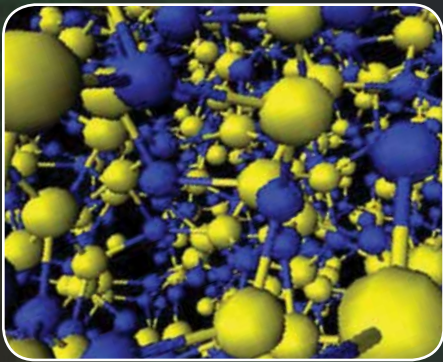


The **Orlando** Materials Innovation Principles

May 2012



Prepared on behalf of the
materials/manufacturing community by
The Minerals, Metals & Materials Society (TMS)

The **Orlando** Materials Innovation Principles

Recognizing our opportunity to significantly accelerate the materials innovation process to drive manufacturing and economic growth, the members of the materials and manufacturing community will pursue our work guided by the following principles:

We will work as a community to demonstrate accelerated materials discovery, development, deployment, and manufacturing through pre-competitive projects that address significant national goals.

We will actively incorporate integrated computational materials engineering tools and concepts to accelerate commercial product development, design, and manufacturing across all industries.

We will create a materials innovation infrastructure with common resources for data and knowledge sharing that can be openly utilized for model development and validation.

We will support educational initiatives to train the current and future workforce in materials innovation tools and the concurrent materials/design/manufacturing mindset.

The Orlando Materials Innovation Principles were developed as an outcome of the TMS Materials/Manufacturing Leaders Summit on March 15, 2012, in Orlando, Florida. The Summit engaged 50 thought leaders in the materials and manufacturing community to identify approaches addressing the challenges presented by the U.S. Materials Genome Initiative to “discover, develop, manufacture, and deploy advanced materials at least twice as fast as possible as today, at a fraction of the cost.”

For additional background on the development of The Orlando Materials Innovation Principles, as well as information on becoming a signatory, go to tms.org/orlandoprinciples.

***The undersigned support The Orlando Materials Innovation Principles*
as of January 17, 2013***

Carol Adkins

Director, Materials Science and
Engineering Center
Sandia National Laboratories

John Allison

Professor, Materials Science & Engineering
University of Michigan

Kevin Anderson

Mercury Technical Fellow
Mercury Marine

Diran Apelian

Howmet Professor of Materials Engineering
Director, Metal Processing Institute
Worcester Polytechnic Institute

Tim Armstrong

Vice President
Research & Product Commercialization
Carpenter Technology

Michael Bloor

Chief Operating Officer
ESI North America

William Cassada

Director of Research
Alcoa

Gerbrand Ceder

R.P. Simmons Professor of Materials
Science and Engineering
Massachusetts Institute of Technology

Bradford A. Cowles

Cowles Consulting LLC

Charles R. Craig

Senior Vice President, Science &
Technology
Administration & Operations
Corning

Wayne Eckerle

Vice President
Research & Technology & CTC Site Leader
Cummins Inc.

Mohamad s El-Zein

Manager, Metals & Mechanics
Deere & Company

Steven C. Freilich

Director, Materials Science and
Engineering
Central Research and Development
DuPont

Kevin Hemker

Alonzo G. Decker Chair
Mechanical Engineering
Johns Hopkins University

Theresa Kotanchek

Vice President, Sustainable Technologies
and Innovation Sourcing
The Dow Chemical Company

Charles Kuehmann

President & CEO
QuesTek Innovations LLC

Enrique J. Lavernia

Distinguished Professor
Dean, College of Engineering
University of California, Davis

Paul Mason

President
Thermo-Calc Software, Inc.

Dipu Pramanik

Vice President & Fellow, Core Technology
Intermolecular, Inc.

Bart Riley

Chief Technology Officer
Vice President, Research & Development
Founder
A123 Systems

Gregory Rohrer

W.W. Mullins Professor
Head, Department of Materials Science
and Engineering
Carnegie Mellon University

Robert Schafrik

General Manager
Materials & Process Engineering
GE Aviation

David B. Spencer

Chairman and Chief Technology Officer
wTe Corporation

David F. Teter

Division Leader
Materials Science and Technology
Los Alamos National Laboratory

Mark Verbrugge

Director, Chemical Sciences and Materials
Systems Laboratory
General Motors Research & Development

Jeffrey Wadsworth

President & CEO
Battelle Memorial Institute

Larry Wendling

Vice President
Corporate Research Laboratory
International Technical Operations
3M

Gerould Young

Director, Materials & Fabrication
Technology
Boeing Research & Technology

Thomas Zacharia

Deputy Laboratory Director
for Science and Technology
Oak Ridge National Laboratory

Matthew J. Zaluzec

Technical Advisory Board
Research and Innovation Center
Ford Motor Company

Buddy Damm

Manager, Metallurgical Applications
and Modeling Dept
The Timken Company

Frank Preli

Chief Engineer,
Materials and Processes Engineering
Pratt & Whitney

Henry Cialone

Chief Executive Officer
EWI

Warren Hunt, Jr.

