



MRS expands materials publications landscape

www.mrs.org/mrs-publishing

The publishing image and landscape with regard to MRS involvement is changing. “It is not just the old blue book set anymore,” said Steven C. Moss, a member of the New Publications Products Subcommittee at the Materials Research Society. Since partnering with Cambridge University Press, MRS has been focusing on publishing high-quality scientific books and book series, available in a variety of formats, in print as well as electronically. Most importantly for materials researchers, this partnership has opened a new avenue to authoring a book or spearheading a new journal.

Betsy Fleischer, MRS Principal Development Editor, is the staff liaison to the Subcommittee. As a materials scientist herself with connections to the materials community, she oversees

the review of publication proposals in conjunction with the New Publications Products Subcommittee and Cambridge University Press. Information on how to propose a new book or journal is prominently displayed on the MRS website.

Cambridge University Press as a publisher of high-quality technical books—that also have a professional and appealing layout and design—brings international recognition to the table, as well as streamlined editorial approaches and methods. MRS, on the other side, has great experience in promoting the exchange of cutting-edge research and attracting world-class researchers to join them in this endeavor. The partnership combines everything that is needed to publish influential technical books of value to materials researchers.

Texts already on the market as a part of this partnership include Richard LeSar’s *Introduction to Computational Materials Science: Fundamentals to Applications* and editors Gerasimos Konstantatos and Edward H. Sargent’s book *Colloidal Quantum Dot Optoelectronics and Photovoltaics*. The vast majority of journal articles on either topic have been published within the last 10 years, and their number is still increasing in year-by-year comparisons. Books available on computational methods tend to focus on a specific method or on a narrow range of phenomena or applications, which can be investigated by theoretical means. The timeliness and value to the materials community of LeSar’s textbook, however, is that it is one of only a handful of textbooks that addresses the breadth of materials science.

The partnership between MRS and Cambridge University Press will not be limited to just publishing books. *MRS Energy & Sustainability—A Review Journal* is a new journal in their pipeline. The first issue will come out later this year. One goal of the new journal is to disseminate reviews on current energy- and sustainability-related topics in materials research and development beyond the traditional readership target of scientists and academics. This journal aims to reach policymakers and industry professionals as well. David S. Ginley (National Renewable Energy Laboratory, USA), David Cahen (Weizmann Institute of Science, Israel), and Sally M. Benson (Stanford University, USA), as Editors-in-Chief of the new journal, will be supported by a similarly illustrious advisory board in this quest. The new journal will join the current portfolio of *MRS Bulletin*, *Journal of Materials Research*, *MRS Communications*, and *MRS Online Proceedings Library*.

Richard A. Vaia, chair of the Subcommittee, said that the New Publications Products Subcommittee is welcoming inquiries. The Subcommittee looks toward the materials community to identify emerging research areas meriting publication.

Birgit Schwenzer

A Selection of Current and Upcoming Books and Journals

www.mrs.org/publications

Fundamentals of Materials for Energy and Environmental Sustainability

Editors: David S. Ginley and David Cahen

Introduction to Computational Materials Science: Fundamentals to Applications

Author: Richard LeSar

Colloidal Quantum Dot Optoelectronics and Photovoltaics

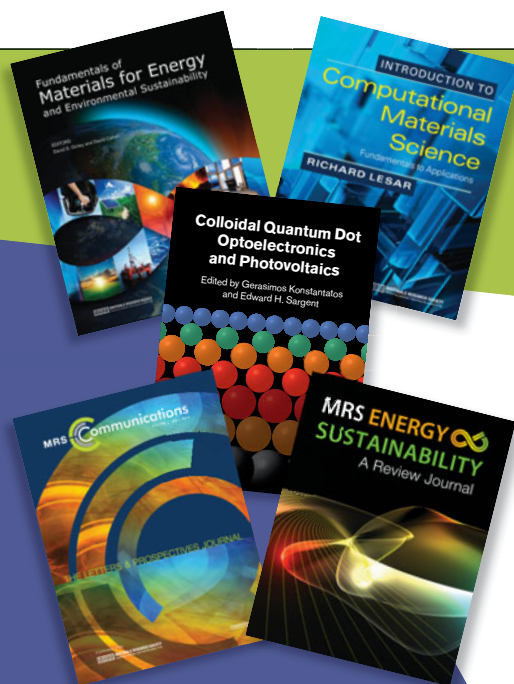
Editors: Gerasimos Konstantatos and Edward H. Sargent

MRS Communications

www.mrs.org/mrc

MRS Energy & Sustainability—A Review Journal

www.mrs.org/energy-sustainability-journal



MRS MATERIALS RESEARCH SOCIETY®
Advancing materials. Improving the quality of life.

