



NEWSLETTER

Issue 65 – April 2023

FOREWORD

Catching up on lost time ...!

CORESTA is excited to be hosting the meetings of 17 of its Sub-Groups and Task Forces in Antibes Juan-les-Pins, France, this month. Enthusiasm to renew with in-person events is manifest with over 160 group members having made arrangements to participate.

CORESTA is also taking the opportunity to hold a Workshop on Tobacco Harm Reduction immediately after the group meetings in Antibes. This initiative stems from the output of the CORESTA Science Day held in June 2022, and the discussions at Board level regarding the shaping of CORESTA's future and developing the association's role in tobacco harm reduction. This first approach will involve CORESTA member organisation official delegates and will subsequently be opened to wider participation.

The highlight of the 2023 CORESTA event calendar is the annual Conferences. Mother Murphy's Labs will be hosting the Smoke-Techno (SSPT) Conference, and the CORESTA Secretariat will be hosting the Agro-Phyto (AP) Conference – both will be held in Cancun, Mexico. Despite the undisputed advantages of virtual events, CORESTA is nevertheless pleased to be returning to the organisation of in-person gatherings after three years of hosting these major events behind a computer screen.

Day to day work continues with numerous new projects being launched by the Sub-Groups and Task Forces and documents and articles being published. Of significance is the publication of CORESTA's 100th Recommended Method! An achievement and a testimony to the association's mission to provide a collaborative platform for work on tobacco and its derived products.

Three Sub-Groups report on their activities in this Newsletter. The Consumer Reported Outcome Measures (CROM) Task Force has established a regular online presence with the hosting of Workshops and Symposiums focusing on particular topics and involving external experts. The Green Tobacco Sickness (GTS) Task Force is making progress in preparing its work protocol, and the Biomarkers (BMK) Sub-Group reports on its recent work and achievements and vision for its future.

A new column in the Newsletter – "Insight from a Member" – introduced in Issue 64, continues with a thought provoking commentary on "Looking back to find our way forward". Another new column being introduced in this current issue – "Researcher Spotlight" – aims to highlight up-and-coming graduate students and industry personnel to introduce them to readers and give them increased visibility.

Joint Study Group Conferences 2023

SSPT2023 - The Smoke Science and Product Technology Conference will be held from **8–12 October 2023**. The meeting will be kindly hosted by Mother Murphy's Labs.



AP2023 - The Agronomy & Leaf Integrity and Phytopathology & Genetics Conference will be held from **15–19 October 2023** and is being organised by the CORESTA Secretariat.

GENERAL INFORMATION

Call for Papers and Abstract Submission: Available online via the CORESTA website ([SSPT / AP](#))

Abstract submission deadline: Friday, 26 May 2023

Abstract selection by Reading Committee: Monday, 12 June 2023

Author notifications and programme publication: End of June 2023

Official Conference websites: Opening May 2023

Meeting registration: Available on Conference websites in May 2023

CORESTA Scientific Commission and Board Meetings

The **SCIENTIFIC COMMISSION** (SC) met in Vienna, Austria on 17 and 18 January 2023. The meeting was kindly hosted by delfort Group. The main objectives were to discuss and answer requests received from the Board, to report on SGTF activities and future plans, and to prepare the 2023 Conferences.

The Scientific Commission proposed to the Board:

- some definitions of workstreams associated to CORESTA strategic subjects
- a plan to revise Guide No. 17 (Sustainability in Tobacco Leaf Production)
- the creation of a new Task Force to work on quality and safety guidance for emerging products
- the organisation of discussions with appropriate SGTFs on approaches for assessing nicotine pouches consumer exposure
- a survey to better understand why CORESTA is not conducting studies on emerging product devices, and
- the preparation of a two-entry table (constituents & product category) of CRMs to identify gaps and improve internal and external communication.

The Call for Papers for the 2023 AP and SSPT Conferences was drafted, and several themes for

workshops were suggested, such as ESG and its impact on farmers, cigar products and production, ACAC achievements over the last 10 years, alternatives to animal testing, application of population modelling to harm reduction and nicotine regulation.

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The **BOARD** met in London, UK, on 6 and 7 February 2023. The meeting was kindly hosted by Imperial Brands. The Secretary General reported on the budget and main projects, and the President and Vice-President of the Scientific Commission reported on the SGTFs most recent achievements and perspectives.

- **Budget:** the Q3 forecast remains broadly aligned with the initial budget. The next Financial Year's budget will be impacted by inflation. Membership fees have remained unchanged over the last five years and the Board decided to increase the fee by 10% next year.
- **IT:** the projects to upgrade the central database and to replace the Secretariat's computer server have been successfully completed. The migration of the CORESTA website to Drupal 9 is progressing according to plan.
- **Events:** a CORESTA workshop on harm reduction is being organised in April 2023, in France, in connection with a series of 17 SGTF meetings. The organisation of the 2023 Conferences in Cancun, Mexico, is progressing well.
- **Communication:** a slideshow will be presented to the April SGTF meeting participants in order to improve internal communication.
- **Strategy:** answers by the Scientific Commission to the Board requests were presented and discussed. Action plans were agreed, and a joint Board/SC meeting will be organised in June 2023.

