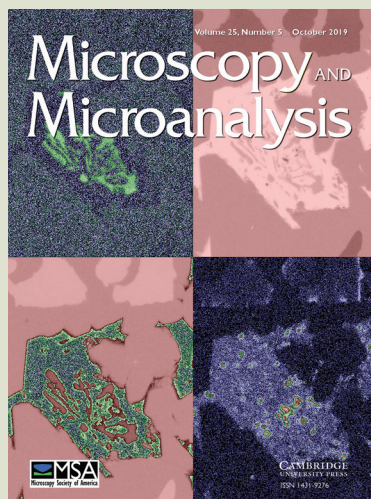


preview of some upcoming articles



## Materials Applications

Electron-Excited X-ray Microanalysis by Energy Dispersive Spectrometry at 50: Analytical Accuracy, Precision, Trace Sensitivity, and Quantitative Compositional Mapping

*Dale E. Newbury and Nicholas W.M. Ritchie*

Atomic Force Microscopy (AFM) Analysis of an Object Larger and Sharper than the AFM Tip

*Zhe Chen, Jiawei Luo, Ivo Doudevski, Sema Erten and Seong H. Kim*

Electron Probe Microanalysis Through Coated Oxidized Surfaces

*Mike B. Matthews, Ben Buse and Stuart L. Kearns*

Determining the Volume Expansion at Grain Boundaries Using Extended Energy-Loss Fine Structure Analysis

*Proloy Nandi and James M. Howe*

Image Segmentation for FIB-SEM Serial Sectioning of a Si/C-Graphite Composite Anode Microstructure Based on Preprocessing and Global Thresholding

*Dongjae Kim, Sihyung Lee, Wooram Hong, Hyosug Lee, Seongho Jeon, Sungsoo Han and Jaewook Nam*

Investigation of Electron Momentum Density in Carbon Nanotubes Using Transmission Electron Microscopy

*Zhenbao Feng, Hefu Li, Zongliang Wang, Xiaoyan Zhang, Hengshuai Li, Haiquan Hu and Dangsheng Su*

Carrier-Transport Study of Gallium Arsenide Hillock Defects

*Chuanxiao Xiao, Chun-Sheng Jiang, Jun Liu, Andrew Norman, John Moseley, Kevin Schulte, Aaron J. Ptak, Brian Gorman, Mowafak Al-Jassim, Nancy M. Haegel and Helio Moutinho*

## Software and Instrumentation

Exploring the Parameter Space of Point Spread Function Determination for the Scanning Electron Microscope—Part I: Effect on the Point Spread Function

*Mandy C. Nevins, Kathryn Quoi, Richard K. Hailstone and Eric Lifshin*

Exploring the Parameter Space of Point Spread Function Determination for the Scanning Electron Microscope—Part II: Effect on Image Restoration Quality

*Mandy C. Nevins, Richard K. Hailstone and Eric Lifshin*

## Biological Applications

Adipocytes Migration is Altered Through Differentiation

*Maayan Lustig, Yuliya Zadka, Irena Levitsky, Amit Gefen and Dafna Benayahu*

Investigation on the Dependency of Phase Retrieval Accuracy Versus Edge

Enhancement to the Noise Ratio of X-ray Propagation-Based Phase-Contrast Imaging

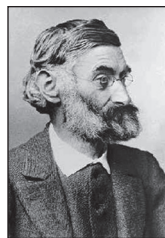
*Lin Zhang, Huijuan Zhao, Jingying Jiang, Limin Zhang, Jiao Li, Feng Gao and Zhongxing Zhou*

Anatomical, Phytochemical, and Histochemical Study of Juniperus rigida Needles at Different Altitudes

*Shun Kuang, Linfang Liu, Mingliang Qing, Yujia Zhang, Xueping Feng, Dongmei Wang, Yun Jiang, Xin Zhang and Dengwu Li*

Elucidation of Differential Nano-Textural Attributes for Normal Oral Mucosa and Pre-Cancer

*Debaleena Nawn, Saunak Chatterjee, Anji Anura, Swarnendu Bag, Debjani Chakraborty, Mousumi Pal, Ranjan Rashmi Paul and Jyotirmoy Chatterjee*



## Dear Abbe

### Dear Abbe,

We here at ACME Industries purchased a scanning acoustic microscope to test our products for voids and cracks. In the process of setting up and calibrating the instrument, I wondered if there were better testing and calibration methods than those in the manufacturer's manual. We do want to get this right. We keep getting howling complaints about our products from some canine-sounding person in Arizona.

### Testing in Titusville

### Dear Testing,

Oofdah! I'm humbled and proud at the same time that you asked! I generally use a variety of unorthodox testing and calibration methods. I find it has the added benefit of job security if you're the only one that knows the methodology. You are no doubt using pure sine waves to test your instrument or, if you are feeling dangerous, cosine waves. But really, why be so conventional? If you are like most intelligent, digitally savvy people today, you have music in the lab. What is music but a set of simultaneous sine waves? When I was visiting Grenoble, I would stop in on my good friend Joe Fourier, and we would see what kinds of mischief we could get into while listening to French Metal music involving metal drums and amplified lutes. After an evening in the powdered-wig mosh pit, Joe was inspired to write *On the Propagation of Heat in Solid Bodies*. These days, I prefer "Hocus Pocus" by Focus for this purpose. The descending yodel makes a nice frequency sweep.

*Irritated with your laboratory's noise generators? Bother Herr Abbe's tone-deaf adjutant at johnshields59@gmail.com. You can be sure Abbe will improve the signal-to-noise ratio.*

MT

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