CAMBRIDGE
UNIVERSITY PRESS

To submit a book or journal proposal, go to www.mrs.org/mrs-publishing or contact Betsy Fleischer, fleischer@mrs.org.

EXHIBITORS

Moscone West | Level 1

Tuesday, April 22 • 9:30 am – 6:00 pm

Wednesday, April 23 • 9:30 am – 6:00 pm



2014 MRS SPRING MEETING & EXHIBIT

2-DTech Ltd. www.2-dtech.com Graphene; 2-D Materials; Graphene Oxide; Consultancy	Booth 427	Balazs NanoAnalysis, a Division of Air Liquide Electronics U.S. LP www.balazs.com Analytical Testing; Materials Characterization; AMC-SMC	Booth 318
A & N Corporation www.ancorp.com Vacuum Components; Vacuum Chambers; Vacuum Valves	Booth 316	Barnett Technical Services LLC www.barnett-technical.com Scanning Probe Microscopes; Cathodoluminescence Systems; Micro-manipulators	Booth 116
ACS Publications pubs.acs.org ACS Nano; Nano Letters; Journal of Physical Chemistry C; ACS Applied Materials & Interfaces; ACS Photonics	Booth 606	Bio-Logic USA, LLC www.bio-logic.us Potentiostat; Battery Cycler; Scanning Probe Microscopy	Booth 625
Active Spectrum, Inc. www.activespectrum.com Benchtop Micro-ESR; Carbon-X Nano Carbon; FISE Ion Sensors	Booth 519	Blue Wave Semiconductors, Inc. www.bluewavesemi.com Substrate Wafer Heaters; Thin Film Deposition Systems; Thin Films and Coating Materials; R&D Services	Booth 518
AdValue Technology, LLC www.advaluetech.com Alumina and Quartz Crucibles, Tubes and Plates; Quartz Cuvettes; Sapphire Crucibles	Booth 326	Brookhaven Instruments Corporation www.brookhaveninstruments.com Particle Size Analyzers; Zeta Potential Analyzers; Molecular Weight Analyzers	Booth 531
Advanced Research Systems, Inc. www.arscryo.com 4K Cryocoolers; Custom Lab Systems; Nanoscience Materials Characterization	Booth 416	Bruker www.bruker.com X-Ray Diffraction; Near Infrared Spectroscopy; Raman Spectroscopy	Booth 401
AIP Publishing journals.aip.org Physics Journals; Conference Proceedings; Digital Archive	Booth 600	Cambridge University Press www.cambridge.org/us/academic Books; Journals	Booth 611
AIST-NT, Inc. www.aist-nt.com Atomic Force/Scanning Probe Microscopes; Combined AFM and Raman Spectroscopy Systems	Booth 430	Carl Zeiss X-Ray Microscopy, Inc. www.zeiss.com/XRM Xradia Ultra; Xradia Versa; SteREO Discovery V20	Booth 100
AIXTRON SE www.aixtron.com MOCVD/CVD/PECVD Equipment; OVPD and PVPD Equipment; ALD Equipment	Booth 506	CellScale Biomaterials Testing www.cellscale.com Biomaterials Testing Equipment; Custom Testing Equipment; Biological Stimulating Equipment	Booth 328
AJA International, Inc. www.ajaint.com Sputtering Systems; Sputter Sources; Sputter Targets	Booth 307	Chemat Technology, Inc. www.chemat.com Spin Coating; Dip Coating; Chemical Precursors	Booth 101
Aldrich Materials Science www.sigmaaldrich.com/matsci Organic and Printed Electronics Materials; Nanomaterials; Materials for Energy and Electronics	Booth 413	CRAIC Technologies, Inc. www.microspectra.com UV-visible-NIR microscopes; Microspectrophotometers; Raman Microspectrometers	Booth 104
American Physical Society journals.aps.org Publications; Physics Journals; Online Journals	Booth 604	CRC Press www.crcpress.com Books; Electronic Content	Booth 602
Angstrom Scientific Inc. www.angstrom.us Electron Microscopy and Accessories; Nano-manipulators; TEM Heating Holders	Booth 102	CrystalMaker Software Ltd. www.crystallmaker.com CrystalMaker; CrystalDiffract; SingleCrystal	Booth 325