Swedish Match kindly invited the Board and Scientific Commission to hold their next meetings in Stockholm.



CORESTA PROJECTS

The following projects were launched:

- **Projects 352 & 353: Internal CORESTA Administrative Projects**
CORESTA
- **Project 354: Neutral Red Uptake Assay, Inter-Laboratory Proficiency Study**
SG IVT - *In Vitro* Toxicity Testing - Approved December 2022
- **Project 355: 16th Collaborative Study (2021-2022) on Cigar Smoke Analysis**
SG CSM - Cigar Smoking Methods - Approved January 2023
- **Project 356: 17th Collaborative Study (2022-2023) on Cigar Smoke Analysis**
SG CSM - Cigar Smoking Methods - Approved January 2023
- **Project 357: 19th FAPAS CPA Analysis Proficiency Test - 2023**
SG AA - Agrochemicals Analysis - Approved January 2023
- **Project 358: CROM Virtual Symposium on Abuse Liability**
TF CROM - Consumer Reported Outcome Measures Consortium - Approved January 2023
- **Project 359: Report to CEN/TC 437 on CORESTA Activities Related to the EVAP Sub-Group**
CORESTA - Approved February 2023

CORESTA PROJECTS (continued)

- **Project 360: Review of Guide No. 5 on Pesticide Residues Analysis on Tobacco & Tobacco Products**
SG AA - Agrochemicals Analysis - Approved March 2023
- **Project 361: Presentation at EU Commodity Expert Group (CEG) - March 2023**
CORESTA - Approved March 2023
- **Project 362: Guide on Biomarkers of Exposure as Compliance Measures**
SG BMK - Biomarkers - Approved March 2023
- **Project 363: Clinically Relevant Biomarkers for COPD**
SG BMK - Biomarkers - Approved March 2023
- **Project 364: Revision Guide No. 17 Sustainability in Leaf Tobacco Production**
Scientific Commission - Approved March 2023

CORESTA RECOMMENDED METHODS

New

- **CRM No. 99** – Definitions and Standard Conditions: Aerosol Generation and Collection for Aerosol Heated Tobacco Products
(February 2023) [HTP-325-CRM-99]
- **CRM No. 100** – Definitions and Standard Conditions: Aerosol Generation and Collection for Carbon Heated Tobacco Products
(February 2023) [HTP-326-CRM-100]
- **CRM No. 101** – Definitions and Standard Conditions: Aerosol Generation and Collection for Electrically Heated Tobacco Products
(February 2023) [HTP-327-CRM-101]

The above three CRMs define the parameters and specify the standard conditions for the routine analytical generation and collection of aerosol from aHTPs, cHTPs and eHTPs; specify technical requirements for the routine analytical machine for aHTP, cHTP and eHTP generation and collection; does not specify aerosol trapping nor subsequent sample preparation and analytical methods for analyses of components in the trapped aerosol or the gas phase; and may also be used for products other than defined if a specific testing requirement references these methods.

The development of these CRMs is supported by the Technical Report *Proficiency Study for Propylene Glycol, Glycerin, Nicotine, CO, NO, NOx, ACM, and DML in HTP Aerosol* published in September 2022 [HTP-280-CTR].

- **CRM No. 102** – Determination of Tobacco-Specific Nitrosamines in E-Liquid by LC-MS/MS
(January 2023) [EVAP-304-2-CRM-102]

This CRM is applicable to the determination of tobacco-specific nitrosamines (TSNAs) in electronic cigarette liquids (e-liquids). The TSNAs determined with this method are N-nitrosornnicotine (NNN), 4-(N-methylnitrosoamino)-1-(3-pyridyl)-1-butanone (NNK), N-nitrosoanatabine (NAT), and N-nitrosoanabasine (NAB). The e-liquids used may be of any flavour, including extracted tobacco-derived flavours.

All CORESTA Recommended Methods can be downloaded in PDF format at www.coresta.org



CORESTA is very proud to have published its 100th Recommended Method since the association was created in 1956!

CORESTA REPORTS

The following reports have been published on the CORESTA website at www.coresta.org:

- **15th Collaborative Study (2022) on Physical Parameters of Cigarettes and Filter Rods**

Technical Report [PTM-335-CTR] – January 2023 (Sub-Group Physical Test Methods)

The CORESTA Physical Test Methods (PTM) Sub-Group carries out a normally annual inter-laboratory study on physical parameters of cigarettes and filter rods. This Collaborative Study monitors the repeatability and reproducibility of the test methods used and allows the participating laboratories to assess their performance when measuring certain physical parameters of cigarettes and filter rods, such as weight, diameter, pressure drop, draw resistance and ventilation. In addition to monitoring the performance of the test methods, the results from this study allow each laboratory to evaluate its proficiency in comparison to other laboratories, to derive actions for improvement and to fulfil accreditation requirements. This report covers the results of the 15th Collaborative Study on physical parameters conducted in 2022.

