

FIFTH INTERNATIONAL CONFERENCE ON

SELF-HEALING MATERIALS



JUNE 22-24, 2015

Durham Convention Center
Durham, North Carolina
U.S.A.

Online Registration Available: October 15, 2014
Deadline for Discounted Registration Rates: April 15, 2015
Session Proposal Deadline: October 15, 2014
Abstract Submission Deadline: December 15, 2014
Conference Website: icshm2015.pratt.duke.edu

ICSHM2015 FOUNDING SPONSORS



NC STATE
UNIVERSITY



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL



Netherlands Enterprise Agency

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CONFERENCE HOTEL

The Durham Marriott Hotel

IMMEDIATELY ADJACENT TO THE
CONFERENCE VENUE

[marriott.com/hotels/travel/
rducv-durham-marriott-city-
center/](http://marriott.com/hotels/travel/rducv-durham-marriott-city-center/)

CONFERENCE VENUE

**The Durham
Convention Center**

310 West Morgan Street
Durham, NC 27701
U.S.A.

CONFERENCE SECRETARIAT

For all questions about sponsoring
and for questions regarding
general matters of the conference,
please contact the conference
secretariat:

Ms. Sara Faust

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Email: icshm2015@duke.edu

Web: icshm2015.pratt.duke.edu

WELCOME



On behalf of the Organizing Committee of the Fifth International Conference on Self-Healing Materials (ICSHM2015), we cordially invite you to attend this unique event to be held in Durham, NC, U.S.A., from 22 June to 24 June, 2015.

ICSHM is a biennial conference focusing on advances in self-healing materials science, engineering, and technological applications. Since its first edition in 2007, the mission of this conference is to provide a high-level international platform for the field of self-healing materials. ICSHM attracts a diverse, multidisciplinary group of scientists and engineers from around the world and provides a venue for reporting and observing the current state of the art and research results in the field. The conference provides a welcome environment for a mixture of academic, government and industrial researchers, managers, and policy makers.

In addition to attending ICSHM2015, we also invite all of our academic, government and industrial colleagues to submit abstracts for oral and poster presentations of your latest and most exciting developments in self-healing materials. Please encourage your students, fellows and colleagues to submit as well. We also invite you to solicit session proposals on topics of interest to the ICSHM community. There is no limit to the number of submissions that an individual or group may submit; however we will attempt to achieve balance across the range of submissions.

The session proposal deadline is October 15, 2014. The podium and poster abstract submission deadline is December 15, 2014. The web site for submission of abstracts and session proposals is www.icshm2015.pratt.duke.edu which contains all of the submission and sponsoring details (conference topics, abstract, poster and session formats, submission deadlines etc.).

We look forward to seeing you in Durham - North Carolina's Bull City!



WILLIAM "MONTY" REICHERT, PH.D.
ICSHM2015 Program Chair

SCHEDULE (TENTATIVE)

DAY 0

Sunday, 21 June 2015

Registration / Information	5:00 PM - 7:00 PM
Welcome Reception	7:00 PM - 9:00 PM

DAY 1

Monday, 22 June 2015

Scientific Program	9:00 AM - 6:00 PM
Poster Session & Reception	6:00 PM - 8:00 PM
Food Truck Rodeo	8:00 PM - 10:00 PM

DAY 2

Tuesday, 23 June 2015

Scientific Program	9:00 AM - 6:00 PM
Conference Dinner	6:30 PM

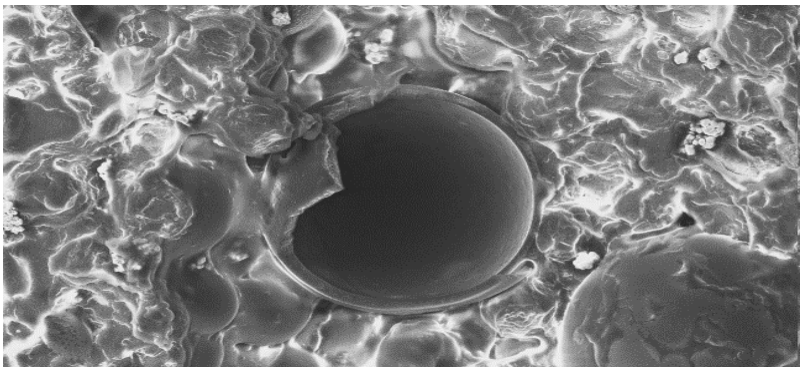
DAY 3

Wednesday, 24 June 2015

Scientific Program	9:00 AM - 5:00 PM
End of Conference	5:00 PM

*Note: This program is subject to change.

Fractured microcapsule in self-healing bone cement



TOPICS

The scope of ICSHM2015 encompasses all classes of self-healing materials including polymers, ceramics, metals, and composites, while bio-inspiration serve as model systems that guide research in the emergent field of self-healing. A broad spectrum of industries are impacted and represented by the field including aerospace, automotive, transportation, microelectronics, architecture, electronics, medicine, and manufacturing.

