



**74<sup>th</sup> Tobacco Science Research Conference**  
**PRELIMINARY PROGRAM – V. July 20, 2021**

**SUNDAY, AUGUST 29, 2021**

**3:00** University of Kentucky CTRP Proficiency Program Workshop

**6:30** Welcome Reception hosted by Imperial Brands

**MONDAY MORNING, AUGUST 30, 2021**

**Symposium**

**8:45 WELCOME & OPENING REMARKS:** Joe Thompson, Imperial Brands, 74<sup>th</sup> TSRC Chair

**8:55 SYMPOSIUM: "Is Tobacco Harm Reduction at Risk? The Need for Science and Engagement."** Chair: Jason Flora, Altria Client Services, Richmond, VA USA

**9:00 1. FDA PERSPECTIVE: OPPORTUNITIES FOR HARM REDUCTION.** Matthew HOLMAN; U.S Food & Drug Administration, Silver Springs, MD, USA

**9:30 2. IS TOBACCO HARM REDUCTION AT RISK? YES.** Joe THOMPSON; Imperial Brands Science, Bristol UK

**10:00 Break**

**10:30 3.** Maria GOGOVA; Altria Client Services, Richmond, VA USA

**11:00 4. TOBACCO HARM REDUCTION RESEARCH AND CHALLENGES.** Brad RODU; University of Louisville, USA

**11:30 Panel discussion with all symposium speakers**

**12:00 Lunch**

**1:00 Poster Session**

**5. ASSESSMENT OF IN VITRO TOXICITIES DEMONSTRATED BY TOTAL PARTICULATE MATTER (TPM) GENERATED FROM CURRENT MARKET AND RESEARCH REFERENCE STANDARD CIGARETTES USING THE BHAS-42 PROMOTOR CELL TRANSFORMATION ASSAY.** Thomas SHUTSKY<sup>1</sup>, Kristen G. Jordan<sup>1</sup>, Kendall T. Szeliga<sup>1</sup>, Reagan L. McRae<sup>1</sup> and Shannon Bruce<sup>2</sup>; <sup>1</sup>RAI Services Company, Winston-Salem, NC USA and <sup>2</sup>Millipore and Sigma (BioReliance® Toxicology Testing Services), Rockville, MD USA

**6. ANALYSIS OF (S)- AND (R)-NICOTINE IN COMMERCIAL NICOTINE SAMPLES AND E-LIQUIDS AND (R)-NICOTINE PHARMACOLOGY.** Gary DULL<sup>1</sup> and <sup>2</sup>Serban C. Moldoveanu; <sup>1</sup>RAI Services Company, Winston-Salem, NC USA and <sup>2</sup>R.J. Reynolds Tobacco, Winston-Salem, NC USA

**7. ENDS TOPOGRAPHY ACROSS MULTIPLE PLATFORMS IN AN AMBULATORY SETTING.** Gary DULL, Sarah Baxter-Wright, John Darnell, Milly Kanobe, Paul Nelson, Kristen Prevet, and Jeffrey Smith; RAI Services Company, Winston-Salem, NC USA

**8. TRAPPING EFFICIENCY STUDY OF FINE PARTICULATE AEROSOLS IN THE POCKET AND PHLIP COMMERCIAL PERSONAL HANDHELD FILTRATION DEVICES.** John GRIMM<sup>1</sup>, David Wright<sup>2</sup>, Michael S. Werley<sup>3</sup> and Willie J. McKinney<sup>4</sup>; <sup>1</sup>Philter Labs Inc, El Cajon, CA USA, <sup>2</sup>IBR Laboratories, Grass Lake, MI, USA, <sup>3</sup>Fairview Consulting, Fredericksburg, VA, USA and <sup>4</sup>McKinney Regulatory Science Advisors, Henrico, VA, USA

**9. ANALYSIS OF ORGANIC ACETATES IN E-VAPOR PRODUCTS BY GC-MS/MS.** Jeff ZHU, Charles Brooks, and Lee Gentry; ITG Brands, Greensboro, NC USA

**10. THE EFFECT OF SMALL SAMPLE SIZES ON EVALUATION STATISTICS IN PROFICIENCY STUDIES: A SIMULATION STUDY BASED ON THE 1R6F.** Stacey SLONE, Brent Shelton, Ruth McNees and Orlando Chambers; University of Kentucky, Lexington, KY USA

**11. BIOMARKERS OF POTENTIAL HARM IN SMOKING ABSTINENCE AND IN THE USE OF VUSE ELECTRONIC NICOTINE DELIVERY SYSTEMS (ENDS).** Patrudu MAKENA; RAI Services Company, Winston-Salem, NC USA

