

AMERICAN CERAMIC SOCIETY

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bulletin

emerging ceramics & glass technology

APRIL 2013

MAX phases: Bridging the gap between metals and ceramics



New paradigm: Field-assisted sintering •

Ceramic property data in the Internet age •

Indian Ceramic Society and ACerS sign pact •

Meeting previews: PACRIM, GOMD, UNITECR, Structural Clay Products Division •

contents

April 2013 • Vol. 92 No. 3

feature articles

MAX phases: Bridging the gap between metals and ceramics 20

Miladin Radovic and Michel W. Barsoum

This exciting class of carbides and nitrides have remarkable properties that bridge the gap between metals and ceramics and offer fundamentally new ways to tune structure and properties for emerging applications.

New paradigm prophecy 28

Peter Wroy

Could sintering under an electric field be a new paradigm for ceramics processing? In this interview, Rishi Raj explains field-assisted sintering technology, how Hans Conrad discovered it, and how it might revolutionize manufacturing.

Current availability of ceramic property data and future opportunities 34

Steve Freiman and John Rumble

The authors present the case for establishing a single portal for accessing ceramic property data based on their year-long study of databases and work with data users. A compilation of ceramic property data resources is included.

meetings

PACRIM 10, including GOMD 2013 40

Overview 40

Plenary speakers 41

Darshana and Arun Varshneya Frontiers of Glass Science Lecture 41

Tentative schedule of events 42

Hotel information 42

Short courses 42

Symposia schedule 43

UNITECR 2013 46

Keynote and plenary speakers 46

Schedule at a glance 46

Technical program 47

Hotel information 47

Short courses 47

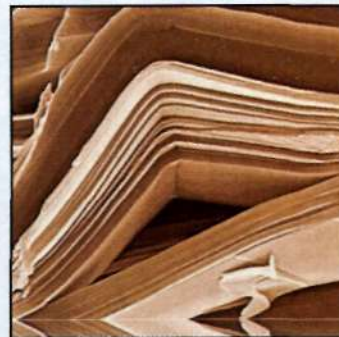
departments

News & Trends 3

- White House calls for increased access to federally funded research results
- Business news
- University of Bremen is hiring to launch its €4.5M MIMENIMA porous advanced ceramic effort
- New \$2.5M landmark conservation science institute to be established for the arts
- Gordon Research Conferences 2013 schedule
- Billions in federal R&D 'recovery' monies still on the table in the US?

ACerS Spotlight 7

- Welcome to our newest Corporate Members!
- Hench to receive Michigan/NW Ohio Section Award
- Last chance to submit nominations for the new Du-Co awards



cover story

Microstructure of Ti_2AlC , one of the MAX phases.

(Credit: Radovic, TAMU.)

– page 20



ACerS and Indian Ceramic Society sign Memorandum of Understanding

(Credit: ACerS)

– page 11

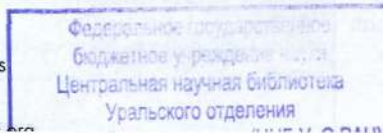


ceramics in the environment

Internal curing of concrete structures

(Credit: Andy Hancock, Purdue University.)

– page 18



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- Ceramic Education Council strengthens university-industry bond
- ACerS and Indian Ceramic Society sign Memorandum of Understanding
- Ceramic Tech Today
- PCSA begins year six, expands to 31 delegates and adds Outreach Committee
- Names in the news
- In Memoriam

Research Briefs 15

- Multidisciplinary approaches to materials discovery needed for Materials Genome Initiative

Ceramics in Energy 16

- Trucking solar energy—U. Delaware team dissociates zinc oxide in solar reactor to make 'solar fuel'

Advances in Nanomaterials 17

- Nanoporous molybdenum nitride supercapacitor electrodes

Ceramics in the Environment 18

- Internal curing standards and recent work on extending life of concrete structures
- Flowerpot like ceramic filters purify water for drinking, cooking

resources

New products 51

Calendar 52

Classified Advertising 53

Display Advertising Index 56

Corrections to the March ACerS Bulletin

"ACerS launches new Arts, Archaeology, and Conservation Science Division," p. 12. Marc Walton is employed by the Getty Conservation Institute, a standalone department operating under the Getty Trust.

"Transparent polycrystalline cubic spinels protect and defend," p. 20. The densities of the laminates in Figure 5 are "areal density" values.

"New opportunities for transparent ceramics," p. 32. The illumination in Figure 4 is 254-nanometer UV instead of 245-nanometer UV.

American Ceramic Society Bulletin covers news and activities of the Society and its members, includes items of interest to the ceramics community and provides the most current information concerning all aspects of ceramic technology, including R&D, manufacturing, engineering and marketing.

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