Based on local expertise, at ICSHM2015 we will introduce the community to the newly emerging field of self-healing biomaterials and biomedical implants. Other features of ICSHM2015 will include the continuation of the student travel and poster contest awards, as well as planned and self-initiated opportunities to experience cultural and recreational features of Durham and the surrounding region.

ICSHM2015 will follow the ICSHM tradition of maximizing the interaction between participants of different disciplines and offering a complete overview of the developments in the field. Potential session topics include:

- Cementitious materials
 - Thermoplastic/thermoset polymers
 - Hydrogels
 - Supramolecular polymers
 - Fiber-reinforced composite materials
 - Coatings & paints
 - Metallic materials
 - Functional applications
 - Microvascular systems
 - Bio-inspired materials
 - Biomaterials & biomedical implants
 - Mechanochemical response
 - Materials characterization
 - Modeling & numerical analysis
 - Societal impact
 - Instruction in self-healing materials
-

PLENARY SPEAKERS



Nele De Belie
Ghent University
Self-Healing
Cementitious Materials



Nancy Sottos
University of Illinois
Self-Healing &
Mechanoresponsive
Polymers



Zhibin Guan
University of California
at Irvine
Self-Healing
Nanocomposites



Jian Ping Gong
Hokkaido University
Sapporo
Self-Healing Hydrogels

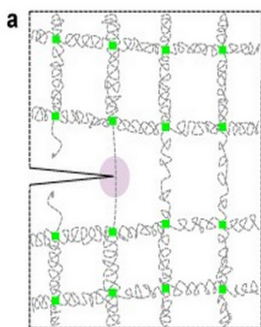


Joanna Aizenberg
Harvard University
Bioceramics &
Nanocomposites

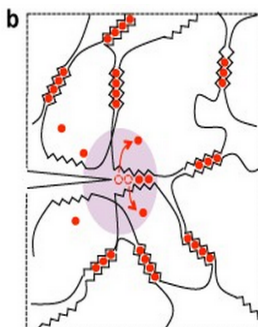


Rint Sijbesma
Technical University
Eindhoven
Mechanoactive Polymers

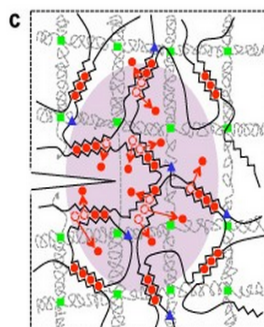
Highly stretchable tough hydrogels



Polyacrylamide gel alone



Alginate gel alone



Hybrid gel

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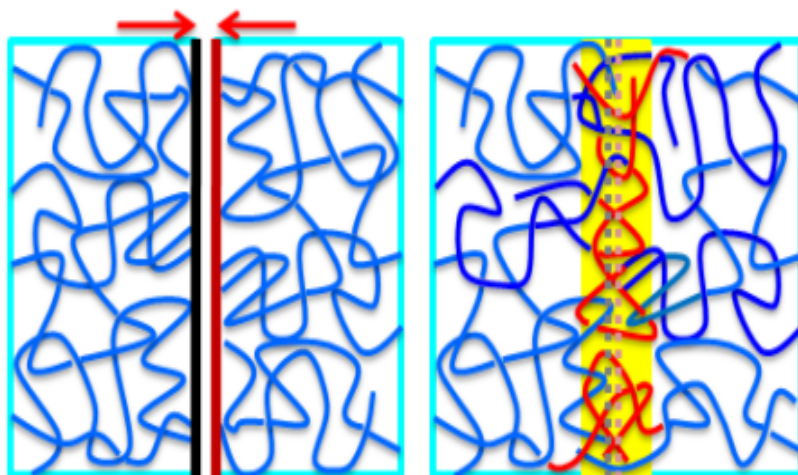
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Please contact any member of the Executive Organizing Committee or the ICSHM2015 Organizing Committee if you have any questions.

Reversible polymer chain interpenetration



WELCOME TO DURHAM

DURHAM



1869

CITY OF MEDICINE

June 22, 2015

Welcome Fifth International Conference on Self-Healing Materials

On behalf of the Durham City Council, I would like to extend to each of you a hearty greeting. We are indeed delighted that the City of Durham is hosting the Fifth International Conference on Self-Healing Materials on June 22-24, 2015 at the Durham Convention Center. This event is an exceptional occasion and we are honored to be a part of this.

Durham has a proud and diverse heritage. We are the home of North Carolina Central University, Duke University, North Carolina School of Science & Mathematics and Durham Technical Community College – all with exemplary and nationally recognized academic and athletic programs. Durham is the headquarters for the world-renowned Research Triangle Park, the new Durham Performing Arts Center and many national and international corporations. We are also the home of the world famous Durham Bulls Baseball team.

Again, welcome to our community. May your endeavors to meet the challenges of the new century be fulfilled and we hope you will have the opportunity to fully experience Durham's own brand of hospitality. Please let us know if we can be of further assistance.



Sincerely,

A stylized, handwritten signature in blue ink, appearing to read "Bill Bell".

WILLIAM V. "BILL" BELL
Mayor

101 City Hall Plaza, Durham, NC 27701
919-560-4333 | durhamnc.gov



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Please feel free to post or forward this brochure.