**12. ANALYSIS OF COUNTERFEIT E-LIQUIDS USING FLAVORING PROFILES BY GAS CHROMATOGRAPHY WITH MASS SPECTRAL DETECTION.** Lisa LORENZ, Kelsey M. Griffin, and Melanie Parsons; U.S. Food and Drug Administration, Cincinnati, OH USA

**13. A 12 MONTH STABILITY STUDY ON JUUL VIRGINIA TOBACCO FLAVORED AEROSOLS USING TWO NON-TARGETED ANALYTICAL METHODS.** Mark CROSSWHITE, Lena N. Jeong, Brian Jameson, Anastasia Lioubomirov, Clarissa Yanga, Adam Ozvalda, and I. Gene Gillman; JUUL Labs, Washington, DC USA

**14. EXTRACTABLES TESTING PLAN FOR AN IMPROVED DATA COLLECTION NEEDED FOR EFFECTIVE RISK ASSESSMENT IN ELECTRONIC NICOTINE DELIVERY SYSTEM.** Harish CHEVVA, Felix Ayala-Fierro, Bryant Hiraki, Kevin Ford, and David Cook; JUUL Labs, San Francisco, CA USA

**15. A RETROSPECTIVE ANALYSIS OF CIGARETTE SMOKING AND ENDS USE IN A CONVENIENCE SAMPLE OF ADULT USERS OF BLU AND MYBLU ENDS.** Ryan G.N. SELTZER<sup>1</sup>, Ian M. Fearon<sup>2</sup>, Trisha L. Houser<sup>1</sup>, Mitch Nides<sup>1</sup>, Andrew Tope<sup>3</sup>, and Xavier Cahours<sup>3</sup>; <sup>1</sup>LA Clinical Trials, Burbank, CA, USA, <sup>2</sup>whatIF? Consulting, Harwell, UK, and <sup>3</sup>Imperial Brands, Bristol, UK

**16. ABUSE LIABILITY EVALUATION OF TWO NICOTINE LOZENGES COMPARED TO COMBUSTIBLE CIGARETTES AND NRT LOZENGE IN ADULT SMOKERS.** Chris CAMPBELL, Tao Jin, Bobbette Jones, Elaine Round, Eckhardt Schmidt and Sarah Baxter-Wright; RAI Services Company, Winston-Salem, NC USA

**17. PHARMACOKINETIC EVALUATION OF E-LIQUID FLAVORS IN THREE VUSE ELECTRONIC NICOTINE DELIVERY SYSTEMS (ENDS).** Kyung soo HONG, Patricia (TC) DeLuca, Tao Jin, Bobbette Jones, Eckhardt Schmidt, Paul Nelson and Elaine Round; RAI Services Company, Winston-Salem, NC USA

**18. EFFECT OF PH AND STORAGE TEMPERATURE ON E-LIQUID METAL CONCENTRATIONS.** Samuel HOCHSTETLER, Rachel Crabtree, Denver Heigter and Vinh-Khai Ngo; Enthaly Analytical, Richmond, VA USA

**19. ANALYSIS AND DIFFERENTIATION OF TOBACCO-DERIVED AND SYNTHETIC NICOTINE SAMPLES.** Preston CAMPBELL<sup>1</sup>, Andrew Cheetham<sup>2</sup>, Bonnie Coffa<sup>2</sup>, Jacob Hilldrup<sup>2</sup>, Preston Campbell<sup>1</sup>, Stanley Gilliland<sup>1</sup> and Susan Plunkett<sup>1,2</sup>; <sup>1</sup>Consilium, Richmond, VA USA and <sup>2</sup>Enthalpy Analytical, Richmond, Virginia, USA

**20. NRF2 RESPONSE TO WHOLE SMOKE AND AEROSOL OF TWO DIFFERENT TOBACCO PRODUCT TYPES IN A 3D HUMAN AIRWAY MODEL.** Brian M. KEYSER<sup>1</sup>, Robert Leverette<sup>1</sup>, Michael Hollings<sup>2</sup>, Emma Rothwell<sup>2</sup>, John Wertman<sup>1</sup>, Walt Morgan<sup>1</sup> and Wanda Fields<sup>1</sup>; <sup>1</sup>RAI Services Company, Winston-Salem, NC USA and <sup>2</sup>Labcorp Early Development Laboratories, Harrogate, North Yorkshire UK

**21. CHARACTERIZATION OF FREE RADICALS IN CIGARETTE SMOKE AND E-CIGARETTE AEROSOLS BY SPIN-TRAPPING EPR SPECTROSCOPY.** Michael DAVIS<sup>1</sup>, Carolina Clayton Probert<sup>2</sup>, Tatyana Smirnova<sup>2</sup>, Alex Smirnov<sup>2</sup> and G.L. Prasad<sup>3</sup>; <sup>1</sup>R.J. Reynolds Tobacco Company, Winston-Salem, NC USA, <sup>2</sup>North Carolina State University, Raleigh, NC USA and <sup>3</sup>RAI Services Company, Winston-Salem, NC USA