- **2022 Collaborative Study of CORESTA Monitor 9 (CM9) for the Determination of Test Piece Weight, TPM, Water, Nicotine, NFDPM, Carbon Monoxide and Puff Count Obtained under Mainstream ‘Non-Intense’ and ‘Intense’ Smoking Regimes**

Technical Report [SA-339-CTR] – February 2023 (Sub-Group Smoke Analysis)

The CORESTA Smoke Analysis (SA) Sub-Group is responsible for organizing the annual testing of the CORESTA Monitor test piece. The 2022 study was designed to measure mainstream non-intense (ISO 3308) and intense (ISO 20778) smoke yields of nicotine-free dry particulate matter (NFDPM or tar), nicotine, carbon monoxide (CO), and puff count; to determine intra- and inter-laboratory variability for the measured non-intense and intense smoke yields; and to verify the conditioned weight of CM9. The performance of the CM9 monitor in this testing was in line with its historical performance and continues to be a suitable smoke analysis monitor.

JOURNAL PUBLICATIONS

A Symposium on “Advancing New Alternative Methods for Tobacco Harm Reduction” was held on 19 October 2021 in conjunction with the online CORESTA SSPT2021 Conference.

The Symposium aimed to foster scientific engagement between CORESTA members (endorsed by the *In Vitro* Toxicity Testing Sub-Group, Biomarker Sub-Group, and 21st Century Toxicology for Next Generation Tobacco and Nicotine Products Task Force) and the external NAMs community, to facilitate together the utility of NAMs in support of evidence-based tobacco regulatory science.

Highlights of the Symposium were submitted for peer-review publication and published.

Advancing New Approach Methodologies (NAMs) for Tobacco Harm Reduction: Synopsis from the 2021 CORESTA SSPT—NAMs Symposium

Kyeonghee Monica Lee⁽¹⁾, Richard Corley⁽²⁾, Annie M. Jarabek⁽³⁾, Nicole Kleinstreuer⁽⁴⁾, Alicia Paini^{(5)†}, Andreas O. Stucki⁽⁶⁾, and Shannon Bell^{(7)*‡}

(1) Altria Client Services, 601 E Jackson St, Richmond, VA 23219, USA; (2) Greek Creek Toxicokinetics Consulting, LLC, Boise, ID 83714, USA; (3) Office of Research and Development, U.S. Environmental Protection Agency (EPA), Research Triangle Park, NC 27711, USA; (4) National Toxicology Program Interagency Center for Evaluation of Alternative Toxicological Methods (NICEATM), Research Triangle Park, NC 27711, USA; (5) European Commission Joint Research Center (EC JRC), 2749 Ispra, Italy; (6) PETA Science Consortium International e.V., 70499 Stuttgart, Germany; (7) Inotiv-RTP, Research Triangle Park, NC 27709, USA

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Toxics, 2022, 10(12) 760

<https://doi.org/10.3390/toxics10120760>

(Article belongs to the Special Issue “Computational Toxicology: Expanding Frontiers in Risk Assessment”)

TOBACCO SCIENCE JOURNAL

Tobacco Science was first published in 1957 and served for many years as the journal of choice for publication of scientific articles on the production of tobacco leaf and the manufacturing of tobacco products. Much of the foundational research on the production and processing of tobacco and their impact on leaf yield, chemistry, quality and usability has been published within the pages of *Tobacco Science*. From 1957 to 1990 research articles were initially published by Lockwood Trade Publications, Inc. in the back of the monthly industry magazine *Tobacco International* and then gathered into yearly volumes (volumes 1-34). Specialized Agricultural Publications published *Tobacco Science* in 1991 (vol. 35). SpecComm International published *Tobacco Science* from 1992 (vol. 36) to 1999 (vol. 43). Since then the *Tobacco Science* Council has worked with Allen Press Publishers and moved *Tobacco Science* to an open source online-only journal:

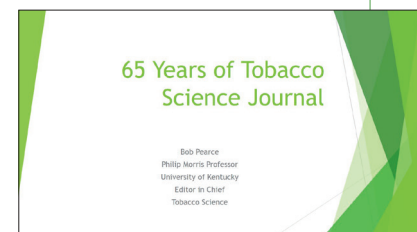
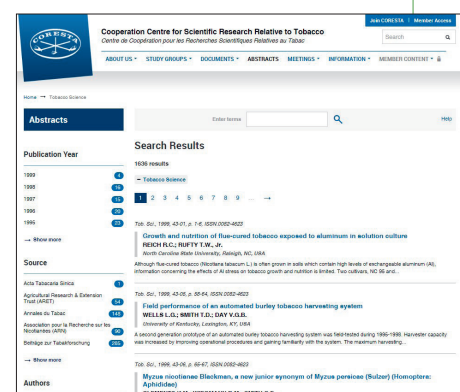
<https://meridian.allenpress.com/tobacco-science>

While the more recently published articles are widely available through the open-source journal, many of the past articles remained hidden away on dusty library shelves. Over the past few years, the *Tobacco Science* editorial team has worked with CORESTA to make the past articles widely available to the tobacco research community through the CORESTA website abstracts section. The full collection of abstracts and publications is now available at:

www.coresta.org/abstracts/search/?f%5B0%5D=im_field_source%3A12753

For a detailed perspective of this publication, you may view the presentation made by its editor, Bob Pearce (University of Kentucky), at the 2022 Tobacco Science Research Conference (TSRC), which “unveils this useful resource and demonstrates some of the search features with a trip through the pages of the *Tobacco Science Journal*”:

www.coresta.org/sites/default/files/abstracts/2022_TSRC07_Pearce.pdf



CORESTA COMMUNICATION AT EXTERNAL EVENTS

European Committee for Standardization (Comité Européen de Normalisation - CEN)

Presentation “CORESTA Report to CEN/TC437” by Stéphane Colard (CORESTA Secretary General) at the CEN/TC 437 meeting held online on 15 March 2023.