Angstrom Thin Film Technologies LLC www.angstrom-dep.com Atomic Layer Deposition System; Plasma-ALD System; Powder ALD System	Booth 624	CVD Equipment Corporation www.cvdequipment.com CVD Equipment; Gas/Chemical Delivery Systems; Gas Abatement Systems	Booth 418
Annealsys www.annealsys.com RTP; MOCVD; ALD; RTCVD; LPCVD	Booth 324	Duniway Stockroom Corporation www.duniway.com Vacuum Pumps; Vacuum Gauges; Vacuum Supplies	Booth 320
Arradance, Inc. www.arradance.com GEMStar™ ALD Systems; ALD Coating Services; ALD-Activated Microchannel Plates	Booth 230	Ecopia Corp. www.ecopia21.co.kr Hall Effect Measurement Systems; RTP Systems	Booth 426
Asahi Spectra Co., Ltd. www.asahi-spectra.com Xenon Light Source; Monochromatic Illuminator; Optical Filters	Booth 527	EDP Sciences publications.edpsciences.org Physical Journals, Scientific Articles	Booth 620
Asylum Research, an Oxford Instruments Company www.AsylumResearch.com Atomic Force/Scanning Probe Microscopes; AFM/SPM Probes	Booth 311	EffuCell www.effuCell.com UHV Heater; Multiple Effusion Cell	Booth 327
		Electron Microscopy Sciences/Diatome www.emsdiasum.com Grinders/Polishers; Diamond Wheels/Saws; Microscopy Supplies	Booth 217
		EnvisionTEC, Inc. www.envisiontec.com 3D-Bioplotter	Booth 105
		Femtofab Co., Ltd. www.femtofab.co.kr SmartDrop; FatSmart; SmartDrop Tensiometer	Booth 429
		Fischione Instruments www.fischione.com TEM Accessories; Sample Preparation; Specimen Holders	Booth 404
		FUJIFILM Dimatix, Inc. www.dimatix.com Dimatix Materials Printer; Dimatix Materials Cartridge; Inkjet Printheads & Systems	Booth 431
		Gamry Instruments www.gamry.com Potentiostats; Impedance Spectroscopy; Quartz Crystal Microbalance	Booth 103
		Gatan, Inc. www.gatan.com Materials Characterization; Nanotechnology; Photovoltaics	Booth 201
		Genco Ltd. www.genco.com Magnetrons; Reactive Gas Controllers; Ion Sources	Booth 117
		HeatWave Labs Inc. www.cathode.com Substrate Heaters; Cathodes; Electron Gun Assemblies	Booth 505
		HORIBA Scientific www.horiba.com/scientific Materials Characterization; Microscopy; Nanotechnology; Optical Components; Spectroscopy; Surface Analysis; Ellipsometry	Booth 507
		Hummingbird Scientific www.hummingbirdscientific.com In Situ TEM Holders; TEM Holders; Environmental Holders	Booth 212
		Huntington Mechanical Laboratories, Inc. www.huntvac.com Vacuum Manipulation & Positioning; Vacuum Chambers; Vacuum Valves & Components	Booth 300
		Hysitron, Inc. www.hysitron.com TI 950 TriboIndenter; PI 95 TEM PicoIndenter; TI 750 Ubi	Booth 410
		ICE Publishing www.icevirtualibrary.com ICE Science Journals	Booth 618
		Integrated Dynamics Engineering www.ideworld.com Vibration Isolation; EMI Cancellation; Acoustic Control	Booth 330
		International Centre for Diffraction Data (ICDD) www.icdd.com X-Ray Powder Diffraction; Database; Software	Booth 402
		IOP Publishing iopublishing.org Journals, magazines and ebooks covering materials research, applied physics, nanoscience and novel applications	Booth 610
		Janis Research Company, LLC www.janis.com Micromanipulated Probe Stations; Cryostats; Cryocoolers	Booth 501
		Japan Society of Applied Physics www.jsap.or.jp/english/index.html Journals	Booth 616
		JASCO www.jascoinc.com Raman; Portable Raman; FTIR Microscopes; Near Field Microscopy; Ellipsometry	Booth 206
		JEOL USA, Inc. www.jeolusa.com TEM; SEM; Auger/MicroProbe	Booth 200
		JSOL Corporation www.j-octa.com J-OCTA Integrated Simulation System for Materials Research & Development	Booth 110
		KP Technology USA Inc. www.kelvinprobe.com Air Photoemission, Scanning and UHV Kelvin Probe Systems; Corrosion	Booth 203

