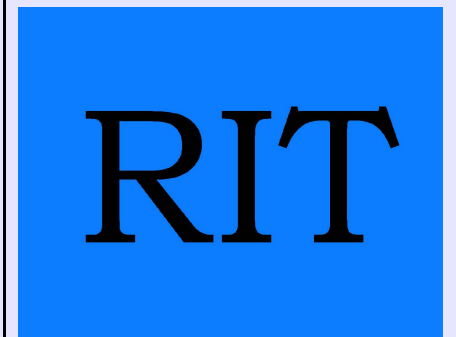


FINAL PROGRAM  
TENTH INTERNATIONAL SYMPOSIUM ON

POLYMER SURFACE MODIFICATION  
RELEVANCE TO ADHESION

To be held June 19-21, 2019 in collaboration with the  
Rochester Institute of Technology, Rochester, New York,  
USA



SYMPOSIUM HISTORY AND MOTIVATION

This is the 10th symposium in the series which continues the tradition set by the first in the series entitled: "Polymer Surface Modification: Relevance to Adhesion" which was held in Las Vegas, NV, 1993. As with its predecessors, this symposium will be concerned with the technological areas where surface modification is a key technology which allows for the processing and manufacture of products which would otherwise be unobtainable.

Proper adhesion characteristics are vital to the success of any practical implementation of polymer materials. Though polymers are generally not very adhesionable, careful surface modification can result in greatly improved adhesion without altering bulk properties.

AUDIENCE AND PARTICIPATION

This symposium is organized to bring together scientists, technologists and engineers interested in all aspects of polymer surface modification, to review and assess the current state of knowledge, to provide a forum for exchange and cross-fertilization of ideas, and to define problem areas which need intensified efforts.

SUBMITTING A PAPER

This symposium is being organized by MST Conferences under the direction of Dr. K. L. Mittal, Editor, Reviews of Adhesion and Adhesives. Please notify the conference chairman of your intentions to present a paper as early as possible. An abstract of about 200 words should be sent by June 7, 2019 to the conference chairman by any of the following methods:

E-mail: [rh1@mstconf.com](mailto:rh1@mstconf.com)  
FAX: 212-656-1016  
Regular mail:

Dr. Robert H. Lacombe  
Conference Chairman  
3 Hammer Drive  
Hopewell Junction, NY 12533, USA

Contact by phone: 845-897-1654; 845-592-1963  
Full conference details and registration via the Internet will be maintained on our web site:

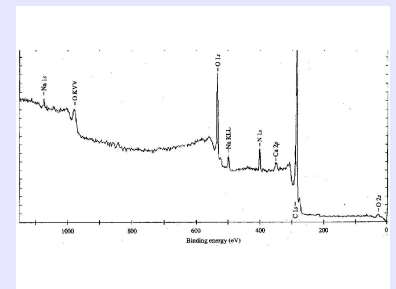
<http://mstconf.com/surfmod10.htm>

Click below to get on the symposium mail list:

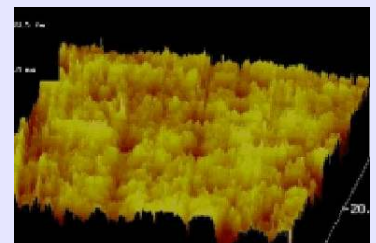
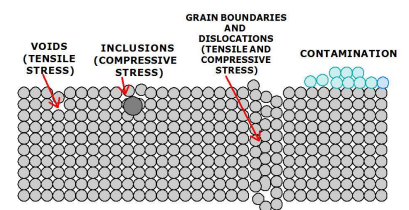
ONLINE RESPONSE FORM: [www.mstconf.com/resp-spring-2019.htm](http://www.mstconf.com/resp-spring-2019.htm)



Photo courtesy of Plasmatreat



A VARIETY OF DEFECT STRUCTURES AND IMPERFECTIONS  
MAKE DETERMINING THE SURFACE ENERGY/SURFACE TENSION OF  
SOLIDS VERY DIFFICULT



## ORGANIZERS AND CONTACT INFORMATION:

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## AMONG TOPICS TO BE COVERED ARE: SURFACE MODIFICATION TECHNIQUES

- ▶ Plasma, ultraviolet, corona, laser, ion beam, atmospheric plasma, flame ...
- ▶ Mechanical roughening
- ▶ Monolayer deposition, grafting and wet chemical

## POLYMER SURFACE MODIFICATION FOR ADHESION IMPROVEMENT OF:

- ▶ Metal layers (metallized plastics)
- ▶ Organic coatings, inks, composites, adhesive joints, microorganisms

## APPLICATIONS AND SURFACE CHARACTERIZATION

- ▶ Packaging, composites
- ▶ Biomedical applications
  - i. implants
  - ii. sterilization
  - iii. improved cell adhesion
- ▶ Microelectronics, aerospace, marine...
- ▶ All methods for characterization of surface chemistry and morphology, (Contact Angle, XPS, SIMS, AFM ...)

