

SUNDAY, MAY 17

Technical Program

3:00 PM REGISTRATION OPENS (REMAINS OPEN THROUGH MEETING)

SESSION I

Jaime Grunlan, Discussion Leader

4:00 PM OPENING REMARKS: ALEXANDER MORGAN AND JAIME GRUNLAN

Alexander B. Morgan, University of Daytona Research Institute

4:15 PM 1. *Improvements in Cone Calorimeter Best Practices: Standard Reference Materials, Maintenance Issues, and A New Potential Standard Guide with ASTM*

4:45 PM 2. Mauro Zammarano, National Institute of Standards & Technology
Testing of Materials with ASTM E3367 – The Cube Test

5:15 PM 3. Jason Huczek, Southwest Research Institute
Effects of Substrates and Support Systems on ASTM E84 Performance

5:45 PM 4. Mark McKinnon, Fire Safety Research Institute
Best Practices for Modeling Ignition from Directly Measured Thermophysical Properties

6:05 PM WELCOME RECEPTION (1 HOUR)

MONDAY, MAY 18

SESSION II

Alexander Morgan, Discussion Leader

7:30 AM REGISTRATION OPENS | CONTINENTAL BREAKFAST

Sabyasachi Gaan, EMPA

8:30 AM 5. *Recyclable Fire-Retardant Dynamic Phosphonated Networks from H-Polyphosphonates*

9:00 AM 6. Bernhard Schartel, Federal Institute for Materials Research and Testing (BAM)
Flame Retardant Polyurethane Featuring Future Challenges

Marie-Odile Augé, Safran Composites

9:30 AM 7. *Representative elementary volume Combustion Calorimeter (RevCC) : a new tool to study aircraft composites materials*

Abdenour Amokrane, EDF R&D

9:50 AM 8. *Assessing the Validity of the 1D Assumption in Polymer Pyrolysis Modeling of Cylindrical Materials*

10:10 AM BREAK

Jaime Grunlan, Texas A&M University

10:35 AM 9. *Self-Extinguishing Polyester, Polyurethane, and Polyamide with Benign Polyelectrolyte-Based Coatings*

11:05 AM 10. Federico Carosio, Politecnico di Torino – Alessandria Campus
Flame retardant composites from polyelectrolyte complexes and natural fillers

Douglas Fox, American University

11:35 AM 11. *Crosslinked, carbohydrate-based, flame-resistant coatings for wood-based products*

Margaret J. Karim, Texas A&M University

11:55 AM 12. *Vibratory Ball Milling of Solid State Flame Retardant Polyelectrolyte Complex for Use in Polymer Emulsions*

12:10 PM LUNCH ON YOUR OWN

MONDAY, MAY 18, CONT'D

SESSION III

Balijinder K. Kandola, Discussion Leader

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| 2:00 PM | 13. | Serge Bourbigot, University of Central Lille
<i>Fire-retarded polymer in space-like environment</i> |
| 2:30 PM | 14. | Hatsuo Ishida, Case Western University
<i>Intrinsic and Extremely High Flame-Retardant, Bio-based Polybenzoxazines: Flammability Under Various Oxygen Concentrations</i> |
| 3:00 PM | 15. | Todd Emerick, University of Massachusetts
<i>Approaches to Polymeric Flame-Retardants: Halogen-free, Phosphorus-free, and PFAS-free</i> |
| 3:30 PM | | BREAK |
| 4:00 PM | 16. | Laura E. Hasburgh, Forest Products Laboratory
<i>Nanoscale X-Ray Imaging of Thermally Degraded Wood</i> |
| 4:30 PM | 17. | Fernando Raffan-Montoya, University of Maryland
<i>Towards Predicting ASTM D613 (Vertical Flame Test) Performance of FR Treated Fabrics Using Milligram-scale Flame Calorimetry</i> |
| 5:00 PM | 18. | Isaac T. Leventon, National Institute of Standards and Technology (NIST)
<i>Development of the NIST Cone Calorimeter Database</i> |
| 5:30 PM | 19. | Lyla (Changxin) Dong, Stanford University
<i>Polymer-Particle Hydrogels for Extended Wildfire Protection</i> |
| 5:45 PM | | POSTER SESSION AND RECEPTION (1 HOUR) |

