

## WORKSHOP HOST AND LOCATION

The 22nd International Workshop on Computational Mechanics of Materials will be hosted by the Johns Hopkins University. JHU was established as the first research university in the USA in 1876 and is a world leader in both teaching and research. The university has nine academic divisions and campuses throughout the Baltimore-Washington area. The Krieger School of Arts and Sciences, the Whiting School of Engineering, the School of Education and the Carey Business School are based at the Homewood campus in northern Baltimore. The schools of Medicine, Public Health, and Nursing share a campus in east Baltimore with The Johns Hopkins Hospital. The Applied Physics Laboratory is a division of the university co-equal to the nine schools, but with a non-academic, research-based mission. APL supports national security and also pursues space science, exploration of the Solar System and other civilian research and development

Baltimore, a colorful, diverse city is Maryland's largest city and economic hub. It is known for its beautiful harbor, historic architecture, quirky and, distinct neighborhoods, unique museums, and the world-renowned Johns Hopkins Hospital to the east. The city remains a relatively undiscovered jewel with a rich history. Named for Lord Baltimore in the Irish House of Lords, Baltimore settled in the early 17th century. Sometimes dubbed as "a city of neighborhoods," Baltimore is more commonly known as "Charm City." The artistic talents of native Baltimoreans, such as writers Edgar Allan Poe and H.L. Mencken, musician James Hubert "Eubie" Blake, and singer Billie Holiday, have all left an imprint on Baltimore's unique culture, influenced it; each called Baltimore "home." Baltimoreans take tremendous pride in their city, boasting one of the most remarkable transformations in history. Yet they continue to welcome and amaze visitors with their "down to earth, small town" spirit and hospitality.

## TRAVEL AND ACCESSIBILITY

With its central location on the U.S. East Coast, Baltimore is easy to reach by your choice of transportation - highway, rail through Penn Station Baltimore, air via BWI, Dulles or National Reagan airports. It is within an hour's drive from Washington D.C. and within four hours or less of such other major cities as New York City and Philadelphia. BWI Marshall is Maryland's modern, user-friendly airport with more than 700 daily domestic and international flights serving more than 75 cities nonstop. Amtrak offers attractive rail fare discounts for seniors, children, students and meeting/conference attendees. Amtrak has service from 500 locations in 48 states with 80 trains each day stopping at Baltimore's downtown Penn Station.

## HOTEL ACCOMMODATIONS

The official workshop venue and hotel is the Sheraton Inner Harbor Hotel. It is connected to the Convention Center and a brief walk from the magnificent Inner Harbor, Oriole Park at Camden Yards, and M&T Bank Stadium, which is home to the Baltimore Ravens. The hotel is convenient to the National Aquarium, Maryland Science Center, 1st Mariner Arena, or the Hippodrome Theater. Stroll around our charming and lively neighborhood, or take in historic Fort McHenry, birthplace of the Star Spangled Banner.

## CONTACT INFORMATION

IWCMM-XXII Secretariat

Ms. Tanya Waith

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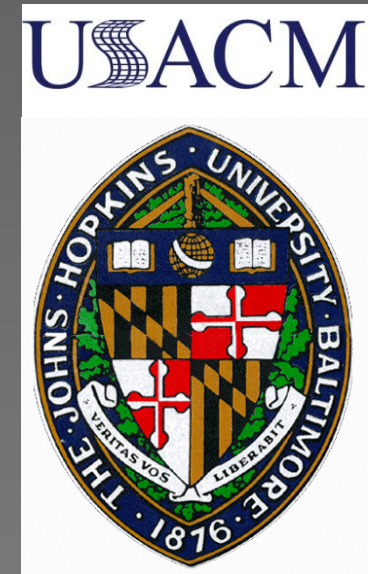
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## 22<sup>nd</sup> INTERNATIONAL WORKSHOP on COMPUTATIONAL MECHANICS of MATERIALS

# IWCMM XXII



SHERATON INNER HARBOR HOTEL  
BALTIMORE, MARYLAND, USA

SEPTEMBER 24-26, 2012

CHAIR: SOMNATH GHOSH

CO-CHAIR: SIEGFRIED SCHMAUDER

### HOST

JOHNS HOPKINS UNIVERSITY,  
BALTIMORE, MARYLAND, USA

### SPONSORS

WHITING SCHOOL OF ENGINEERING, JHU  
US ASSOCIATION OF COMPUTATIONAL  
MECHANICS (USACM)

## TECHNICAL TOPICS

### Methods

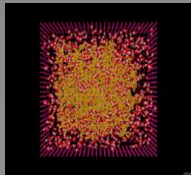
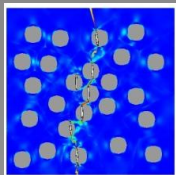
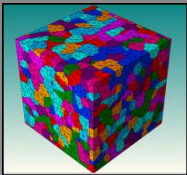
- Multi-scale and multi-physics material modeling
- Microstructure generation and imaging
- Material characterization and image-based models
- Continuum, micro-scale and nano-scale modeling
- Atomistic and molecular dynamics simulations
- Material architecture and topology design
- Stochastic mechanics & uncertainty quantification
- High performance computing

### Materials

- Polycrystalline, poly-phase metals and alloys
- Composite materials and adhesives
- Amorphous solids, ceramics
- Polymers
- Thin films, Coatings
- New materials for energy capture, conversion, transmission and storage
- Bio-materials, tissues
- Foams and cellular materials
- Electromagnetics, smart materials

### Response/Mechanisms

- Nonlocal models & size-dependent properties
- Finite deformation elasticity and viscoelasticity
- Plasticity, viscoplasticity, crystal plasticity
- Damage and brittle and ductile fracture
- Dynamic behavior and impact
- Cyclic loading and fatigue



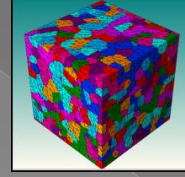
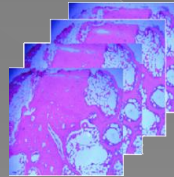
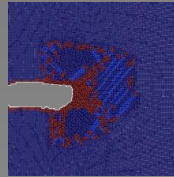
## IMPORTANT DATES

- Workshop Dates: September 23-26, 2012
- Symposia Proposals Due: January 15, 2012
- Abstracts Due: May 1, 2012
- Acceptance notified: May 31, 2012
- Early registration: TBD
- Final registration: TBD

## SCOPE OF WORKSHOP

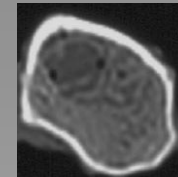
The objective of the 22nd International Workshop on Computational Mechanics of Materials is to provide a forum for bringing together researchers and practitioners from academia, industry, government and laboratories all over the world to discuss latest advancements and future directions in various areas pertaining to computational mechanics of materials.

The workshop is intended to cover all aspects of modeling and simulations of the mechanical behavior at different length and time scales. It will provide a platform for discussion of deformation and fracture mechanisms under different loading and environmental conditions. The materials of interest range from traditional materials such as metals, alloys, polymers and composites to advanced and emerging materials and bio-materials. Plenary lectures, mini-symposia with keynote lectures and regular presentations will be the workshop highlights.



## ORGANIZING COMMITTEE

Lori Graham-Brady, JHU  
John Clayton, Army Research Laboratory  
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Michael Falk, JHU  
Somnath Ghosh, JHU  
James Guest, JHU  
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Benjamin Schafer, JHU  
Siegfried Schmauder, Univ. of Stuttgart  
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## INTERNATIONAL SCIENTIFIC COMMITTEE

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