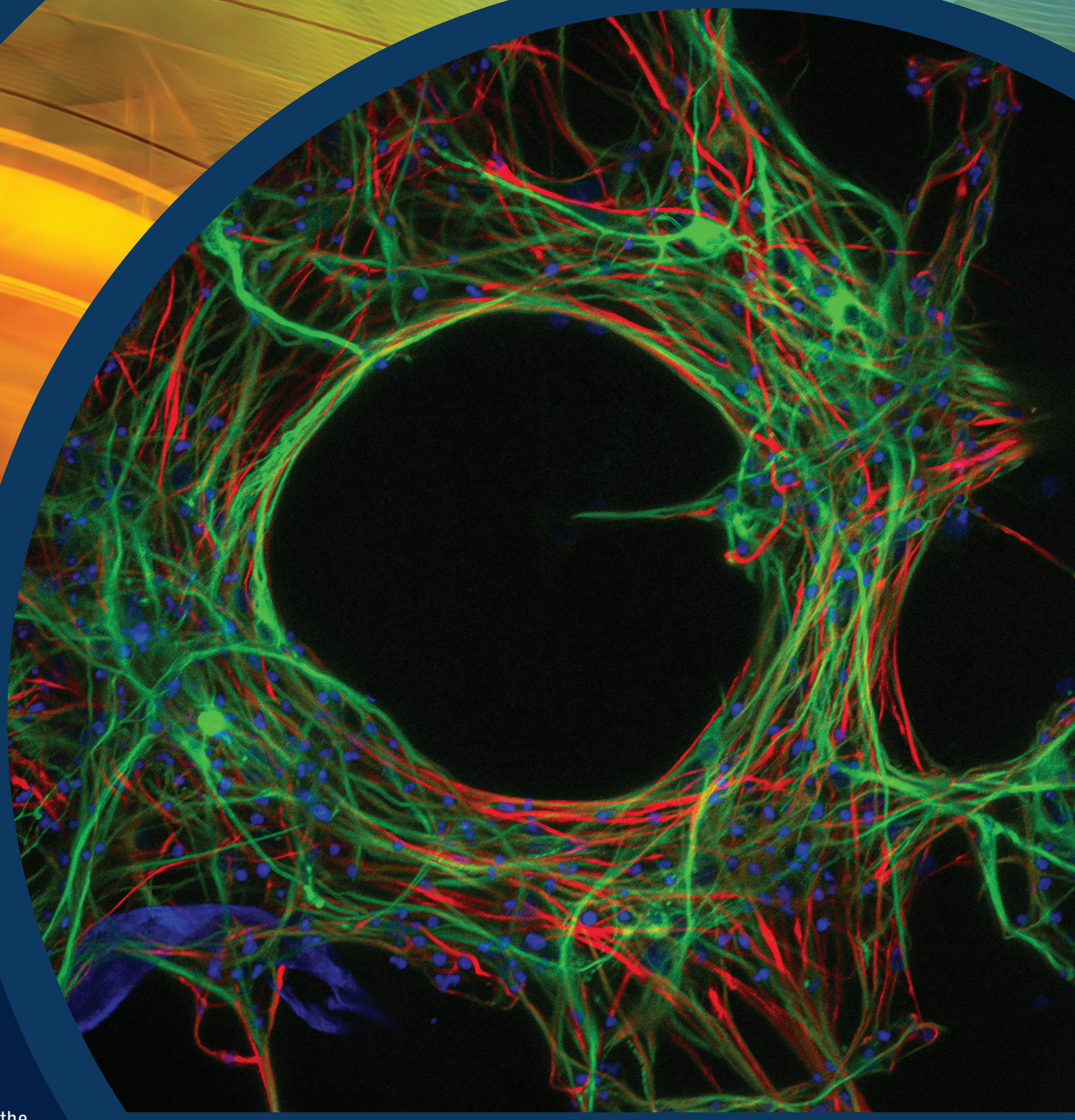
MRS Communications
VOLUME 10 • NO 1, 2020



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

CAMBRIDGE UNIVERSITY PRESS

https://doi.org/10.1557/mrc.2020.17 Published online by Cambridge University Press

MRS COMMUNICATIONS

MRS Communications is a high-impact archival journal focusing on rigorous peer review and rapid publication of completed research with broad appeal to the materials community. Major article types include rapid communications (research letters), "prospectives" papers, correspondence and commentaries.

