

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 Dayton 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. Rick Davis, 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

8:00 AM MORNING COFFEE WITH LIGHT PASTRIES AND FRUIT

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

9:30 AM 7. Marie-Odile Augé, Safran Composites
Representative elementary volume Combustion Calorimeter (RevCC) : a new tool to study aircraft composites materials

9:50 AM 8. Abdenour Amokrane, EDF R&D
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

11:35 AM 11. Douglas Fox, American University
Crosslinked, carbohydrate-based, flame-resistant coatings for wood-based products

11:55 AM 12. Margaret J. Karim, Texas A&M University
Vibratory Ball Milling of Solid State Flame Retardant Polyelectrolyte Complex for Use in Polymer Emulsions

MONDAY, MAY 18, CONT'D

12:10 PM LUNCH ON YOUR OWN

SESSION III

Bernhard Schartel, Discussion Leader

2:00 PM 13. Serge Bourbigot, University of Central Lille
Fire-retarded polymer in space-like environment

2:30 PM 14. Hatsuo Ishida, Case Western University
Intrinsic and Extremely High Flame-Retardant, Bio-based Polybenzoxazines: Flammability Under Various Oxygen Concentrations

3:00 PM 15. Todd Emrick, University of Massachusetts
Approaches to Polymeric Flame-Retardants: Halogen-free, Phosphorus-free, and PFAS-free

3:30 PM BREAK

4:00 PM 16. Laura E. Hasburgh, Forest Products Laboratory
Nanoscale X-Ray Imaging of Thermally Degraded Wood

4:30 PM 17. Fernando Raffan-Montoya, University of Maryland
Towards Predicting ASTM D613 (Vertical Flame Test) Performance of FR Treated Fabrics Using Milligram-scale Flame Calorimetry

5:00 PM 18. Isaac T. Leventon, National Institute of Standards and Technology (NIST)
Development of the NIST Cone Calorimeter Database

5:30 PM 19. Lyla (Changxin) Dong, Stanford University
Polymer-Particle Hydrogels for Extended Wildfire Protection

5:45 PM POSTER SESSION AND RECEPTION (1 HOUR)

TUESDAY, MAY 19

8:00 AM MORNING COFFEE WITH LIGHT PASTRIES AND FRUIT

SESSION IV

Serge Bourbigot, Discussion Leader

8:30 AM 20. Gaëlle Fontaine, Centrale Lille Institute
Elucidation of Fire Retardation Mechanisms: A Deep Dive into the Gas Phase

9:00 AM 21. Michael Großhauser, Fraunhofer LBF
Future Proof Flame Retardancy: Designing Resilient Solutions for Changing Demands

9:30 AM 22. Margaret Baumann, Performance Polymers and Additives LLC/Pinfa NA
ATO and Alternatives for Formulated FR Plastics- Pinfa NA

9:50 AM 23. Kelvin K. Shen, U.S. Borax
Review of Testings, Applications, and Mode of Actions of Comparative Tracking Index (CTI)

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. Sabine Fuchs, Hamm-Lippstadt University of Applied Sciences
Synergistic bio-based flame retardant systems for polypropylene

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

8:00 AM MORNING COFFEE WITH LIGHT PASTRIES AND FRUIT

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. Krishna Suleria, University of Massachusetts Lowell
Novel Durable 'No Melt Drip' Flame Retardant Coatings for Nylon 6,6 Fabrics

9:20 AM 37. Hajime Kishi, Univ. of Hyogo
Flame retardancy of cross-linked cyanate ester/amorphous engineering polymer blends

9:40 AM 38. Sharon Ma, Avient Corporation
Novel Fire-Resistant Composites Based on In-Situ Formation of Flame Barrier

10:00 AM BREAK

10:20 AM 39. Dido Agostinis, AIMPLAS
Sustainable Phosphorus-Based Flame Retardants: Sustainable Synthesis, Structure–Property Characterisation, and Fire Performance

10:45 AM 40. Jan Wagner, Ansbach University of Applied Sciences
Can cork do more than preserve a good wine?