European Minor Uses Coordination Facility (EU MUCF) Commodity Expert Group (CEG) on Tobacco

Presentation on CORESTA made by Fabienne Lalonde (JT International GmbH, Germany), member of the CORESTA Scientific Commission, at an online meeting of the EU MUCF Tobacco CEG on 21 March 2023.

The above presentations are available in the **Information/CORESTA Communication** section of the CORESTA website



EUROPEAN COMMITTEE FOR STANDARDIZATION



MinorUses

Green Tobacco Sickness Task Force (GTS TF)

Tobacco plants typically produce notable levels of nicotine and green tobacco sickness (GTS) is a potential condition that is unique to tobacco production. There is limited scientific information on GTS to adequately address all types and styles of tobacco and for different tobacco production systems.

A few months ago, CORESTA decided to create a Task Force with the objectives to determine if GTS is a significant risk to workers based upon tobacco type and style, method of harvest and conditions at harvest and topping, and to assess the impact of personal protection equipment (PPE) on preventing green tobacco sickness. The TF requires multiple scientific disciplines to develop workstreams, sampling, data collection & analysis, risk assessment, etc., and expertise needed will include, but is not limited to, agronomic, toxicology, clinical trials, bio-markers, etc.

An introductory kick-off meeting was held online on 11 April 2023 to introduce this TF and the topic of GTS in more detail, to outline the key focal areas or workstreams needed for this TF, and to initiate potential team leaders. Further information on the TF will be communicated in due course.

In the meantime, should you wish to participate in the work of this group, please contact the CORESTA Secretariat who will put you in contact with the Coordinator, Lea Scott.

Biomarkers Sub-Group (BMK SG)

The BMK SG, under the leadership of Mohamadi Sarkar, set out to critically evaluate and align the Vision and Objectives with the current advances in tobacco product research. In the past the BMK SG focused on biomarkers of exposure (BoEs) and biomarkers of potential harm (BoPHs). However, the tobacco product landscape has rapidly evolved and there are a range of novel oral and inhalable tobacco products that are lower on the continuum of risk. Thus, in the absence of long-term epidemiological studies, well-designed clinical studies will be needed to establish the harm reduction potential of smoke-free products. While BoEs and BoPHs may provide some directional indication, more research is needed to expand the portfolio of biomarkers. The SG recognized the need to identify biomarkers that are closer to smoking-related disease endpoints and are clinically relevant. The objective of these efforts will be to establish guidelines and best practices for utilizing fit-for-purpose biomarkers in studies assessing novel smoke-free products. Accordingly, in 2022, the SG members decided to modify the vision and objectives as follows:

Vision: Identify and assess fit-for-purpose biomarkers for tobacco product research.

Objectives:

1. To develop a robust understanding of mechanistic pathways and clinical outcomes for smoking-related diseases to better identify fit-for-purpose biomarkers.
2. To review and summarise published literature on biomarkers that are fit-for-purpose in the assessment of potential reduced risk tobacco products (PRRPs).
3. To evaluate and recommend guidelines and best practice for utilising fit-for-purpose biomarkers in studies assessing PRRPs.

The BMK SG members met virtually on May 5, 2022, and held a hybrid meeting at the TSRC Conference on September 11, 2022. The SG members were active in completing several projects in 2022. Of note is the preprint **publication** of the BMK-186 and BMK-249 project findings on *Qeios.com* which garnered significant attention (receiving 2,417 views and 321 downloads).

In addition, a technical report (BMK-273) on “Definition of use behaviour and exposure terminology across product categories”, a collaborative project between the PUB and BMK SGs, was also completed. Importantly, the BMK SG members have played an important role in supporting CDISC (Clinical Data Interchange Standards Consortium) which received funding from the US FDA to develop tobacco data reporting standards. The BMK SG will continue to lead the effort within CORESTA and will expand to other disciplines and create collaborative opportunities across PUB, IVT and SA Sub-Groups.

The BMK SG members have also responded to the CORESTA Strategy Committee recommendation by the CORESTA Board to develop relevant workstreams to address the key strategic areas with 2-year and 5-year plans. Towards this effort the members have proposed new work item proposals to 1) Develop robust understanding of mechanistic pathways and identify clinically relevant biomarkers for COPD (2-year plan) and cardiovascular disease (5-year plan); 2) Identification of specific biomarkers of exposure fit-for-purpose as compliance measures in long-term ambulatory studies to discriminate various tobacco product use states; 3) Evaluation of ToxTracker[®] assay for applicability for tobacco related clinical research (BMK-NGTX-IVT Collaboration). The BMK SG will stay vigilant to identify emerging issues and develop new workstreams or modify/reprioritize proposed workstreams.