"Prospectives" are a unique feature of this Journal offering succinct and forward-looking reviews of topics of interest to a broad materials research readership. This modern journal features advanced on-line publication, in full color, acceptance of supplemental materials, and multimedia content. *MRS Communications* leverages the deep technical expertise of leading MRS members among its editorial board and reviewers under the governance of a team of Principal Editors, and the advanced author and reader publication services and academic standing offered by Cambridge Journals.

Manuscript submissions that succinctly describe groundbreaking work in the broad field of materials research are encouraged. Examples of leading topical areas of interest to *MRS Communications* readers include:

- Biomaterials and biomimetic materials
- Carbon-based materials
- Complex oxides and their interfaces
- Materials for energy storage, conversion and environmental remediation
- Materials for nanophotonics and plasmonic devices
- Theory and simulation of materials
- Mechanical behavior at the nanoscale
- Nanocrystal growth, structures and properties, including nanowires and nanotubes
- Nanoscale semiconductors for new electronic and photonic applications
- New materials synthesis, templating and assembly methods
- New topics in metals, alloys and transformations
- Novel and *in-situ* characterization methods
- Novel catalysts and sensor materials
- Organic and hybrid functional materials
- Quantum matter
- Surface, interface and length-scale effects on materials properties

Author queries and submissions

MRS Communications operates a fully online author submission and peer review system, which can be found at http://mc.manuscriptcentral.com/mrscom

For questions related to *MRS Communications*, please contact mrc@mrs.org

MRS Communications Article Types

Prospectives

Forward-looking short reviews. Authoritative and balanced, but can deal with controversies or new and speculative areas of research for future consideration.

Research Letters

A concise presentation of a study with broad interest, showing novel results.

Editorials

Opinion piece, policy statement, or general commentary, typically written by board of the publication or a guest of notable stature.

Commentaries

An item whose subject or focus is another article or articles; this article comments on the other article(s).

Correspondence

Letter to the editor/publication, typically commenting upon a published item.

See complete technical descriptions online at www.mrs.org/mrc-article-types

MRS Communications Subscription Prices (2020)

Institutions
Online only
$914 / £817
Print-on-Demand available to online subscribers.
Inquire Customer Services.

MRS Communications (ISSN: 2159-6859) is published four times a year by Cambridge University Press for the Materials Research Society.

Individual member subscriptions are for personal use only.

https://doi.org/10.1557/mrc.2020.17 Published online by Cambridge University Press

MRS Communications

https://doi.org/10.1557/mrc.2020.17 Published online by Cambridge University Press

MRS Communications

Volume 10, Number 1, April 2020

Artificial Intelligence Prospective Article

1–10 **Growing field of materials informatics: databases and artificial intelligence** — Alejandro Lopez-Bezanilla, Peter B. Littlewood

Research Letters

11–17 **Deep learning-based super-resolution for small-angle neutron scattering data: attempt to accelerate experimental workflow** — Ming-Ching Chang, Yi Wei, Wei-Ren Chen, Changwoo Do

18–24 **Design space visualization for guiding investments in biodegradable and sustainably sourced materials** — James S. Peerless, Emre Sevgen, Stephen D. Edkins, Jason Koeller, Edward Kim, Yoolhee Kim, Astha Garg, Erin Antono, Julia Ling

25–31 **Highly stable multi-layered silicon-intercalated graphene anodes for lithium-ion batteries** — Doyoung Kim, Yongguang Luo, Anand P. Tiwari, Hee Min Hwang, Simgeon Oh, Keunsik Lee, Hyoyoung Lee

Prospective Articles

32–41 **Loss in acoustic metasurfaces: a blessing in disguise** — Nikhil JRK Gerard, Yun Jing