**22. MARKET SURVEY OF MODERN ORAL NICOTINE PRODUCTS: DETERMINATION OF SELECT HPHCS AND COMPARISON TO TRADITIONAL SMOKELESS TOBACCO PRODUCTS.** Alexandra MARTIN, Joseph J. Jablonski and Andrew G. Cheetham; Enthalpy Analytical, Richmond, VA USA

**23. ABUSE LIABILITY EVALUATION OF PORTIONED ORAL NICOTINE PRODUCTS COMPARED TO COMBUSTIBLE CIGARETTES AND NRT GUM IN ADULT SMOKERS.** Bobbette JONES, Leanne Campbell, Kristen Prevette, Elaine Round, Eckhardt Schmidt and Sarah Baxter-Wright; RAI Services Company, Winston-Salem, NC USA

**24. IN-VITRO TOXICITY TESTING OF RELX INFINITY TOBACCO AND MENTHOL FLAVORED ENDS PRODUCTS COMPARED TO REFERENCE 1R6F CIGARETTE.** Charlene LIU<sup>1</sup>, Emmanuel F. Minet<sup>2</sup> and Donald W. Graff<sup>1</sup>; <sup>1</sup>RELX International, Shenzhen, Guangdong China and <sup>2</sup>Broughton Nicotine Services, Earby, Lancashire UK

**25. ACCELERATED AGING STUDY OF REFERENCE SMOKELESS TOBACCO PRODUCTS.** Siqi GUAN, Huihua Ji and Lowell Bush; University of Kentucky, Lexington, KY USA

**26. A STATISTICAL METHODOLOGY INTEGRATING RESAMPLING TECHNIQUES TO EVALUATE PUBLIC HEALTH IMPACT AFTER INTRODUCTION OF REDUCED-RISKS PRODUCTS IN JAPAN.** Sylvain LARROQUE<sup>1</sup>, Terushige Kubota<sup>2</sup>, Yuki Kimura<sup>2</sup>, Maurane Charrière<sup>1</sup> and Damien Sonnerat<sup>1</sup>; <sup>1</sup>JTI Geneva, Geneva Switzerland and <sup>2</sup>JT, Tokyo, Japan

**MONDAY AFTERNOON, AUGUST 30, 2021**

**Combined Session**  
**Perception and Behavior Studies**  
*Session Chair: Rana Tayyarah*

**2:20 PM**

**27. AMBULATORY USE OF ELECTRONIC NICOTINE DELIVERY SYSTEMS – REDEFINING TOPOGRAPHY ENDPOINTS.** Robert UNDERLY, Evan Nudi, Timothy Pionk, and Jeffrey Smith; R.J. Reynolds, Winston-Salem, NC USA

**2:40 PM**

**28. PREMARKET ASSESSMENT OF CONDITIONAL RISK PERCEPTIONS AND INTENTIONS TO USE THE RELX INFINITY ENDS AMONG NATIONAL PROBABILITY SAMPLES OF ADULT TOBACCO USERS AND NON-USERS IN THE UNITED STATES.** Christopher RUSSELL, Russell Burnett Research and Consultancy, Glasgow Scotland

**3:00 PM**

**29. CURIOSITY AND INTENTIONS TO USE MYBLU E-CIGARETTES AND AN EXAMINATION OF THE GATEWAY THEORY: DATA FROM CROSS-SECTIONAL NATIONALLY REPRESENTATIVE SURVEYS.** Ian M. FEARON<sup>1</sup>, Ryan G.N. Seltzer<sup>2</sup>, Trisha L. Houser<sup>2</sup>, Mitch Nides<sup>2</sup>, Andrew Tope<sup>3</sup> and Xavier Cahours<sup>3</sup>; <sup>1</sup>whatIF? Consulting Ltd, Harwell UK, <sup>2</sup>LA Clinical Trials, Burbank, CA USA and <sup>3</sup>Imperial Brands, Bristol, UK

**3:20 PM**

**30. EXAMINATION OF THE IMPACT OF E-LIQUID NICOTINE STRENGTH ON PERCEIVED DEPENDENCE ON MYBLU ENDS.** Ian M. FEARON<sup>1</sup>, Ryan G.N. Seltzer<sup>2</sup>, Trisha L. Houser<sup>2</sup>, Mitch Nides<sup>2</sup>, Andrew Tope<sup>3</sup>, Xavier Cahours<sup>3</sup> and Thomas Verron<sup>3</sup>; <sup>1</sup>whatIF? Consulting, Harwell UK, <sup>2</sup>LA Clinical Trials, Burbank, CA USA and <sup>3</sup>Imperial Brands, Bristol UK