Join us for a Wine & Cheese Reception on Tuesday from 5:00 to 6:00 pm

Kurt J. Lesker Company www.lesker.com Deposition Materials; Vacuum Components; Thin Film Deposition Systems	Booth 400	Novocontrol America, Inc. www.novocontrol.com Impedance Spectroscopy; HV Impedance Spectroscopy; Electro Chemistry	Booth 210	Semicon Equipment Inc. www.semicon.com Sputtering Systems; Evaporation Systems; Custom PVD Systems & Components	Booth 520
Lake Shore Cryotronics, Inc. www.lakeshore.com Probe Stations; Hall Effect Systems; Cryogenic Instruments and Sensors	Booth 301	NT-MDT Co. www.ntmdt.us SPM/AFM/STM; Raman TERS; Spectroscopy	Booth 421	Simpleware Ltd. www.simpleware.com Imaging Processing Software; Mesh Generation Software	Booth 121
M. Braun, Inc. www.mbraunusa.com Gloveboxes & Gas Purifiers; Vacuum Systems; Solvent Purification Systems	Booth 521	OriginLab Corporation www.originlab.com Origin Software; OriginPro Software	Booth 321	Solartron Analytical (AMETEK) www.solartronanalytical.com Materials Test Systems	Booth 524
MANTIS Deposition Ltd. www.mantisdeposition.com Nanoparticle Sources; UHV Deposition; PVD	Booth 202	Oxford Instruments www.oxford-instruments.com Scanning Probe Microscopy; Electron Spectroscopy; Thin Film and Tailored UHV Systems	Booth 313	SonoPlot, Inc. www.sonoplot.com Microplotter; Printed Electronics; Materials Printer	Booth 216
Materials Analysis Technology Inc. www.ma-tek.com Analytical Services; Engineering; Technical Consulting	Booth 630	PANalytical Inc. www.panalytical.com X-ray Diffraction; Computed Tomography; Small Angle X-ray Scattering; X-ray Fluorescence	Booth 502	SPECS Surface Nano Analysis, Inc. www.specs.com JT Scanning Tunneling Microscope; NAP PHOIBOS Energy Analyzer; Curlew SPM	Booth 305
Metrohm USA, Inc. www.metrohmusa.com Electrochemical Systems; Impedance Characterizations; Sensors	Booth 503	Park Systems Inc. www.parkafm.com Atomic Force Microscopes—Park NX10, Park NX20 and Park XE7	Booth 517	SPI Supplies/Structure Probe, Inc. www.2spi.com Plasma Etching Systems; Graphene Products; Ion Milling Systems	Booth 500
Mettler-Toledo, LLC www.mt.com TGA; Flash DSC; DMA	Booth 526	Physical Electronics www.phie.com Surface Analysis Instrumentation; Materials Analysis; AES; TOF-SIMS; XPS	Booth 512	Springer www.springer.com Books; Journals; E-Books	Booth 601
Micro Photonics Inc. www.microphotonics.com Micro CT; X-ray Cameras; X-ray Diffraction	Booth 425	Plasmaterials, Inc. www.plasmaterials.com Sputtering Targets; Evaporation Materials; Backing Plates; Bonding	Booth 207	STAIB Instruments, Inc. www.staibinstruments.com RHEED; Auger; Surface Analysis	Booth 510
Microtrac Inc. www.microtrac.com Particle Sizing; Imaging; Surface Area	Booth 231	Protochips, Inc. www.protochips.com Aduro Heating and Electrical <i>In Situ</i> Holder; Poseidon Liquid and Electrochemistry Holders; C-flat Holey Carbon Specimen Support Grids	Booth 204	Strem Chemicals, Inc. www.strem.com Nanomaterials; CVD/ALD Precursors; Bubblers	Booth 225
Millifluidica LLC www.millifluidica.com Millifluidic, Lab-on-a-Chip, Digital LOC, Catalyst-coated LOC or Combinatorial LOC Devices; Polymeric Chips; Tools for STEM Education; Continuous Flow Cell Culture	Booth 120	PVD Products, Inc. www.pvdproducts.com Pulsed Laser Deposition Systems; Sputtering Systems; Evaporation Systems	Booth 428	SVT Associates, Inc. www.svta.com Molecular Beam Epitaxy; Pulsed Laser Deposition; Atomic Layer Deposition	Booth 302