Mohamadi SARKAR
BMK SG Coordinator



Kirk NEWLAND
BMK SG Secretary

The screenshot shows a Qeios article page. The article title is "Population estimates of biomarkers of exposure to carbon monoxide, nicotine, and NNK in smokers and non-smokers". It has an Altmetric Score of 2 and an Article rating of 4 stars. The article was published on May 25, 2022. The authors listed are Falls, Ayala-Fierro, Thomas Verrozi, Pawel Litwiniak, Robert Fiedler, Kimberly Frost-Pleasid, Ashraf Elamin, Gaddamanugu Prasad, Mohamadi Sarkar. The abstract states: "Assessment of potentially reduced risk tobacco products (PRRPs) can be facilitated with availability of a single baseline population estimate for biomarkers of exposure (BOEs) for select constituents in cigarette smoke. The purpose of this analysis is to establish..."

Virtual CROM Symposium 2023

Abuse Liability

February 13, 2023 | 4:00 pm to 7:00 pm CET

The Consumer Reported Outcome Measures (CROM) consortium involves cooperation among tobacco industry, academic and regulatory agency stakeholders to identify, develop, and validate appropriate CROM to assess tobacco and nicotine-containing products in order to meet regulatory requirements and promote collaboration and scientifically rigorous communication between researchers within industry and academia. To support this strategic vision, the CROM Task Force organizes an annual symposium, with the goal of gathering a multidisciplinary group of scientists and researchers from industry, regulatory agencies and academia in order to encourage knowledge sharing and dialogue on topics relevant to tobacco regulatory science.

The CROM Task Force held a virtual Symposium on “Abuse Liability” on February 13th, 2023. The symposium focused on abuse liability assessment and addressed multiple pertinent topics including definitions of abuse liability, methods of assessing abuse liability, study design, and interpretation of data. Scientists from FDA Center for Tobacco Products and tobacco



Christelle CHREA
Philip Morris International



Lesley GILES
JT International



Nicholas GOLDENSON
JUUL Labs

product manufacturers presented expert insights into abuse liability of tobacco products in the first part of the symposium, while in the second part, presentations from regulatory consultants broadened the topic referencing other psychoactive substances. The symposium highlighted best practices in the assessment of abuse liability, unique considerations for harm reduction medicines and products, challenges and future directions from a variety of public health perspectives.

The event was organized by Dr Christelle Chrea, Manager Behavioural Sciences at Philip Morris International, Switzerland; Dr Lesley Giles, Clinical & Health Science Director at Japan Tobacco International lead the symposium, and the moderator was Dr Nicholas Goldenson, Principal Scientist at Juul Labs, Inc.

Abstracts, recordings of the presentations and associated slides and presenter bio sketches can be accessed on the CORESTA website:

<https://www.coresta.org/events/crom-virtual-symposium-february-2023-37210.html>



CROM SYMPOSIUM 2023 | February 13, 2023 | Online Event

Virtual CROM Symposium 2023

Abuse Liability

February 13, 2023 | 4:00 pm to 7:00 pm CET



Dr Lynn Hull
CTP US FDA



Dr Megan Schroeder
CTP US FDA



Dr Andrea Vansickel
Altria Client Services



Dr Sarah Baxter-Wright
RAI Services



Dr Dai Yuki
Japan Tobacco Inc.



Dr Ryan Lanier
Pinney Associates



Dr Rob O'Brien
Supra Research



Dr Martha Bajec
HCD Research

AGENDA

4:00 p.m. - 4:05 p.m.	Introduction to the Symposium	Christelle Chrea, PhD CROM Consortium Coordinator
Part I: Abuse Liability Assessment of New Tobacco Products		
4:05 p.m. - 4:35 p.m.	Tobacco Product Abuse Liability	Lynn Hull, PhD Megan Schroeder, PhD Office of Science, CTP US FDA
4:35 p.m. - 5:05 p.m.	Challenges and Considerations Related to Human Abuse Liability Testing for Tobacco Products: Opportunities to Establish Tobacco-Specific Methods, Measures, and Evaluation Criteria	Andrea Vansickel, PhD Altria Client Services LLC Sarah Baxter-Wright, PhD RAI Services Company
5:05 p.m. - 5:25 p.m.	Assessment of the Exposure to Selected Smoke Constituents in Adult Smokers Using In-market Heated Tobacco Products: A Randomized, Controlled Study	Dai Yuki, PhD Japan Tobacco Inc.
5:25 p.m. - 5:35 p.m.	Break	
Part II: Abuse Liability Assessment of Other Substances		
5:35 p.m. - 5:55 p.m.	Abuse Liability Assessment of CNS-active Drugs in Development: History and Overview	Ryan Lanier, PhD Pinney Associates
5:55 p.m. - 6:15 p.m.	The Development of Testing-Based Approaches to Screen for Hazardous Ingredients and Formulations Used in Heated Inhalation Devices with Particular Emphasis on Cannabis Products	Rob O'Brien, PhD Supra Research and Development
6:15 p.m. - 6:30 p.m.	Building a Consumer Technical Model for Cannabis Products – Insights & Considerations	Martha Bajec, PhD HCD Research
Q&A and Panel Discussion		
6:30 p.m. - 7:00 p.m.	All presenters Chaired by Lesley Giles, PhD , JT International, and moderated by Nicholas Goldenson, PhD , JUUL Labs	

INSIGHT FROM A MEMBER

LOOKING BACK TO FIND OUR WAY FORWARD ...