**Break**

**4:10 PM**

**31. THE BIG VAPE SURVEY UNITED KINGDOM AND THE BIG VAPE SURVEY UNITED STATES. ARE ALL E-CIGARETTES EQUAL OR ARE SOME BETTER THAN OTHERS IN ASSISTING SMOKERS QUIT ATTEMPTS?** Andrea PATTON, Gabriel Barnard, Farhana Haseen, Tiffany Hamilton, Evangelos Katsampouris, Venus Marza, Sophie Notley, Neil McKeganey; Centre for Substance Use Research, Glasgow UK

**4:30 PM**

**32. DEVELOPMENT OF RECOMMENDATIONS OF DESCRIPTIVE CONSUMER-REPORTED OUTCOME MEASURES (DESCRIPTIVE-CROM) AND RELATED DEFINITIONS IN TOBACCO AND NICOTINE RESEARCH.** Lai WEI<sup>1</sup>, Emilie Clerc<sup>2</sup>, Christelle Chrea<sup>2</sup>, Mandara Shetty<sup>3</sup>, Krishna Prasad<sup>3</sup> and Mohamadi Sarkar<sup>1</sup>; <sup>1</sup>Altria Client Services, Richmond, VA USA, <sup>2</sup>Philip Morris International, Neuchâtel, Switzerland and <sup>3</sup>British American Tobacco, Southampton, UK

**4:50 PM**

**33. QUALIFICATION OF TOBACCO TASTE IN TOBACCO-DERIVED NICOTINE (TDN) POUCH PRODUCTS.** Jessica ZDINAK and Jennifer Schmidt; Altria Ventures Inc, Richmond, VA USA

**5:10 PM**

**34. AN EVALUATION OF PRODUCT USE BEHAVIORS, NICOTINE UPTAKE, AND SUBJECTIVE MEASURES WITH USE OF TOBACCO AND MENTHOL FLAVORED E-LIQUIDS IN THE RELX INFINITY ELECTRONIC NICOTINE DELIVERY SYSTEM (ENDS) BY CURRENT VAPERS.** Donald GRAFF<sup>1</sup>, Rebeca Melara<sup>2</sup>, Ramadevi Vemuri<sup>2</sup> and Catherine Mills<sup>2</sup>; <sup>1</sup>RELX International, Shenzhen, Guangdong China and <sup>2</sup>Altasciences Inc, Laval, QC Canada

**Adjourn**

**TUESDAY MORNING, August 31, 2021**

**Session A**  
**Reduced Risk Product Standards**  
*Session Chair: Jennifer Smith*

*Workshop: Tobacco Product Standards for Potentially Reduced Risk Products*

**8:30 – 9:30 AM**

**35. PRODUCT STANDARDS FOR POTENTIALLY REDUCED RISK TOBACCO PRODUCTS.** Jennifer SMITH, Robert T. Smith and Donna C. Smith; Altria Client Services, Richmond VA USA

**36. STANDARDS AND FDA SCIENTIFIC REVIEW.** Todd CECIL; U.S Food & Drug Administration, Silver Springs, MD USA

**37. NICOTINE STANDARDS.** Sarah Evans; Chemular, Hudson MI USA

**38. PRODUCT STEWARDSHIP MAXIMIZES THE HARM REDUCTION POTENTIAL OF RRPS.** Donna SMITH and Jennifer H. Smith; Altria Client Services, Richmond, VA USA

**39. PERFORMANCE SPECIFICATIONS FOR HEATED TOBACCO PRODUCTS — AN OVERVIEW OF BSI PAS 8850:2020.** Maxim BELUSHKIN; Philip Morris Products, Neuchatel Switzerland

**9:30 AM**  
**Panel Discussion**

**Session B**  
**Non-combustible Products Chemistry**  
*Session Chair: Fraser Williamson*

**8:30 AM**

**41. COMPARISON OF COLLECTION STRATEGIES FOR THE ANALYSIS OF TARGETED COMPOUNDS IN ENDS AEROSOL.** J. Brian JAMESON, Bryant J. Hiraki, Adam M. Ozvald, Lena N. Jeong, Xin Chen and I. Gene Gillman; JUUL Labs, Washington, DC USA

**8:50 AM**

**42. CHEMICAL CHARACTERIZATION OF E-VAPOR PRODUCTS USING NON-TARGETED ANALYSIS BY GAS CHROMATOGRAPHY MASS SPECTROMETRY.** Michael NOE, Niti H. Shah, John H. Miller, Kimberly A. Agnew-Heard, and William P. Gardner; Altria Client Services, Richmond, VA USA

**9:10 AM**

**43. EVIDENCE FOR ARTEFACTUAL FORMATION OF GLYCIDOL DURING THE ANALYSIS OF E-LIQUIDS.** I. Gene GILLMAN, Devon C. O'Regan, Adam M. Ozvald, David K. Cook, Lena Jeong and Xin Chen; JUUL Labs, Washington, DC USA