TUESDAY, MAY 19

7:30 AM REGISTRATION OPENS | CONTINENTAL BREAKFAST

SESSION IV

Serge Bourbigot, Discussion Leader

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| 8:30 AM | 20. | Gaëlle Fontaine, University of Central Lille
<i>Elucidation of Fire Retardation Mechanisms: A Deep Dive into the Gas Phase</i> |
| 9:00 AM | 21. | Balijinder K. Kandola, University of Greater Manchester
<i>Mechanistic Comparison of Metal Stannate Synergists and Antimony Trioxide in Polymeric Halogenated Flame-Retardant Formulations</i> |
| 9:30 AM | 22. | Margaret Baumann, Performance Polymers and Additives LLC/Pinfa NA
<i>ATO and Alternatives for Formulated FR Plastics- Pinfa NA</i> |
| 9:50 AM | 23. | Kelvin K. Shen, U.S. Borax
<i>Review of Testings, Applications, and Mode of Actions of Comparative Tracking Index (CTI)</i> |
| 10:10 AM | | BREAK |

TUESDAY, MAY 19, CONT'D

10:35 AM 24. Aurelio Bifulco, University of Naples Federico II
Biochar in Fire protection: A sustainable alternative to other flame retardants and synergists

11:05 AM 25. Igor Jordanov: Saints Cyril and Methodius University, Skopje, North Macedonia
Sustainable Flame-Retardant Polyelectrolyte Complexes for Efficient Treatment of Natural, Synthetic, and Blended Textiles

11:35 AM 26. Carl-Christoph Höhne, Fraunhofer Institute for Chemical Technology
Safe-and-Sustainable-by-Design Flame Retardants for Insulation Foams

11:55 AM 27. Laura F. Guidugli, Florida Institute of Technology
Blooming and Dust Transfer Screening of Flame-Retardant Additives in Enclosure Plastics

12:10 PM LUNCH ON YOUR OWN

SESSION V

Gaëlle Fontaine, Discussion Leader

2:00 PM 28. Dido Agostins, AIMPLAS
Sustainable Phosphorus-Based Flame Retardants: Sustainable Synthesis, Structure–Property Characterisation, and Fire Performance

2:30 PM 29. Paul Joseph, Victoria University
Ignition propensities and combustion characteristics of some ligno-cellulosic materials in the context of wildland fires

3:00 PM 30. Svetlana Tretsiakova-McNally, Ulster University
A comparison of permeation of toxic combustion products through new and retired firefighters' jackets

3:30 PM BREAK

4:00 PM 31. Carl-Eric Wilen, Åbo Akademi University
A New Kid on the Block for Flame Retardancy of Expanded Polystyrene

4:30 PM 32. Sandra Bischof, University of Zagreb
Closing the Loop: From Biomass to Innovative Flame Retardant Biocomposites & Biofuels

5:00 PM 33. Ramaswamy Nagarajan, University of Massachusetts Lowell
Surface Functionalization Strategies for Reducing Flammability of Nylon, Cotton, and NyCo Fabric

5:30 PM 34. Lorenzo Tosato, University of Bologna
Development and Scale-Up of Intumescent Waterborne Coatings for Wooden Structures

5:45 PM DINNER ON YOUR OWN

WEDNESDAY, MAY 20

7:30 AM REGISTRATION OPENS | CONTINENTAL BREAKFAST

SESSION VI

Federico Carosio, Discussion Leader

8:30 AM 35. Sylvain Caillol, CNRS
A Journey Around Circularity in Polymers: Bio-Based Copolymerizable Flame-Retardant Systems for Sustainable Fire-Safe Materials

9:00 AM 36. Michael Großhauser, Fraunhofer LBF
Future Proof Flame Retardancy: Designing Resilient Solutions for Changing Demands

9:30 AM 37. Hajime Kishi, Univ. of Hyogo
Flame retardancy of cross-linked cyanate ester/amorphous engineering polymer blends

9:50 AM 38. Sharon Ma, Avient Corporation
Novel Fire-Resistant Composites Based on In-Situ Formation of Flame Barrier

10:10 AM BREAK

10:25 AM 39. Sabine Fuchs, Hamm-Lippstadt University of Applied Sciences
Synergistic bio-based flame retardant systems for polypropylene

10:50 AM 40. Jan Wagner, Ansbach University of Applied Sciences
Can cork do more than preserve a good wine?

11:10 AM 41. Akash R. Pati, Stony Brook University
Synergistic Phosphate-Based Flame Retardant for Cellulosic Materials

11:30 AM 42. Yanfei Xu, University of Massachusetts
Molecular Engineering for Enhanced Flame Retardancy and Reduced Thermal Conductivity in Polymers

11:50 AM CLOSING REMARKS