11:05 AM 41. David J. Irvin, Quantum Copper
Non-Halogenated, High Molecular Weight Flame Retardant Additive to Produce Fire Resistant Fibers and Fabrics

11:25 AM 42. Yanfei Xu, University of Massachusetts
Molecular Engineering for Enhanced Flame Retardancy and Reduced Thermal Conductivity in Polymers

11:45 AM CLOSING REMARKS

MONDAY, MAY 18, 2026

POSTER PROGRAM

Karen Cortes-Guzman, Demchuk Zoriana, Tang Mengjia, Sumathipala Kuma, Hun Diana E., and Saito Tomonori

1. Oak Ridge National Laboratory
Molecular Architecture Effects in Phosphorous Flame Retardants: Quantifying the Influence of Phosphate Loading vs Aromatic Content in Fire Performance

Zoriana Demchuk, Karen Cortes Guzman, Mengjia Tang, Kuma Sumanthipala, and Diana Hun

2. Oak Ridge National Laboratory
Non-toxic, Affordable Phosphorous-Based Flame Retardants for Multi-substrate Applications

Ryan Greene, Alec Tripi, Isaac Leventon, and Kevin McGrattan

3. Fire Research Division, National Institute of Standards and Technology
Measurement of the Average Molecular Formula of Gaseous Pyrolyzates Produced by Combustible Solids

Grace Inman, Kathryn Wnuk-Fink, Aaron Bruckbauer, Caitlin Hudecek, Matthew Halloran, Aanchal Jaisingh, and Michael D. Burkart

4. University of California San Diego
Recent Advances of 100% Bio-Based Thermoplastic Polyester Polyurethanes and Future Directions for Renewable Flame-Retardant Materials

Margaret J. Karim, Dallin L. Smith, Zachary Buck, Kristin L. Smith, Sarah G. Fisher, and Jaime C. Grunlan

5. Texas A&M University
Chemical Anchoring and Crosslinking of Polyelectrolyte Complex for Durable Flame Retardant Cotton

Athena Kolli, Changxin (Lyla) Dong, Matthew Szedlock, and Eric A. Appel

6. Stanford University
Advancing Sustainable Wildfire Management with Struvite-Based Hydrogel Retardants

Jessica Passaro, Immacolata Mazzuocolo, Immacolata Climaco, Giulio Malucelli, Antonio Aronne, Pietro Russo, Sabyasachi Gaan, and Aurelio Bifulco

7. Institute of Polymers, Composites and Biomaterials (IPCB)
HTL Biochar and Functionalized PVP-Silica Fiber Reinforced Flame-Retardant Epoxy Composites

Madigan Petri, Dallin L. Smith, Maya D. Montemayor, Federico Carosio, and Jaime C. Grunlan

8. Texas A&M University
Universal intumescent polyelectrolyte complex treatment for cotton, polyester, and blends thereof

Koteswar Rayachur, Krishnamurthy Munusamy, Jainam Shah, Ravi Mosurkal, Jayant Kumar, and Ramaswamy Nagarajan

9. University of Massachusetts, Lowell
High-Performance Flame-Retardant Fabrics via Scalable Thermal Grafting of Novel DOPO Derivatives

POSTER PROGRAM

10. **Luyi Sun**
University of Connecticut
Scalable and Environmentally Friendly Flame-Retardant Nanocoatings via One-Step Self-Assembly
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11. **Kun-Ling Teng**, Yuan-Hsiang Yu, Hsinjin Edwin Yang, and Yao-ting Huang
Fu Jen Catholic University
Nitrogen-Containing Ni-MOF/Polyurethane Composites: Influence of Dispersion Strategy on Thermal Stability and Flame-Retardant Performance
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12. **Kun-Ling Teng**, Yuan-Hsiang Yu, and Hsinjin Edwin Yang
Fu Jen Catholic University
Eu MOF/Polyimide Nanocomposite Films with Eu_2O_3 /Carbon Char Barriers for Enhanced Halogen-Free Flame Retardancy
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13. **Andre L. Thompson**, Andrew Maizel, Audrey Tombaugh, Halen Solomon, Bruce Benner, Alix Rodowa, Michelle Donnelly, and Rick Davis
Fire Research Division, NIST
Stress-Induced Changes in PFAS in Structural and Wildland Firefighter Textiles
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14. **Haley Young**
PPG Industries
Protecting Critical Infrastructure: Advanced Intumescent Coatings for Commercial and Industrial Applications
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