**9:30 AM**

**44. NICOTINE ANALYSIS FOR MODERN ORAL PRODUCTS IN THE MANUFACTURING WORKSPACE.** Ian TINDALL; Cerulean, Milton Keynes, Buckinghamshire UK

**9:50 AM**

**45. COMPOUND IDENTIFICATION PROCESS FOR GC-MS NON-TARGETED ANALYSIS OF JUUL AEROSOL USING A CUSTOM MASS SPECTRAL LIBRARY.** Lena JEONG<sup>1</sup>, M.R. Noe<sup>2</sup>, N.H. Shah<sup>2</sup>, S. Chakraborty<sup>2</sup>, J.H. Miller<sup>2</sup> and I. G. Gillman<sup>1</sup>; <sup>1</sup>JUUL Labs, Washington, DC USA and <sup>2</sup>Altria Client Services, Richmond, VA USA

## Break

*Workshop: Synthetic Nicotine:  
Regulatory Issues, Potential Health Risks  
and Technical Challenges*

**10:40 AM**

**40. Synthetic Nicotine: Regulatory Issues, Potential Health Risks and Technical Challenges.** Bonnie COFFA<sup>1</sup>, Kevin Burd<sup>2</sup>, Elizabeth Sprowl<sup>3</sup>, Stanley Gilliland<sup>4</sup>, Preston Campbell<sup>4</sup> and Susan Plunkett<sup>1,4</sup>; <sup>1</sup>Enthalpy Analytical, Richmond, VA USA, <sup>2</sup>North America Nicotine, Rocklin, CA, <sup>3</sup>Pyxus International, Morrisville, NC and <sup>4</sup>Consilium Sciences, Richmond, VA USA

**11:00 AM**

**Panel Discussion**

**10:40 AM**

**46. DETERMINATION OF 2-CHLORO-1,3-PROPANEDIOL (2-MCPD) AND 3-CHLORO-1,2-PROPANEDIOL (3-MCPD) IN EMISSIONS OF NICOTINE PRODUCTS BY GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS).** Jiaming WANG, Angel Rodriguez-Lafuente and Peter Joza; Labstat International, Kitchener, ON Canada

**11:00 AM**

**47. MANAGING CHANGE FOR AUTHORIZED TOBACCO PRODUCTS.** Marco ESPOSITO; Philip Morris Products, Neuchatel, Switzerland

**11:20 AM**

**48. SELECTED ALDEHYDES YIELDS IN THE AEROSOL OF COMMERCIAL ELECTRONIC CIGARETTES.** Donatien TAFIN DJOKO; PMI, Boudry, Neuchatel Switzerland

**11:40 AM**

**49. RESULTS OF A PILOT STUDY ON HPLC SCAN TECHNIQUES FOR IDENTIFYING POTENTIAL FORMULATION PROBLEMS IN COMMERCIAL E-LIQUIDS.** John LAUTERBACH; Lauterbach & Associates, Macon, GA USA

**12:00 PM – Lunch**

**1:00 PM – Poster Session**

**50. COMPARISON OF QUARTZ FILTER COLLECTION AND ELECTROSTATIC PRECIPITATION FOR ANALYSIS OF TRACE METALS IN ENDS AEROSOL.** J. Brian JAMESON, Clarissa Yang, David K. Cook, Lena N. Jeong, and I. Gene Gillman; JUUL Labs, Washington, DC, USA

**51. AN ANALYSIS OF THE 2020 US NATIONAL YOUTH TOBACCO SURVEY (NYTS) DATA: E-CIGARETTE AND BLU BRAND USE AMONG MIDDLE AND HIGH SCHOOL STUDENTS.** Mengran GUO<sup>1</sup>, Thomas Verron<sup>1</sup>, Xavier Cahours<sup>1</sup>, Andrew Tope<sup>2</sup> and Grant O'Connell<sup>2</sup>; <sup>1</sup>SEITA – Imperial Brands, Paris France and <sup>2</sup>Imperial Brands, Bristol UK

**52. DEVELOPMENT OF AN ALTERNATIVE ROTARY-LIKE ENDS COLLECTION METHOD FOR IN VITRO TOXICOLOGY TESTING.** Mariano SCIAN, Pavel Kosachevsky, Marissa Smith, Lynn Mcfadden, Cameron Sovick, James Smith, Bhasitha Kallam, Emma Press, Travis Pickell, Nirmalben Patel, and Amrita Kumari; Enthalpy Analytical, Richmond, VA USA