Chief Technical Officer
Nexight Group LLC

Alan Rae

Chief Executive Officer
The NanoMaterials Innovation Center

Thomas Young

Provost
Clarkson University

Beckry Abdel-Magid

Professor and Chair
Winona State University

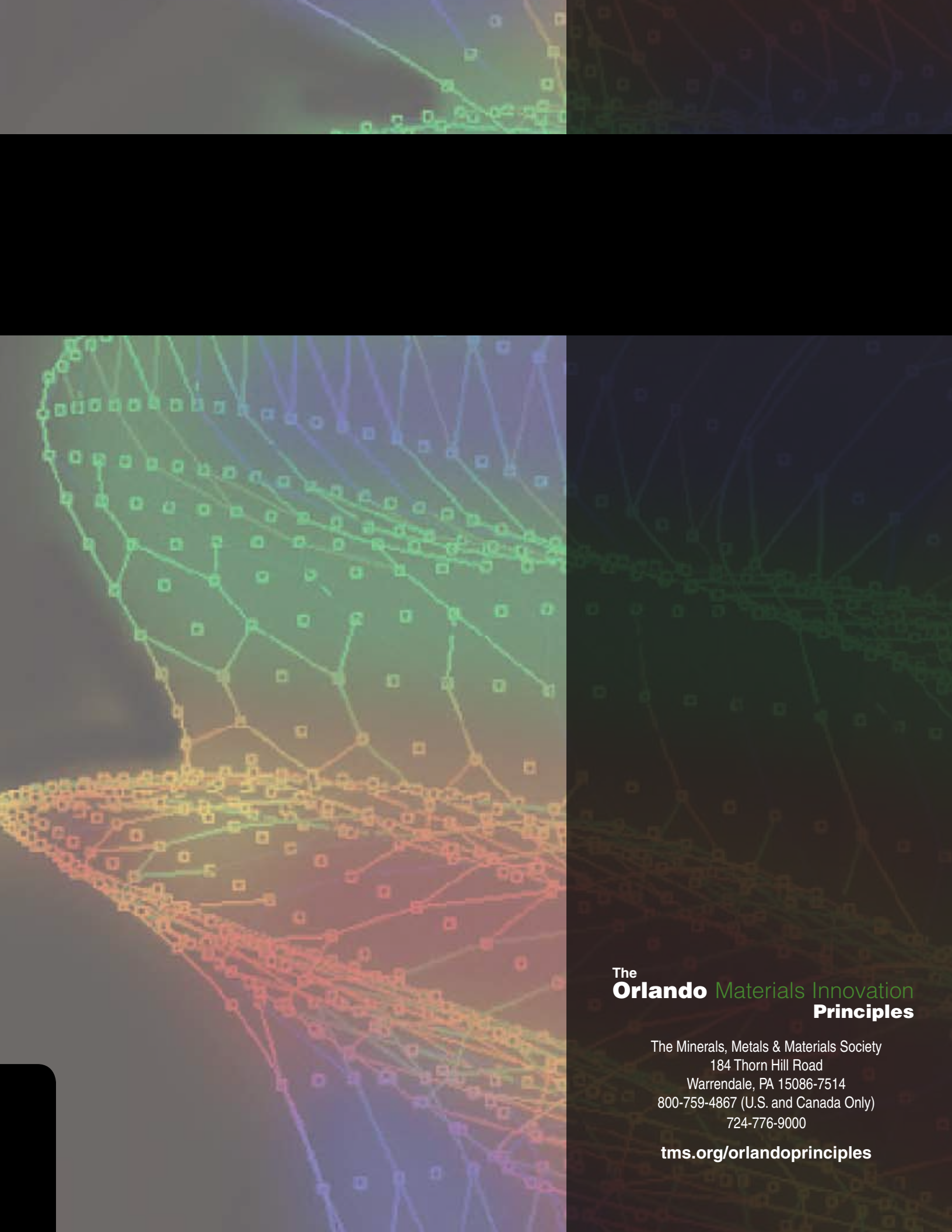
Narayana Balu

Center for Study of Science,
Technology, and Policy

Zhengping Fu

Professor
University of Science &
Technology, China

* Support of The Orlando Materials Innovation Principles indicates that the signer endorses the intent of the Principles but does not obligate the organization to any financial or other commitment. It is intended only as a statement of values that we as a community can collectively embrace. Any commitment of an organization to a specific project or activity is separate from endorsement of the Principles and would be at the organization's discretion on a case-by-case basis.



The
Orlando Materials Innovation
Principles

The Minerals, Metals & Materials Society
184 Thorn Hill Road
Warrendale, PA 15086-7514
800-759-4867 (U.S. and Canada Only)
724-776-9000

tms.org/orlandoprinciples