MMR Technologies, Inc. www.mmr-tech.com Hall Effect; Seebeck Effect; Microprobe Systems; LN2 Generators; Closed Cycle Coolers; Variable Temperature	Booth 405	Quantachrome Instruments www.quantachrome.com Gas Sorption; Pycnometers; Porometers; Porosimeters; Vapor Sorption; Water Sorption; Rotary Riffle; Autotap	Booth 112	Ted Pella, Inc. www.tedpella.com Microscopy Supplies; Sample Prep; Vacuum Coating	Booth 411
Moxtek, Inc. www.moxtek.com XRF Kit; MXDPP Detectors	Booth 218	Quantum Design, Inc. www.qdusa.com He Liquefier; Physical Property Measurement System; Squid Magnetometer; Crystal Furnace	Booth 310	Tescan USA Inc. www.tescan-usa.com Scanning Electron Microscopes; Focused Ion Beam Workstations; Mineral Analyzers	Booth 304
MTI Corporation www.mtixtl.com Single Crystal Substrates; High Temperature Furnaces; Battery R&D Equipment	Booth 511	R.D. Mathis Company www.rdmathis.com Evaporation Sources; Evaporation Materials; Power Supplies	Booth 525	Thermo Scientific www.thermoscientific.com/materialscience Raman Microscope; XPS Spectrometer; X-Ray Microanalysis System	Booth 417
MVSystems, Inc. www.mvsystemsinc.com PECVD; Cluster Tool; Reel to Reel Systems	Booth 205	Radiant Technologies, Inc. www.ferrodevices.com Ferroelectric Testers; Magneto Testers; Piezoelectric Test Systems	Booth 504	THINKY USA, Inc. www.thinky-usa.com Planetary Centrifugal Mixers; Nano-Pulverizers	Booth 631
Nanomechanics, Inc. www.nanomechanicsinc.com Nanoindentation; Analytical Services; <i>In Situ</i> Mechanical Testing	Booth 319	Renishaw Inc. www.renishaw.com Raman Microscopes; Spectrometers	Booth 317	United Mineral & Chemical Corporation www.umccorp.com MBE Source Materials; MBE Equipment; Dopants	Booth 111
National Electrostatics Corp. www.pelletron.com Pelletron Accelerator; RBS/PIXE/ERD; Accelerator Mass Spectrometry	Booth 303	RHK Technology, Inc. www.rhk-tech.com SPM Universal Controls; UHV STM; UHV AFM/STM; TERS/Nano-Optics	Booth 211	Vacuum Engineering & Materials (VEM) www.vem-co.com High Purity PVD Sputtering Targets; Elemental & Composite Evaporation Materials; Materials Reclaim & Shield Cleaning Services	Booth 113
National Institute for Nanotechnology www.nint-innt.ca Research Laboratory	Booth 617	Rigaku Americas Corporation www.rigaku.com MiniFlex 600	Booth 306	Vacuum Technology Inc. www.vti-glovebox.com Glove Box; Gas Purification System; Evaporator	Booth 530
Neocera, LLC www.neocera.com Pulsed Laser Deposition Systems; Pulsed Electron Deposition Systems	Booth 420	Rocky Mountain Vacuum Tech, Inc. www.rmvac.com Vacuum Equipment; Vacuum Components	Booth 220	Verder Scientific, Inc. www.verder-scientific.com Laboratory Milling & Sieving	Booth 329
Netzsch Instruments N.A. LLC www.netzsch-thermal-analysis.com Thermal Analysis; Thermal Conductivity; Thermal Expansion; Calorimetry	Booth 107	scia Systems GmbH www.scia-systems.com Ion Beam Milling Systems; Ion Beam Coating Systems; Plasma Etching & Deposition	Booth 219	Vigor Gas Purification Technologies Inc. www.vigor-glovebox.com Glove Box; Gas Purification System; Solvent Purification System	Booth 221
NIST www.nist.gov/srm Standard Reference Materials; Data and Calibration Services	Booth 619	Scribner Associates, Inc. www.scribner.com Fuel Cell Test Equipment; Battery Test Equipment; Electrochemical R&D	Booth 224	WITec Instruments Corp. www.witec-instruments.com Confocal Raman Microscopy; Scanning Near-Field Microscopy; Atomic Force Microscopy	Booth 213
Nor-Cal Products, Inc. www.n-c.com Vacuum Chambers; Vacuum Valves; Vacuum Components	Booth 412	Seki Diamond Systems www.sekidiamond.com Microwave Plasma CVD Systems; Hot Filament CVD Systems; Plasma CVD Systems	Booth 516	Zahner-elektrik GmbH & Co. KG www.zahner.de Photo-electrochemical Workstations; Electrochemical Workstations; Power-Potentiostats; Measurement/Analysis-Software	Booth 529



