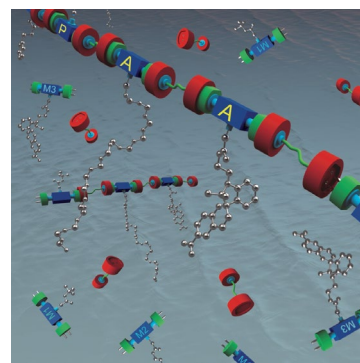
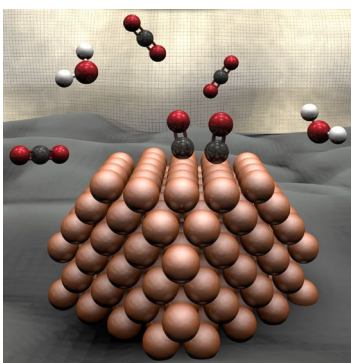
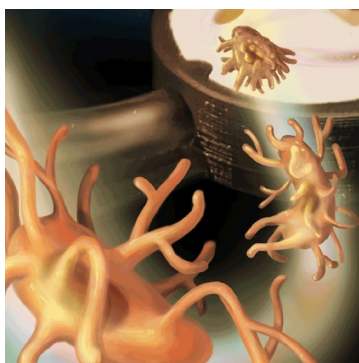
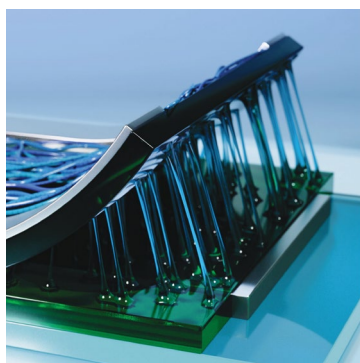


Future Directions of Advanced Materials



A TWO-DAY WORKSHOP, jointly hosted by Brockhouse Institute of Materials Research (BIMR, Dr. Alex Adronov), and Canadian Centre for Electron Microscopy (CCEM, Dr. Nabil Bassim), highlighting research on advanced materials with significant implications for the future of health, the environment, and energy. Specifically, this workshop will be a platform for researchers to learn about the latest advances in materials pertaining to four key themes, including the Future of Tissue Engineering, Sustainable Materials, Materials for Energy Applications, and Nanomaterials.. The overall goal of this workshop will be to stimulate BIMR researchers to think about new directions for Materials Research



May 30-31, 2022

Workshop is FREE.

 REGISTER by visiting the website below.

<https://brockhouse.mcmaster.ca/events/>

KEYNOTE SPEAKER

- Mary Anne White (Dalhousie University)
- Joaquin Ortega (McGill University)

TOPICS

- Future of Tissue Engineering Materials
- Future of Sustainable Materials
- Future of Materials for Energy Applications
- Future of Nanomaterials



Brockhouse Institute
for Materials Research



CCEM
Canadian Centre for Electron Microscopy

Future Directions of Advanced Materials

Monday, May 30, 2022

9:25 EDT

OPENING REMARKS

9:30

KEYNOTE LECTURE

9:30 Challenges for Advanced Materials Researchers
Mary Anne White, Dalhousie University

10:10

FUTURE OF MATERIALS FOR ENERGY APPLICATIONS

10:10 Organic Semiconductors for Energy Applications and Printed Electronics
Derya Baran, King Abdullah University of Science and Technology, Saudi Arabia

10:40 Energy materials made to order: reverse micelle templating as a universal approach to functional nanoparticles
Ayse Turak, McMaster University

11:10 Electrocatalyst materials for sustainability of energy and transportation sectors
Drew Higgins, McMaster University

11:40 Organic Electrodes in Li-Ion Batteries: Recent Progress and Future Opportunities
Dwight Seferos, University of Toronto

12:10

LUNCH/BREAK

13:00

FUTURE OF NANOMATERIALS

13:00 Nanowires: Material and Device Frontiers
Ray LaPierre, McMaster University

13:30 Quantifying the Modulus and Toughness of Anisotropic Cellulose Nanocrystalline Thin Films
Chelsea Davis, Purdue University

14:00 Sequence-specific polypeptoids for self-assembly of 2D materials
Helen Tran, University of Toronto

14:30 Omniphobic Coatings with Glass-Like Hardness and Polymer-Like Bendability for Touchscreen Protection and Ice Shedding
Guojun Liu, Queens University

15:00

DAY CLOSING

Future Directions of Advanced Materials Tuesday, May 31, 2022

9:25 EDT

OPENING REMARKS

9:30

KEYNOTE LECTURE

9:30 How cryo-electron microscopy can help us to get ahead of the next pandemic?

Joaquin Ortega, McGill University

10:10

FUTURE OF TISSUE ENGINEERING MATERIALS

10:10 Polyampholytes and Charge-Shifting Polymers as Building Blocks for Biomaterials

Harald Stover, McMaster University

10:40 3D Printing of Titanium for Bone Tissue Engineering

Kathryn Grandfield, McMaster University

11:10 Thermo- and pH-responsive cellulose nanocrystal-hybridized chitosan based hydrogel: Innovative combinatory biomaterials for bone repair in osteoporosis and 3D bioprinting.

Rahima Benhabbour, University of North Carolina

11:40 Custom-built artificial cells and tissues for drug discovery

Katherine Elvira, University of Victoria

12:10

LUNCH/BREAK

13:00

FUTURE OF SUSTAINABLE MATERIALS

13:00 Silicon Nanocrystals: Is their internal structure as crystalline as we once thought and does it matter?

Jon Veinot, University of Alberta

13:30 Diversification of Polyolefin Structure and Function through Radical Chain Transfer

Frank Leibfarth, University of North Carolina

14:00 Development and Applications of New Synthetic Methods for Polymer Science

Brett Fors, Cornell University

14:30 Bio-inspired and Ultra-low-power Multifunctional Devices based on Two-dimensional (2D) Materials

Saptarshi Das, Pennsylvania State University

15:00

DAY CLOSING