42–54 **Mechanical and failure behaviors of lattice–plate hybrid structures** — Zhigang Liu, Ping Liu, Wei Huang, Wei Hin Wong, Athanasius Louis Commillus, Yong-Wei Zhang

55–68 **The role of Toll-like receptor signaling in the macrophage response to implanted materials** — Laura A. McKiel, Kimberly A. Woodhouse, Lindsay E. Fitzpatrick

69–82 **Flexible, stretchable, conformal electronics, and smart textiles: environmental life cycle considerations for emerging applications** — Karsten Schischke, Nils F. Nissen, Martin Schneider-Ramelow

Research Letters

83–90 **Response of neuroglia to hypoxia-induced oxidative stress using enzymatically crosslinked hydrogels** — Samantha G. Zambuto, Julio F. Serrano, Avery C. Vilbert, Yi Lu, Brendan A.C. Harley, Sara Pedron

91–97 **Electronic charge transfer properties of COF-5 solutions and films with intercalated metal ions** — William S. Owen, Michael S. Bible, Emma F. Dohmeier, Lindsey R. Guthrie, Michael J. Parsons, Justin W. Hendrix, Joseph R. Hunt, Michael S. Lowry

Prospective Articles

98–111 **A perspective on overcoming water-related stability challenges in molecular and hybrid semiconductors** — Mark Nikolka

112–122 **Planet–satellite nanostructures from inorganic nanoparticles: from synthesis to emerging applications** — Christian Rossner, Andreas Fery

https://doi.org/10.1557/mrc.2020.17 Published online by Cambridge University Press

Research Letters

123–128	**Quantitative composition determination by Mössbauer spectroscopy**	B. Scott, C.A.M. Brown, R.A. Dunlap, M.N. Obrovac
129–134	**Effect of gravity in the Cassie-to-Wenzel transition on a micropatterned surface**	Arash Azimi, Ping He
135–140	**Enhanced light-matter interactions in size tunable graphene–gold nanomesh**	Vivek Garg, Bhaveshkumar Kamaliya, Rakesh G. Mote, Jing Fu
141–146	**Commercial carbon anode material surface-modified by spinel lithium titanate for fast lithium-ion interaction**	Lung-Hao Hu
147–154	**Development of thermosensitive hybrid hydrogels based on xylan-type hemicellulose from agave bagasse: characterization and antibacterial activity**	L. Arellano-Sandoval, E. Delgado, T.A. Camacho-Villegas, J. Bravo-Madrigal, R. Manríquez-González, P.H. Lugo-Fabres, G. Toriz, L. García-Uriostegui
155–163	**Optical thermal insulation via the photothermal effects of Fe_3O_4 and $Fe_3O_4@Cu_{2-x}S$ thin films for energy-efficient single-pane windows**	Jou Lin, Yuan Zhao, Donglu Shi
164–172	**Effects of an interfacial layer on stress relaxation mechanisms active in the Cu–Si thin film system during thermal cycling**	Nalla Somaiah, Anwesha Kanjilal, Praveen Kumar
173–178	**Effects of nanoporous Au on ATP synthase**	Naoki Miyazawa, Masataka Hakamada, Mamoru Mabuchi
179–187	**Biomimetic and electroactive 3D scaffolds for human neural crest-derived stem cell expansion and osteogenic differentiation**	Donata Iandolo, Jonathan Sheard, Galit Karavitas Levy, Charalampos Pitsalidis, Ellasia Tan, Anthony Dennis, Ji-Seon Kim, Athina E. Markaki, Darius Widera, Róisín M. Owens
188–193	**Synthesis and characterization of semiconducting sinnerite ($Cu_6As_4S_9$) thin films**	Scott A. McClary, Rakesh Agrawal
194–199	**Optimization of photoelectrochemical performance of Ag_2S/TiO_2 interface by successive ionic layer adsorption and reaction**	Xinhua Zheng, Shikai Liu, Yanhong Gu, Subhabrata Das, Jie Zhao, Yueyang Gao

https://doi.org/10.1557/mrc.2020.17 Published online by Cambridge University Press