Matthew Vann

Some months back I opened my email to read a daily news brief from the Southeast Farm Press, which is an agricultural periodical that focuses on the regional variety of crops and livestock systems produced in the Southern United States. The article that caught my eye was a write-up that offered reflection of the author's time, some 30 years ago, working at a University research farm in South Georgia (the very research farm in Tifton that our dear friend and colleague Dr J. Michael Moore calls home). The author reminisced over their time as an undergraduate, and ultimately wished that he had taken time to capture the memories made with friends and supervisors. This particular topic hit rather close to home, as I often find myself reminiscing over days gone by and having the same thought. Yet, somehow time slips away and life seems to go on, in spite of our best intentions.

Much like the referenced author paused a moment to "just remember", I believe that is something we as CORESTA should take time to do as well. After all, we've come a long way since our founding in 1956. You see, our story begins much, much earlier than what our archives state. In fact, we inevitably trace our roots back an additional 464 years to 1492 when Christopher Columbus sailed to the New World and first observed the Natives "eating fire". There's no way Columbus could have envisioned it at the time, but in that singular moment a new industry was born. Flash forward slightly less than 300 years, and we now find a fledgling British Colony gaining independence and quite literally being saved by its ability to produce the Golden Weed. It's during this pivotal point in history that General George Washington (eventual President and Founding Father of the United States) is reported to have said to the Continental Congress, "If you can't send money, send tobacco...", thus highlighting the importance of the crop as both a consumable and alternative currency. In 1839, the first report of what would eventually become the flue-curing process was discovered in Caswell County, North Carolina. This was followed by the American Civil War, which ultimately found Union Soldiers camped outside of Durham, North Carolina developing a taste for bright leaf tobacco. This catapulted Washington Duke into the tobacco business, and the eventual creation of the American Tobacco Company. In 1913, Camels arrived in Winston-Salem and in the 1940s, Lucky Strikes went to war. The 1950s brought about change at Philip Morris, which rebranded a moderate performing cigarette to have a more rugged appeal to a wider audience. Marlboros were born and off they went to Flavor Country. In slightly more modern times demand for organic tobacco products, particularly cigarettes, has boomed on a global scale. And now, we continue to discuss heat not burn technology, nicotine pouches, and low nicotine products. The point of this condensed history lesson is that a short pause gives us a moment to remember advances within our industry, and a chance to think about where we are going. It has been a long, winding path to where we find ourselves today, but there's [arguably] nothing comparable in human history.

Ultimately, in all aspects of modern world history, tobacco has been present in some shape, form, taste, and smell. How do we as CORESTA work to ensure its place moving forward? That's a tricky question and one that's taboo to ask, quite frankly. Despite the controversy our crop tends to carry, it's still VERY important to hundreds of thousands of farmers around the world (not to mention you and me!). That number increases exponentially when one considers the hands that touch a tobacco leaf from the time it leaves a farm until it's consumed, in whatever form that may be. It is here that CORESTA stakes its claim. We as an organization have the ability to work in all areas of production, from the farm to the consumer...quite literally from seed to smoke. Moreover, it is our duty to ensure that every aspect of production is up to snuff (no pun intended!).

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INSIGHT FROM A MEMBER (continued)

LOOKING BACK TO FIND OUR WAY FORWARD ...

The real question brought about in this commentary isn't so much where do we go now, but how can one reflect on where we've been in order to chart a path forward? That's not an easy question to answer, but every step along the now 500 plus year journey has been marked by innovation. Sometimes it was accidental, other times it was by design. Where do we, as CORESTA, go from here? Unfortunately, I cannot answer that question by myself - as the answer must come from us as a larger group. What I can say is that our future is dependent upon one another. We must have folks from Agro-Phyto reach across the aisle and participate in Smoke-Techno oriented events, and vice versa. We must likewise hear the voices of academics and governmental researchers when important, unbiased decisions are necessary. That said, we must also see the vision of industry, as they are truly pushing the boundaries of product innovation and harm reduction - sometimes at a pace so rapid, it can be difficult to keep track of. Whether or not we realize it, or want to admit it, the members of CORESTA are all in the same boat and it's high time for us to start rowing in the same direction!

As we continue to find ways sing from the same hymnbook (to lean on an old Southern analogy), I'm excited to see so many new faces at the various CORESTA functions. The momentum we continue to find and the synergy that continues to build is very encouraging, so let us take time to remember our roots, honor the efforts of those that came before us, and advance the area of Tobacco Science in a way that we can ensure another 500 years of successful and sustainable tobacco production!

Authors Note:

If you enjoy history as much as I do, particularly that of our industry, the selected readings below may be right up your alley. Please feel free to share some of your favorites. My library shelves still have a spot or two for new tobacco books!