**53. NICOTINE AND TOBACCO-SPECIFIC NITROSAMINES IN THE MAINSTREAM SMOKE OF COMMERCIAL CIGARS.** Zhenyu JIN<sup>1</sup>, Laura Fenton<sup>1</sup>, Siqu Guan<sup>1</sup>, Ying Wu<sup>1</sup>, Salome Bhagan<sup>2</sup>, Delshanee Kotandeniya<sup>2</sup>, Jikun Liu<sup>2</sup>, Jeannie Jeong-Im<sup>2</sup> and Huihua Ji<sup>1</sup>; <sup>1</sup>University of Kentucky, Lexington, KY USA and <sup>2</sup>U.S. Food and Drug Administration, Calverton, MD USA

**54. EVALUATION OF GASEOUS PHASE NICOTINE IN E-LIQUID NICOTINE SALTS IN E-CIGARETTE AEROSOLS.** Tanya JONES<sup>1,2</sup>, Tanya Jones<sup>1,2</sup>, Steven Kintner<sup>1,2</sup>, Sareece Armwood<sup>1,2</sup>, Ben Illidge<sup>3</sup>, Huanghai Lu<sup>3</sup>, Paul Hardman<sup>3</sup>, Jutta Pani<sup>2</sup> and Chunhai Ruan<sup>1,2</sup>; <sup>1</sup>ITG Brands, Greensboro, NC USA, <sup>2</sup>Imperial Brands-Lab Network, Hamburg Germany and <sup>3</sup>Imperial Brands-Nerudia Liverpool, UK

**55. TARGETED CHARACTERIZATION OF THE CHEMICAL COMPOSITION OF NOVEL JUUL PRODUCT AEROSOL AND COMPARISON WITH 3R4F REFERENCE CIGARETTE SMOKE.** David COOK, D.C O'Regan, A.O. Ozvald, C. Yang and I.G. Gillman; JUUL Labs, Washington, DC USA

**56. DETERMINATION OF ORGANIC ACIDS BY GC-FID: ON CARTRIDGE DERIVATIZATION BY Silylating reagent (MTBSTFA).** Alexander PENNINGTON; Enthalpy Analytical, Durham NC USA

**57. BIOLOGICAL AND TOXICOLOGICAL PROPERTIES OF FILTERED CIGARS.** David ORREN<sup>1</sup>, Amrita Machwe<sup>1</sup>, Samuel B. Clark<sup>1</sup>, Huihua Ji<sup>1</sup>, Anne Fisher<sup>1</sup>, Salome Bhagan<sup>2</sup>, Delshanee Kotandeniya<sup>2</sup>, Jikun Liu<sup>2</sup> and Jeannie Jeong-Im<sup>2</sup>; <sup>1</sup>University of Kentucky, Lexington, KY USA and U.S. Food and Drug Administration, Calverton, MD USA

**58. IIVS WORKSHOP SERIES DEVELOPING RECOMMENDATIONS FOR THE OPTIMAL GENERATION AND USE OF IN VITRO ASSAY DATA FOR TOBACCO AND NICOTINE PRODUCTS.** Rodger CURREN<sup>1</sup>, Holger Behrsing<sup>1</sup> and Martha M. Moore<sup>2</sup>; Institute for In Vitro Sciences, Gaithersburg MD USA and <sup>2</sup>Martha M Moore LLC, Little Rock, AR USA

**59. A QUANTITATIVE ASSESSMENT OF STATEMENTS COMMUNICATING THE REDUCED RISK POTENTIAL OF ELECTRONIC CIGARETTES AND TOBACCO VAPOR PRODUCTS: IMPACTS ON UK ADULTS' PERCEPTIONS OF VAPING PRODUCTS AND THEIR INTENTION (OR NOT) TO USE/TRY THEM.** Daisuke NISHIHARA, Sylvain Larroque, Michael Meger and Maurane Charrière; JT International, Geneva, Switzerland

**60. RESOLUTION OF MICRONUCLEUS INDUCTION GENOTOXICITY IN ENDS: IN VITRO AND IN VIVO TESTING.** Manoj MISRA<sup>1</sup>, Ed Carmines<sup>1</sup>, Mariano Scian<sup>2</sup> and David McCormick<sup>3</sup>; <sup>1</sup>Chemular Inc, Hudson, MI USA, <sup>2</sup>Enthalpy Analytical, Richmond, VA, USA and <sup>3</sup>Illinois Institute for Technology and Research Institute Chicago, IL USA

**61. TOXICOLOGICAL AND CHEMICAL EVALUATION OF A LINE OF NOVEL NON-TOBACCO SMOKELESS PRODUCTS.** Manoj MISRA<sup>1</sup>, Ed Carmines<sup>1</sup>, Lise Fraissinet<sup>1</sup> and Mark Hanson<sup>2</sup>; <sup>1</sup>Chemular Inc, Hudson, MI USA and <sup>2</sup>Black Buffalo Inc. Chicago, IL, USA

**62. NICOTINE TOBACCO PRODUCT HAZARD ASSESSMENT.** Lise FRAISSINET, Manoj Misra, Ed Carmines and Kevin Burd; Chemular Inc, Hudson, MI USA

