

preview of some upcoming articles

Nitrogen Gas Field Ion Source (GFIS) Focused Ion Beam (FIB) Secondary Electron Imaging: A First Look

Marek E. Schmidt, Anto Yasaka, Masashi Akabori, and Hiroshi Mizuta

A Small Spot, Inert Gas, Ion Milling Process as a Complementary Technique to Focused Ion Beam Specimen Preparation

Paul E. Fischione, Robert E.A. Williams, Arda Genç, Hamish L. Fraser, Rafal E. Dunin-Borkowski, Martina Luysberg, Cecile S. Bonifacio, and András Kovács

The Conjunctiva-Associated Lymphoid Tissue in Chronic Ocular Surface Diseases  
Rodolfo Mastropasqua, Luca Agnifili, Vincenzo Fasanella, Mario Nubile, Agbeanda A. Gnana, Gennaro Falconio, Paolo Perri, Silvio Di Staso, and Cesare Mariotti

Teaching an Old Material New Tricks: Easy and Inexpensive Focused Ion Beam (FIB) Sample Protection Using Conductive Polymers

Joshua A. Taillon, Valery Ray, and Lourdes G. Salamanca-Riba

A Comprehensive Approach Towards Optimizing the Xenon Plasma Focused Ion Beam Instrument for Semiconductor Failure Analysis Applications

Srinivas Subramaniam, Jennifer Huening, John Richards, and Kevin Johnson

Automated Image Acquisition for Low-Dose STEM at Atomic Resolution

Andreas Mittelberger, Christian Kramberger, Christoph Hofer, Clemens Mangler, and Jannik C. Meyer

Focused Ion Beam Preparation of Specimens for Micro-Electro-Mechanical System-based Transmission Electron Microscopy Heating Experiments

Sriram Vijayan, Joerg R. Jinschek, Stephan Kujawa, Jens Greiser, and Mark Aindow

Protective Effects of Coenzyme Q10 on Developmental Competence of Porcine Early Embryos

Shuang Liang, Ying Jie Niu, Kyung-Tae Shin, and Xiang-Shun Cui

Swiss Stained-Glass Panels: An Analytical Study

Andreia Machado, Sophie Wolf, Luis C. Alves, Ildiko Katona-Serneels, Vincent Serneels, Stefan Trümpler, and Márcia Vilarigues

Histomorphometric Parameters of the Growth Plate and Trabecular Bone in Wild-Type and Trefoil Factor Family 3 (Tff3)-Deficient Mice Analyzed by Free and Open-Source Image Processing Software

Nikola Bijelić, Tatjana Belovari, Dunja Stolnik, Ivana Lovrić, and Mirela Baus Lončar

Atomic Scale Structural Characterization of Epitaxial (Cd,Cr)Te Magnetic Semiconductor

Bastien Bonafant, Hervé Boukari, Adeline Grenier, Isabelle Mouton, Pierre-Henri Jouneau, Hidekazu Kinjo, and Shinji Kuroda

The Composition of Poly(Ethylene Terephthalate) (PET) Surface Precipitates Determined at High Resolving Power by Tandem Mass Spectrometry Imaging

Gregory L. Fisher, John S. Hammond, Scott R. Bryan, Paul E. Larson, and Ron M. A. Heeren

Quantification of Cardiomyocyte Alignment from Three-Dimensional (3D) Confocal Microscopy of Engineered Tissue

William J. Kowalski, Fangping Yuan, Takeichiro Nakane, Hidetoshi Masumoto, Marc Dwenger, Fei Ye, Joseph P. Tinney, and Bradley B. Keller

Precipitation of (Si<sub>2</sub> - xAl<sub>x</sub>)Hf in an Al-Si-Mg-Hf Alloy

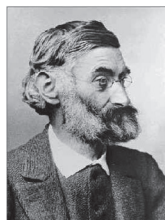
Xueli Wang, Zhiqiang Xie, Huilan Huang, Zhihong Jia, Guang Yang, Lin Gu, and Qing Liu

Simplifying Electron Beam Channeling in Scanning Transmission Electron Microscopy (STEM)

Ryan J. Wu, Anudha Mittal, Michael L. Odlyzko, and K. A. Mkhoyan

Design and Fabrication of a Three-Dimensional in Vitro System for Modeling Vascular Stenosis

Rebecca S. Jones, Pin Hsuan Chang, Tzllil Perahia, Katrina A. Harmon, Lorain Junor, Michael J. Yost, Daping Fan, John F. Eberth, and Richard L. Goodwin



## Dear Abbe

### Dear Abbe,

I need to get high-resolution images of our samples on a field emission SEM. Our problem is the EM Lab we use is primarily materials-based, but our samples are of Turtle Herpes virus and Rabbit Pox. They say they can't help us. Why are they being so obstinate?

### Blocked at Berkeley

### Dear Blocked,

Freund, quit your whining! You're lucky the EM techs talked to you at all! Your particular samples sound like they were derived from a disease scenario of *Alice's Adventures in Wonderland*. It's particularly sad since my friend, Charles Dodgson (you may know him as Lewis Carroll), was a good mathematician and logician who would be upset to see what you've done to his characters! In physical science circles your samples would be referred to as "squishies" that could potentially contaminate their high-end analytical microscope. But honestly, this is just an excuse. Your Kollegen are really just insecure. They always look at nice, simple things like a crystal or a nanoparticle. When they see your viri, they don't want to be reminded of how simple their subjects are. So they melodramatically cry "contamination!" like the boy that cried wolf. It is best if you don't get your knickers in a bunch and instead go find others of your kind that enjoy a good tea party with other Mad Hatters.

### Dear Abbe,

We have a very strange microscopy problem. Based on your expertise I hope that you have some suggestions for the cause of the problem. Currently we are trying to do wide-field imaging of endogenous fluorophores (NADH, FAD). For this, we use a 365/50 nm excitation filter and a 480/30 nm emission bandpass. When we try to do multi-position imaging (automated stage controlled by an old Optiscan controller), we observe a strange sine-wave-like modulation in the signal (but only with the mentioned UV excitation filter set) that has an amplitude of approximately 10–15% of the initial signal. Cycle time for the sinusoidal artifact is approximately 10–15 min. This artifact only appears when the stage is actually in use (single-position imaging yields a stable signal). The whole setup is driven by the most recent controller software release, which is (except for the observed perturbation) working just fine. Do you have any idea on how to tackle the problem? *Anxious in Essen*

### Dear Anxious,

Your scope is broken.

*Instrumentation woes and broken relationships are just a few of the topics within Herr Abbe's experiential spectrum. Send whatever vexes you have to his assistant at JPShields@uga.edu.*

MT