## SYMPOSIUM OPENS JUNE 19, 2019 AT 2:00 pm WITH A SOCIAL HOUR/MIXER. AND TOURS OF THE

Golisano Institute for Sustainability and the Semiconductor & Microsystems Fabrication Laboratory

## ARE BEING OFFERED TO ALL INTERESTED PARTICIPANTS AT THE END OF THE SOCIAL HOUR

## SESSION I: Thursday, June 20, 2019

8:30: Introductory Remarks

8:35-9:35: K. L. Mittal; MST CONFERENCES, LLC, Heritage Executive Suites, 2537 Route 53, Suite 1, Hopewell Junction, NY 12533

Overview of Wide Range of Polymer Surface Modification Techniques

9:35-10:05: Massoud J. Miri, Stephanie M. Boula, Timothy A. Kovach, Surendra K Gupta, Michael Mehan, and Gerald A. Takacs; School of Chemistry and Materials Science, Rochester Institute of Technology, 85 Lomb Memorial Drive, Rochester, NY 14623

VUV Photo-oxidation Treatment and Surface Modification of Highly Sustainable Polyesters

## COFFEE BREAK: 10:05-10:30

10:30-11:00: Namrata Patil and Anil Netravali; Dept. of Fiber Science and Apparel Design, Cornell University, Ithaca, NY 14853-4401

Green Surface Modification for Ultra-hydrophobic Cotton Fabrics

11:00-11:30: Omran Omar, Bao Ha, Katerine Vega, Andrew Fleischer, Hyukin Moon, Joel Shertok, Alla Bailey, Michael Mehan, Surendra Gupta and Gerald Takacs; School of Chemistry and Materials Science, Rochester Institute of Technology, Rochester, NY, USA

Surface Modification of Polybenzimidazole (PBI) Treated with Ozone

## LUNCH: 11:30-1:30

### SESSION II: Thursday, June 20, 2019

1:30-2:30: Arthur J Coury; Director of Engineered Biomaterials Program, Department of Chemical Engineering, Northeastern University, 360 Huntington Avenue, Boston, MA 02115

Strategies for Achieving Durable Attachment of Biomaterials to Tissue

2:30-3:00: Rafael J. Zaldivar and Hyun I. Kim; The Aerospace Corporation, 2310 E. El Segundo Blvd., El Segundo, CA (USA)

Material Dependency of Surface Activation and Degradation by Plasma Treatment

## 3:00-3:20: COFFEE BREAK

3:20-3:50: Michael S. Pierce; School of Physics and Astronomy, Director RIT Materials Science & Engineering Program, RIT, Rochester, NY

Coherent X-ray Scattering as a New Tool to Explore Dynamic Surfaces

3:50-4:20: Paul Simutis; DataPhysics Instruments USA Corp., 4424 Taggart Creek Road, #102, Charlotte, NC 28208

New Force Tensiometer Development for Adhesion Force

4:20-5:10: H. Schneider, K. Dilger, S. Hartwig; Technische Universität Braunschweig, Institute of Joining and Welding, Braunschweig, Langer Kamp 8, 38106, GERMANY.

Suitability of Amino- and Ureidosilane Adhesion Promoters for Bonding Vehicle Windscreens

### SESSION III: Friday, June 21, 2019

8:30-9:15: D.G. Waugh and J. Lawrence; School of Mechanical, Aerospace and Automotive Engineering, Faculty of Engineering, Environment and Computing, Coventry University, Gulson Road, Coventry, CV1 2JH, UK.

Laser Surface Engineering of Polymeric Materials for the Modification of Wettability Characteristics and Wetting Transitions

9:15-9:45: Gerald Takacs<sup>1</sup>, Ibrahim Cisse,<sup>1</sup> Shreen Sachdev,<sup>1</sup> Marc Toro,<sup>1</sup> Shin Lutondo,<sup>1</sup> Devon Shedden,<sup>1</sup> Kristen Margaret Atkinson,<sup>1</sup> Joel Shertok,<sup>1</sup> Michael Mehan,<sup>2</sup> and Surendra K. Gupta,<sup>3</sup>

1) School of Chemistry and Materials Science, Rochester Institute of Technology, Rochester, NY, USA

2) Xerox Analytical Services, Xerox Corporation, Webster, NY, USA

3) Department of Mechanical Engineering, Rochester Institute of Technology, Rochester, NY, USA

Surface Modification of Polyethersulfone (PES) with Ozone and UV Photo-oxidation

## 9:45-10:35: COFFEE BREAK

10:05-10:35: R. Thomas, Z. Coovadia and K.S.V. Santhanam; School of Chemistry and Materials Science, Rochester Institute of Technology, Rochester, NY 14623, USA

Conducting Polymer Surface modification with Graphene By An Electrochemical Technique For Sensor Applications