Suggested Readings (in no particular order):

- 🍷 Principles of Flue-Cured Tobacco Production - Dr. Bill Collins
- 🍷 Tobacco: A Century of Gold - Trish Mbanga
- 🍷 When Tobacco Was King: A History of Tobacco in Canada and the United States - Paul Allen
- 🍷 The Cigarette: A Political History - Sarah Milov
- 🍷 Tobacco: A Cultural History of How an Exotic Plant Seduced Civilization - Iain Gately
- 🍷 Mechanization and Labor Reduction: A History of U.S. Flue-Cured Tobacco Production, 1950 to 2008 - Dr. Larry Sykes (<https://meridian.allenpress.com/tobacco-science/article/doi/10.3381/sp1>)
- 🍷 A History of Burley Tobacco in East Tennessee & Western North Carolina - Billy Yeargin with Christopher Bickers
- 🍷 The Bluegrass and Beyond: How White Burley Tobacco Revolutionized Agriculture in Kentucky and Its Neighbors - Christopher Bickers and Billy Yeargin
- 🍷 Something Gold: Twenty Years of Farm Porch-Style Interviews about the Shade Tobacco Era in Gadsden County, Florida - Kay Davis Lay
- 🍷 Mules and Memories: A Photo Documentary of the Tobacco Farmer - Pamela Barefoot

Matthew C. Vann, PhD

(Associate Professor, NCSU, and newly elected member of the CORESTA Scientific Commission)

Spring 2023

The opinions expressed in this article are not necessarily reflective of the CORESTA, the tobacco industry, or North Carolina State University.

RESEARCHER SPOTLIGHT

An introduction to up-and-coming graduate students and industry personnel

ANDREA WEBB

Name:

Andrea Webb (formerly Keeney)

Current Employer and Position:

University of Kentucky, Graduate Research Assistant
(4th year PhD Candidate)

General Job Description:

As a 4th year PhD Candidate with completing three years of field research this past summer, my current role is writing my dissertation, preparing journal publications and preparing for my exit seminar and final exam.

Current Work Location:

My time is split between the University of Kentucky Research and Education Center located in Princeton, KY and the University of Kentucky's main campus in Lexington, KY. During the growing season, from around May to the end of August/first of September I spend my time in Princeton, KY then the rest of the year I spend my time in Lexington.

Place of Birth:

I was born in Somerset, KY, but grew up in Nancy, KY a small rural community in the southwestern part of Pulaski county.

What brought you into the tobacco industry?

I grew up on a beef cattle and burley tobacco farm in a rural area in Kentucky. Growing up I told my mom and dad that I would never work in these two labor intensive fields, as my family had done for generations before me. I moved away from the farm to pursue my bachelor's degree in the medical field at Western Kentucky University and I instantly missed the farm, I missed the cattle and oddly enough I missed working in the tobacco field with my family. I soon changed my major to Plant Science while I was at Western Kentucky University and found a desire to work in the agriculture industry, although I did not know exactly what I wanted to do. My junior year of college I was offered an internship working under Dr Andy Bailey at the University of Kentucky Research and Education Center in his dark tobacco program and from that moment on I knew I was in the right place. For me, the pride in growing tobacco was instilled in me at a young age, I just didn't realize it yet. Now I do understand the pride that tobacco farmers have in producing this crop, and in 2021 I married a burley tobacco farmer.

Where do you envision the collective industry in the next decade?

The next decade will bring the tobacco industry many new challenges. Even though these challenges come time and time again, the industry sees a way to move past those challenges. Though I foresee many challenges to the tobacco industry, I see the industry continuing into the next decade and thereafter.

How should we as CORESTA address the grand challenges we face?

The tobacco industry as a whole will be faced with many challenges, but we as members have to strive to do the best that we can to uphold this industry in order to see it into the next decade. In my opinion being open and fully transparent while also advocating for the tobacco industry will lead to great accomplishments when faced with challenges.





UPCOMING CORESTA MEETINGS (2023)

Please visit the CORESTA website for the most up-to-date information (www.coresta.org/meetings/upcoming).

Meeting	Date	Location
TF GTS – Green Tobacco Sickness	11 April 2023	Online
SG BMK - Biomarkers; SG CSM - Cigar Smoking Methods; SG EVAP - E-Vapour; SG PTM - Physical Test Methods; SG PUB - Product Use Behaviour; SG TTPA - Tobacco and Tobacco Products Analytes	19 April 2023	Antibes Juan-les-Pins, France
TF HTP - Heated Tobacco Products; SG IVT - In Vitro Toxicology Testing; SG IVT - <i>In Vitro</i> Toxicology Testing; TF NGTX - 21 st Century Toxicology for Next Generation Tobacco and Nicotine Products; SG SA - Smoke Analysis - TF CROM - Consumer Reported Outcome Measures	20 April 2023	Antibes Juan-les-Pins, France
TF LNTP - Collaborative Study of Low Nicotine Tobacco Agronomic Production Practices; SG RFT - Agrochemical Residue Field Trials; SG BIO - Efficacy of Biological and Eco-Friendly CPAs; SG IPM - Integrated Pest Management; SG TSNA - TSNA in Air-cured and Fire-cured Tobacco	20 April 2023	Antibes Juan-les-Pins, France
Workshop – Tobacco Harm Reduction (THR)	21 April 2023	Antibes Juan-les-Pins, France
INFESTATION CONTROL CONFERENCE (ICC / PSMST)	24-25 April 2023	Izmir, Turkey
SG PSMST - Pest and Sanitation Management in Stored Tobacco	26-27 April 2023	Izmir, Turkey
Agrochemical Advisory Committee (ACAC)	12 June 2023	Stockholm, Sweden
Reading Committee & Scientific Commission	12-14 June 2023	Stockholm, Sweden
Board	13-14 June 2023	Stockholm, Sweden
SMOKE SCIENCE and PRODUCT TECHNOLOGY (SSPT2023)	8-12 October 2023	Cancun, Mexico
AGRONOMY & LEAF INTEGRITY and PHYTOPATHOLOGY & GENETICS (AP2023)	15-19 October 2023	Cancun, Mexico

