

preview of some upcoming articles



Materials Science Applications

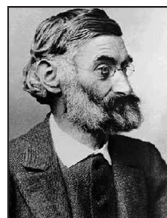
- Al_2O_3 grain boundary segregation in a thermal barrier coating on a Ni-based superalloy: *Chen, Yimeng et al.*
- Unravelling the complexity of nano-dispersoids in the oxide dispersion strengthened Alloy 617: *Dasgupta, Arup et al.*
- Assessing the impact of secondary fluorescence on X-ray microanalysis results from semiconductor thin films: *Hunter, Daniel et al.*
- Enabling *In-Situ* Studies of Metal-Organic Chemical Vapor Deposition in a Transmission Electron Microscope: *Dick, Kimberly et al.*
- EDS microanalysis of unhydrated blast furnace slag grains in field concrete with different service life: *Zhang, Yu et al.*
- Application of synchrotron radiation-based micro-analysis on cadmium yellows in Pablo Picasso's *Femme*: *Ghirardello, Marta et al.*

Software and Instrumentation

- Real Time Integration Center of Mass (riCOM) Reconstruction for 4D-STEM: *Verbeeck, Johan et al.*
- The mechanistic determination of doping contrast from Fermi level pinned surfaces in the scanning electron microscope using energy-filtered imaging and calculated potential distributions: *Chee, Augustus*
- A method for high-resolution three-dimensional reconstruction with Ewald sphere curvature correction from transmission electron images: *Gureyev, Timur et al.*
- Contrast mechanisms in secondary electron e-beam induced current (SEEBIC) imaging: *Dyck, Ondrej et al.*
- O-Net: A fast and precise deep learning architecture for computational super-resolved phase-modulated optical microscopy: *S Kaderuppan et al.*
- Electrostatic contribution to the photo-assisted piezoresponse force microscopy by photo-induced surface charge: *Chang, Wei Sea et al.*

Biological Applications

- Microscopic findings in the cardiac muscle of stranded extreme deep-diving Cuvier's beaked whales (*Ziphius cavirostris*): *Fernández, Antonio et al.*
- Differences in collagen fiber diameter and waviness between healthy and aneurysmatic abdominal aortas: *Holzapfel, Gerhard et al.*
- Histopathological Impact of Bleomycin on Lung Injury and Development of Mediastinal Fat-associated Lymphoid Clusters in Lymphoproliferative Mouse Model: *Elewa, Yaser et al.*
- Minimizing Motion Artefacts in Intravital Microscopy Using the Sedative Effect of Dexmedetomidine: *Kim, Jun Ki et al.*
- Age-related changes in calcitonin-producing thyroid C-cells of male Wistar rats: *Filipovic, Branko et al.*
- Biological Evaluation of a Series of Amine-Containing Mixed-Ligand Copper(II) Coordination Compounds with 2-(2-Hydroxybenzylidene)-*N*-(Prop-2-En-1-Yl)Hydrazinecarbothioamide: *Garbuz, Olga et al.*



Dear Abbe

Dear Abbe,

We just moved into a new building and found out that gas cylinders for our instruments are being delivered to a "cylinder corral" near the loading dock. Unfortunately, the cylinders are not chained or restrained in any way. Should I worry about this and start rattling the cages?

Anxious in Amherst

Dear Anxious,

It's always good to be concerned, as long as you don't devolve into dangerously cantankerous. That is my specialty. I can get pretty persnickety and violently verbose even if the provocation is mostly imaginary. You should worry though. These tanks can create quite a commotion if they fall and the valve is knocked off. I remember once when a testing van was at Abbe Labs running air quality tests. The tanks in the van were not secured, and another vehicle bumped the van while pulling in. Once the tank fell, and the top popped off – *Mist!* The tank acted like a missile, flying all over inside, bouncing off every wall. From the outside, it looked like a rodeo bull riding event. Needless to say, the van was permanently rearranged and nonfunctional after that.

Need someone to get cantankerous for you? Need creative ways to express your disdain? Contact Herr Abbe through his much calmer assistant at johnshields59@gmail.com.

MT

Crossword Puzzle Answers

See puzzle on page 52.