Submission Deadline—April 15, 2014

Optical Ceramics Science

Transparent ceramics offer unique fabrication advantages enabling bulk optical components to be formed with near-net shape, strain-free and homogenous doping. In the past decades, remarkable progress has been made to produce ceramics with high optical quality, controlled microstructures, engineered index and doping profiles for applications in lighting, high-power lasers, solar-energy harvesting, medical imaging and homeland security. Despite those achievements, several important challenges remain to improve on the quality and the functionalities of those materials. *JMR* is planning a Focus Issue on *Optical Ceramics Science* to be published in October 2014. We are soliciting original contributed papers on recent advances made in the area of optical ceramic science.

Contributed papers are solicited in the following areas:

- ◆ Optical ceramic materials for high-strength windows, scintillators, lasers, lighting, passive optics elements in the UV, visible and IR spectral regions
- ◆ New functionalities in transparent ceramic materials
- ◆ Defect studies in optical ceramics: grain-boundaries, stoichiometry issues, sintering additives, atomistic modeling
- ◆ Novel developments in powder synthesis, powder shaping and sintering methods for high performance optical ceramics
- ◆ Engineered optical ceramics: methods for microstructure, dopant and refractive index control
- ◆ Light-matter interaction in optical ceramics: theory, modeling and experimental studies

GUEST EDITORS

Romain Gaume, CREOL, University of Central Florida, USA

Yiquan Wu, Alfred University, USA

Thomas Hartnett, Raytheon Company, USA

MANUSCRIPT SUBMISSION

To be considered for this issue, new and previously unpublished results significant to the development of this field should be presented. The manuscripts must be submitted via the *JMR* electronic submission system by April 15, 2014. Manuscripts submitted after this deadline will not be considered for the issue due to time constraints on the review process. **Submission instructions may be found at www.mrs.org/jmr-instructions.** Please select "Focus Issue: *Optical Ceramic Science*" as the manuscript type. All manuscripts will be reviewed in a normal but expedited fashion. Papers submitted by the deadline and subsequently accepted will be published in the Focus Issue. Other manuscripts that are acceptable but cannot be included in the issue will be scheduled for publication in a subsequent issue of *JMR*.

CALL FOR PAPERS

jmr@mrs.org
Please contact jmr@mrs.org with questions.