**63. THERE IS MORE TO ENDS SAFETY EVALUATION THAN HPHCS – A WHOLISTIC APPROACH.** Ed CARMINES, Manoj Misra, Lise Fraissinet, Bryan Burd and Kevin Burd; Chemular Inc, Hudson, MI USA

**64. DISSOLUTION TESTING OF A NOVEL NON-TOBACCO LONG CUT AND POUCH NICOTINE PRODUCT.** Ed CARMINES<sup>1</sup>, Lise Fraissinet<sup>1</sup>, Alexander Martin<sup>2</sup> and Mark Hanson<sup>3</sup>; <sup>1</sup>Chemular Inc, Hudson, MI USA <sup>2</sup> Enthalpy Analytical, Richmond, VA USA and Black Buffalo Inc, Chicago, IL USA

**65. EVALUATION OF THE ABUSE LIABILITY OF A NOVEL NON-TOBACCO SMOKELESS POUCH PRODUCT.** Ed CARMINES<sup>1</sup>, Karen Carmines<sup>1</sup>, Lise Fraissinet<sup>1</sup>, Naama Levy-Copperman<sup>2</sup> and Zach Bader<sup>3</sup>; <sup>1</sup>Chemular Inc, Hudson, MI USA, <sup>2</sup>Altreos Research Partners, ON Canada and <sup>3</sup>Altasciences Clinical Research, Overland Park, KS USA

**66. EVALUATION OF THE ABUSE LIABILITY OF A NOVEL NON-TOBACCO LONG CUT SMOKELESS PRODUCT.** Ed CARMINES<sup>1</sup>, Karen Carmines<sup>1</sup>, Lise Fraissinet<sup>1</sup>, Naama Levy-Cooperman<sup>2</sup>, Zach Bader<sup>3</sup>, and Mark Hanson<sup>4</sup>; <sup>1</sup>Chemular Inc, Hudson, MI USA, <sup>2</sup>Altreos Research Partners, ON Canada, <sup>3</sup>Altasciences Clinical Research, Overland Park, KS USA and <sup>4</sup>Black Buffalo, Chicago, IL USA

**67. HEALTH AND ADDICTION PERCEPTIONS OF A NOVEL NON-TOBACCO SMOKELESS PRODUCT.** Ed CARMINES<sup>1</sup>, Lise Fraissinet<sup>1</sup>, Azure Steele<sup>2</sup> and Mark Hanson<sup>3</sup>; <sup>1</sup>Chemular Inc, Hudson, MI USA, <sup>2</sup>M/A/R/C Research, Irving, TX USA and <sup>3</sup>Black Buffalo, Chicago, IL USA

**TUESDAY AFTERNOON, August 31, 2021**

**Session A**

**Clinical Studies and Abuse Liability Assessments**

*Session Chair: Ian Fearon*

**Session B**

**Tobacco and Smoke Chemistry**

*Session Chair: TBD*

**2:20 PM**

**68. HUMAN ABUSE LIABILITY ASSESSMENT OF TOBACCO AND NICOTINE PRODUCTS: CONSIDERATIONS TO MEET CURRENT REGULATORY RECOMMENDATIONS.** Andrea VANSICKEL<sup>1</sup>, Sarah Baxter-Wright<sup>2</sup>, Leanne Campbell<sup>2</sup>, Neil Sherwood<sup>3</sup> and Michael C. Kong<sup>4</sup>; <sup>1</sup>Altria Client Services, Richmond, VA USA, <sup>2</sup>RAI Services Company, Winston-Salem, NC USA, <sup>3</sup>Neil Sherwood Consulting, Nyon, Vaud Switzerland and <sup>4</sup>Altasciences, Overland Park, KS USA

**2:40 PM**

**69. ABUSE LIABILITY ASSESSMENTS OF MODERN ORAL TOBACCO PRODUCTS IN ADULT SMOKERS.** Chris CAMPBELL, Sarah Ayoku, Bobbette Jones, Elaine Round, and Sarah Baxter-Wright; RAI Services Company, Winston-Salem, NC USA

**2:20 PM**

**75. DESIGN AND PRODUCTION OF CERTIFIED REFERENCE CIGARS.** Orlando CHAMBERS<sup>1</sup>, Matt Craft<sup>1</sup>, Huihua Ji<sup>1</sup>, Stacey Slone<sup>1</sup>, Ruth McNees<sup>1</sup>, Anne Fisher<sup>1</sup>, Colin Fisher<sup>1</sup>, Ling Yuan<sup>1</sup>, Salome Bhagan<sup>2</sup>, Delshanee Kotandeniya<sup>2</sup>, Jikun Liu<sup>2</sup> and Jeannie Jeong-Im<sup>2</sup>; <sup>1</sup>University of Kentucky, Lexington, KY USA and <sup>2</sup>U.S. Food and Drug Administration, Center for Tobacco Products, Calverton, MD USA