CORESTA Sub-Group and Task Force Meetings & Workshop on Tobacco Harm Reduction

As announced in Issue 64 of the CORESTA Newsletter, following the success of the 2022 in-person meetings held in conjunction with the Tobacco Science and Research Conference (TSRC), 17 CORESTA working groups are meeting in-person in Antibes Juan-les-Pins this month. These meetings will continue to revitalise and renew the working momentum of the groups after three years of more or less constant online meetings.

A Workshop on Tobacco Harm Reduction, opened to the official delegates of CORESTA Member Organisations, is also being held as part of this event. This initiative is part of the CORESTA Board's strategy regarding the shaping of CORESTA's future and developing its role in tobacco harm reduction.



Antipolis Convention Centre - Antibes

Acronyms / Abbreviations used in the Newsletter

AA Agrochemicals Analysis (CORESTA)	EVAP E-Vapour (CORESTA)	NGTX 21 st Century Toxicology for Next Generation Tobacco and Nicotine Products (CORESTA)
ACAC CORESTA Agrochemical Advisory Committee (CORESTA)	FAPAS Food Analysis Performance Assessment Scheme	NNK 4-(N-methylnitrosoamino)-1-(3-pyridyl)-1-butanone
ACM aerosol collected mass	FDA Food and Drug Administration (USA)	NNN N-nitrososnicotine
AP Agronomy & Leaf Integrity and Phytopathology & Genetics / Agro-Phyto	GmbH Gesellschaft mit beschränkter Haftung (Germany)	NO nitrogen oxide
BIO Efficacy of Biological and Eco-Friendly CPAs (CORESTA)	GMO Proficiency Testing for Detection of Transgenic Tobacco (CORESTA)	NOx oxides of nitrogen
BMK Biomarker	GTS Green Tobacco Sickness	PhD Doctor of Philosophy
BoE biomarkers of exposure	HTP Heated Tobacco Product	PPRPs Potential Reduced Risk Products
BoPH biomarkers of potential harm	ICC Infestation Control Conference	PSMST Pest and Sanitation Management in Stored Tobacco (CORESTA)
CDISC Clinical Data Interchange Standards Consortium	ID Idaho (USA)	PTM Physical Test Methods (CORESTA)
CEG Commodity Expert Group	IPM Integrated Pest Management (CORESTA)	PUB Product Use Behaviour (CORESTA)
CEN Comité Européen de Normalisation / European Committee for Standardization	ISO International Organization for Standardization	RFT Agrochemical Residue Field Trials (CORESTA)
CM CORESTA Monitor	IT Information Technology	SA Smoke Analysis (CORESTA)
CO carbon monoxide	IVT <i>In Vitro</i> Toxicity Testing (CORESTA)	SC Scientific Commission
COPD Chronic Obstructive Pulmonary Disease	JT Japan Tobacco	SG Sub-Group
CORESTA Cooperation Centre for Scientific Research Relative to Tobacco	KY Kentucky (USA)	SGTF Sub-Group and Task Force
CPA Crop Protection Agent	LC-MS/MS Liquid Chromatography-tandem Mass Spectrometry	SSPT Smoke Science and Product Technology / Smoke-Techno
CRM CORESTA Recommended Method	LLC Limited Liability Company	TC Technical Committee
CROM Consumer Reported Outcome Measures (CORESTA)	LNTP Collaborative Study of Low Nicotine Tobacco Agronomic Production Practices (CORESTA)	TF Task Force
CSM Cigar Smoking Methods (CORESTA)	MUCF Minor Uses Coordination Facility (EU)	THR Tobacco Harm Reduction
CTR CORESTA Technical Report	NAB N-nitrosoanabasine	TPM total particulate matter
DML device mass loss	NAM New Alternative (or Approach) Methods	TSNA Tobacco Specific Nitrosoamines
EPA Environmental Protection Agency (USA)	NAT N-nitrosoanatabine	TSRC Tobacco Science & Research Conference
ESG Environment, Social, Governance	NC North Carolina (USA)	TTPA Tobacco and Tobacco Products Analytes (CORESTA)
EU European Union	NCSU North Carolina State University	UK United Kingdom
e.V eingetragener Verein / registered association (Germany)	NFDPM nicotine-free dry particulate matter	USA United States of America
		VA Virginia (USA)

