-corrected TEM in Michigan at a leading automotive industry research plant this year.

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