**2:40 PM**

**76. CORRELATION OF NNK LEVELS IN TOBACCO AND MOIST SNUFF WITH THE LEVELS OF PSEUDOXYNICOTINE AND NICOTINE-1'-N-OXIDE.** Serban MOLDOVEANU; R.J. Reynolds Tobacco, Winston-Salem, NC USA



**3:00 PM**

**70. ABUSE LIABILITY ASSESSMENT OF VUSE ALTO ELECTRONIC NICOTINE DELIVERY SYSTEM (ENDS) AS COMPARED TO COMBUSTIBLE CIGARETTES AND NICOTINE REPLACEMENT THERAPY (NRT) IN ADULT**

**SMOKERS.** Kyung soo HONG, John Darnell, Eckhardt Schmidt, Sarah Baxter-Wright, Paul Nelson and Elaine Round; RAI Services Company, Winston-Salem, NC USA

**3:20 PM**

**71. STUDY ON NICOTINE EXPOSURE LEVEL OF ELECTRONIC**

**CIGARETTE SMOKERS.** Chenfeng HUA, Wang Sheng, Zhao Ge, Liu Kejian, Qiao Liangjun, Zhao Junwei, Pan Lining, Shang Pingping, Li Xiang, and Xie Fuwei; Zhengzhou Tobacco Research Institute of CNTC, Zhengzhou, Henan China

**3:00 PM**

**77. COMPARISON OF 1R6F AND 3R4F SMOKE AND TOBACCO FILLER HPHC MEANS AND STANDARD DEVIATIONS.** Michael MORTON, Tammy L. Blake and Karl A. Wagner; Altria Client Services, Richmond, VA USA

**3:20 PM**

**78. ANALYSIS OF PRODUCTIVITY IN THE LABORATORY AND THE ROLE OF OUTSOURCED ASSET MANAGEMENT**

**SERVICES.** Benjamin FIELD, Paul Felts, Kevin Keras, Angelo Filosa; PerkinElmer, Waltham, MA USA

**Break**

**Session A**

**Clinical Studies and  
Non-Clinical Biological Studies**

*Session Chair: Ian Fearon*

**Session B**

**Tobacco and Smoke Chemistry**

*Session Chair: TBD*

**4:00 PM**

**72. MICROORGANISMS AND ASSOCIATED TOXINS IN CIGARETTES, ENDS, AND OTHER TOBACCO-RELATED PRODUCTS: CURRENT STATE-OF-THE-SCIENCE AND APPLICATIONS FOR MICROBIAL RISK ASSESSMENT.**

Jillian PARKER<sup>1</sup>, Amy K. Madl<sup>1</sup>, Antony D.G. Jones<sup>1</sup>, Daniel J. Lauer<sup>2</sup>, Rebecca K. Brewster<sup>3</sup> and Corey Boles<sup>4</sup>; <sup>1</sup>Cardno ChemRisk, Aliso Viejo, CA USA, <sup>2</sup>Cardno ChemRisk, Boulder, CO USA, <sup>3</sup>Cardno ChemRisk, Chicago, IL USA and <sup>4</sup>Cardno ChemRisk, Cincinnati, OH USA

**4:20 PM**

**73. CHARACTERIZATION OF BACTERIAL COMMUNITIES IN SMOKELESS TOBACCO REFERENCE PRODUCTS UNDER DIFFERENT STORAGE CONDITIONS.** Luke MOE;

University of Kentucky, Lexington, KY USA

**4:00 PM**

**79. CHEMISTRY AND ANALYTICAL TECHNIQUES FOR CONTEMPORARY SHISHA PRODUCTS.** John LAUTERBACH;

Lauterbach & Associates, Macon, GA USA

**4:40 PM**

**74. FULL-LENGTH TRANSCRIPTOME ANALYSIS REVEALS CANDIDATE GENES INVOLVED IN DEVELOPMENT AND NICOTINE RESPONSE IN LASIODERMA SERRICORNE.**

Jianfeng ZHANG<sup>1</sup>, Yalong Xu<sup>1</sup>, Jingjing Jin<sup>1</sup>, Shanyi Chen<sup>2</sup>, Xiaodong Xie<sup>1</sup>, Zhong Wang<sup>1</sup>, Mingzhu Wu<sup>1</sup>, Peijian Cao<sup>1</sup> and Jun Yang<sup>1</sup>; <sup>1</sup>Zhengzhou Tobacco Research Institute of CNTC, Zhengzhou, Henan China and <sup>2</sup>China Tobacco Fujian Industrial Co, Xiamen, Fujian China

**5:15 PM** – TSRC Business Meeting – All attendees are encouraged to attend.

**6:30 PM** – Pre-banquet Reception

**Adjourn**