

# **195th Technical Meeting and Educational Symposium of the Rubber Division, American Chemical Society 2019**

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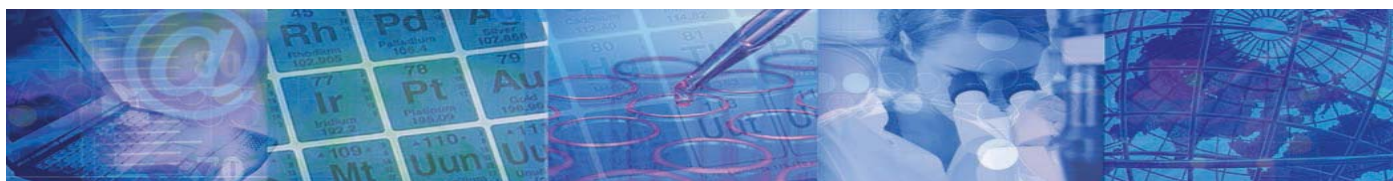
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Tuesday, April 30 – Ballroom 3 & 4, Lobby Level

### Interfaces & Adhesion

Chair: **Yusheng Chen**, Cooper Tire

- 7:45 a.m. Adhesive Nanoparticles as Glue for Soft Gel-like Materials - **Ryan Sayko**, University of Akron...1
- 8:15 a.m. Developing a Mechanistic Understanding of How Eastman's Duralink Can Replace Cobalt Salts for Tire Cord Adhesion - **Leandro Forciniti**, Eastman Chemical Company...14
- 8:45 a.m. Enhancing the Dispersion and Adhesion of Short Aramid Fibers in Bromobutyl Rubber Using Maleated Polybutadiene Resin - **Changwoon Nah**, Chonbuk National University...33
- 9:15 a.m. Surface Modification of Thermoset Elastomers to Achieve Anti-fouling and Low Coefficient of Friction Properties - **Logan Sanow**, Minnesota Rubber and Plastics...46

**9:45 a.m. Break & Table Top Exhibits**

### Dynamic Properties of Elastomers

Chair: **Chris Robertson**, Endurica LLC

- 10:00 a.m. Causes of Payne Effect Missing High Harmonics - **Xiaorong Wang**, Tongji University, Shanghai...58
- 10:30 a.m. Impact of an Emergent Hierarchical Filler Network on Nanocomposite Dynamics - **Mindaugas Rackaitis**, Bridgestone Americas...79

**11:00 a.m. – 12:00 p.m. KEYNOTE ADDRESS (Open To All Attendees)**



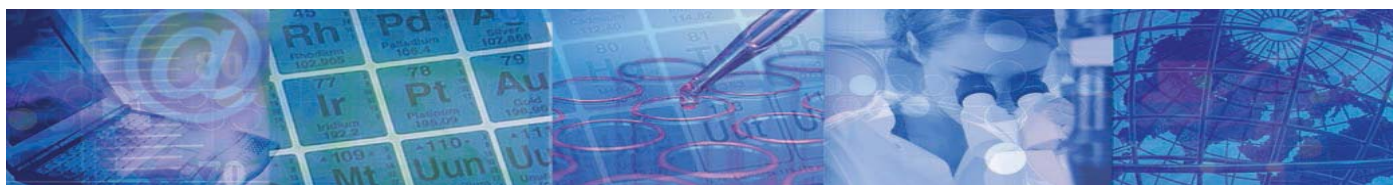
**Topic: The durability of polymers in the space environment and space flight experiments on the International Space Station...86**

Kim de Groh is a senior materials research engineer at NASA Glenn Research Center, where she has conducted research and mentored students for the past 29 years. Kim is internationally known as a technical leader in areas relating to the environmental durability of spacecraft materials. She is the principal investigator for 16 spaceflight experiments flown as part of the Materials International Space Station Experiment (MISSE) missions on the exterior of the International Space Station, including three experiments on ISS's new MISSE-Flight Facility.

**12:00 p.m. Lunch Break & Table Top Exhibits**

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- **Timothy C. Ransom**, Naval Research Laboratory
- 1:45 p.m. Extensional Responses of Polyisoprene and SBR - **Shi-Qing Wang**, University of Akron **PRESENTATION UNAVAILABLE**
- 2:15 p.m. Thixotropic Flocculation Processes in Carbon Black Filled Rubbers - **Lewis Tunncliffe**, Birla Carbon...136





- 2:45 p.m. Tire Rolling Resistance and Heat Build Up Calculations with Endurica's Microkinematic Kraus Model - **William V. Mars**, Endurica LLC...150
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## Wednesday, May 1 – Ballroom 3 & 4, Lobby Level

### Industrial Rubber Products

Chair: **Lena Nguyen**, Dow Chemical Company

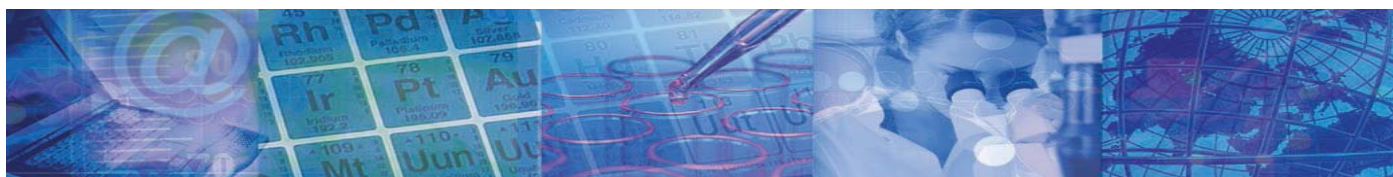
- 7:45 a.m. Application of Statistical Tools in Industrial Rubber Product Manufacturing - **Tapan Das Gupta**, Institute of Rubber Industry, India **PRESENTATION UNAVAILABLE**
- 8:15 a.m. Mill Processing Behavior of EPDM Rubber Compounds - **Greg Li**, Dow Chemical Company...239

### Nano-Scale Tools for Rubber Analysis

Chair: **Anna Kepas-Suwara**, Tun Abdul Razak Research Centre (TARRC)

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12:00 p.m. **Science & Technology Awards Banquet**

### Science & Technology Award Winner Presentations

Chair: **Dr. Maria D. Ellul**, ExxonMobil Chemical Co. (Retired)

- 2:15 p.m. Charles Goodyear Medal - **Dr. Roderic Quirk**, The University of Akron – *Anionic Polymerization and Functionalized Elastomers...*328
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### Flammability and Thermal Stability of Elastomers

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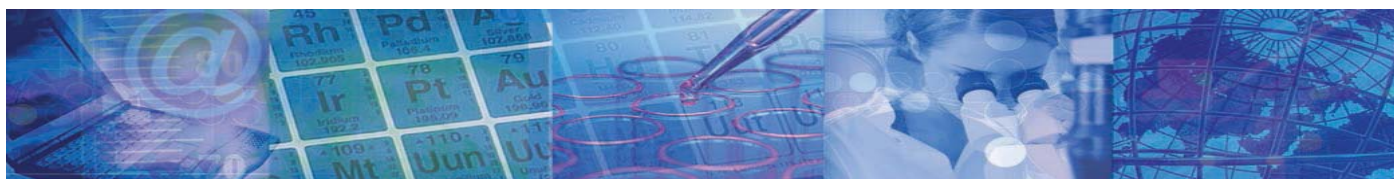
### Self-Healing Polymers

Chair: **Lewis Tunnicliffe**, Birla Carbon

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9:45 a.m. Break

### Science, Technology & Applications of Rubber

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