

**Structural and  
Functional  
Materials/Characterization**

MRS Advances Volume 8, Issue 17

Held Various Dates and Locations

ISBN: 978-1-7138-8172-8

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2023) by Springer Nature  
All rights reserved.

Printed with permission by Curran Associates, Inc. (2024)

For permission requests, please contact Springer Nature  
at the address below.

Springer Nature  
The Campus 4 Crinan St.  
London N1 9XW  
United Kingdom

[www.springernature.com](http://www.springernature.com)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## TABLE OF CONTENTS

Testing and Modeling of an in Situ Shear Exfoliated 2D Nanocomposite Coating Casing Material for the Suppression of Li-Ion Battery Fires in Electric Vehicles .....	953
<i>Md Abdur Rahman Bin Abdus Salam, Md Ashiqur Rahman, Ali Ashraf</i>	
Photoluminescence Properties of Copper Selenide Nanoparticles for Red LEDs and Lasers .....	960
<i>Pushpanjali Patel, Rekha Garg Solanki, Binish Balachandran</i>	
Study on Thermal Transport Behavior of Magnesium Oxide (MgO) Nanostructures as Lubricant Additives in Vegetable Oils .....	969
<i>Jaime Taha-Tijerina, Kollol Jogesh, Maysam Pournik</i>	
Influence of Silica Fume on the Mechanical, Thermal and Water Absorption Behavior of Compressed Earth Bricks .....	976
<i>Ahmed Abdelmadjid Ait Salem, Assia Benchouk, Naima Belayachi</i>	
Synthesis and Characterization of Polylactic Acid Microspheres Via Emulsion-Based Processing.....	982
<i>Ransford Dampney, Sabrina Torres, Ram V. Mohan</i>	
Layered Hardening and Grain Structure Refinement of Low-Alloyed Tool Steel Applying Two-Stage Surface Morphology Modification by Laser Phase Transformation and Ultrasonic Peening.....	988
<i>D. A. Lesyk, S. Martinez, W. Alnusirat</i>	
Morphological and Mechanical Characterization of a Novel Porous Silicon Membrane Used in a Lung-On-A-Chip System .....	996
<i>Sahra Genc, Sally Thompson, Jeff Jessing</i>	

### Author Index