



NEWSLETTER

Issue 67 – December 2023

2023 CORESTA Conferences on the Yucatán Peninsula

Eduardo Bera Nuñez (from Mother Murphy's Laboratories and also a CORESTA Board Member) was the host of the Smoke Science and Product Technology (Smoke-Techno/SSPT) 2023 Conference in Cancun, Mexico. He was assisted by Adriana Moreno de Bera and the CORESTA Secretariat team who in the immediate aftermath hosted the second event, the Agronomy & Leaf Integrity and Phytopathology & Genetics (Agro-Phyto/AP) 2023 Conference. This marathon two-week Conference streak began on Saturday 7 October with SSPT Sub-Group and Task Force meetings and ended with the AP Closing Dinner on Thursday 19 October.

It was indeed exceptional for the SSPT and AP Conferences to take place back-to-back in the same location but since the venue was itself exceptional they both proved to be truly remarkable experiences. The Grand Oasis Cancun resort offered a stunning backdrop for both events. When selecting this Mexican Caribbean venue for the conferences, CORESTA ran the risk that some sceptics may be led to question the commitment of participants to the content of the sessions - "the delegates will probably end up lying on the beach or lounging by the pool" some said ... these fears proved unfounded as was witnessed by the overflowing meeting rooms and visible enthusiasm of the attendees.

Both conference weeks were jam-packed events filled with scientific presentations, stimulating discussions, and valuable networking opportunities. They also featured panel discussions and debates where attendees had the opportunity to have meaningful exchanges about the challenges and opportunities in tobacco research. From symposiums on New Approach Methods (NAMs) and their applications in tobacco regulatory sciences or Consumer Reported Outcome Measures (CROMs) to workshops on sustainability, ESG and cigars, there was no shortage of engaging and thought-provoking sessions.

The mesmerizing seaside sunrise views encouraged attendees to also rise early and offered an inspiring start to the morning. The meeting rooms were full by 8:30 am. In-person meetings had been mostly absent from the CORESTA events calendar since 2019 and were now more than welcome. One could feel that after all the remote meetings, the participants longed for scientific encounters, free exchange of ideas, brainstorming together, good laughs and a sense of belonging.



Cancun • Mexico

CORESTA SSPT 2023



- Hosted by Mother Murphy's Laboratories
- Held at the Grand Oasis Cancun, Mexico
- 225 delegates (plus 18 attending SGTF meetings only), 11 accompanying persons
- 64 organisations from 18 countries
- 14 working sessions; 2 symposiums
- 11 SGTF meetings
- Presentations: 60 oral, 54 posters, 11 SGTF reports

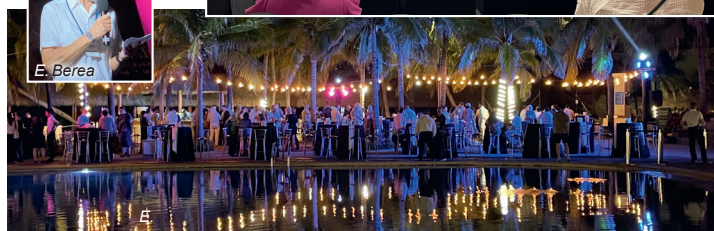
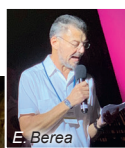
Abstracts, available presentations and full texts, published on the CORESTA website www.coresta.org

Smoke Science and Product Technology

8-12 October 2023

SUNDAY 8 OCTOBER

After a weekend of Sub-Group and Task Force meetings, the Smoke-Techno Welcome Reception on Sunday 8 October was the prelude to the start of the official Conference. It was held at El Zocalo, a charming open-air poolside venue. As the delegates arrived, they were greeted by lively Mexican music and encouraged to savour the delightful flavours of Mexican cuisine. In his welcome speech, Eduardo, warmly welcomed the participants to Mexico hoping that they would enjoy the SSPT2023 Conference, seize the opportunity to explore new horizons and take advantage of meaningful discussions to shape the future of CORESTA. Throughout the evening the square was animated with conversations and laughter. Participants connected with old friends, or formed new acquaintances. The spirit of collaboration and camaraderie was palpable, creating an inspiring and supportive start for the coming Conference days.



MONDAY 9 OCTOBER

The Conference was opened by Xavier Cahours, who, as the Vice-President of the Scientific Commission, looked back into CORESTA's history and summed up all the landmarks of the association from its very beginning, 1956, until today. He then introduced the invited speaker, Riccardo Polosa, from the Center of Excellence for the Acceleration of Harm Reduction (CoEHAR) & Department of Clinical and Experimental Medicine, University of Catania in Italy, whose participation at a CORESTA Conference was not a first, and who once again raised the standards high for the upcoming papers by making an impressive presentation on "Bolstering confidence in the reduced harm of combustion-free nicotine products: XXI Century approaches".

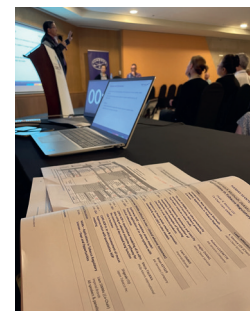
The two Intergroup Papers of the opening session were also closely linked to the tobacco harm reduction (THR) theme. Robert Stevens and Jason Flora provided an overview of the outcomes of the THR Workshop held in Antibes, France, earlier this year (to develop insights into how CORESTA can advance the science related to THR). They explained the progress to date, and the next steps. The Vice-President of the CORESTA Board, Anne Fisher, presented the second Intergroup Paper, in which she described the difficulties in meeting low nicotine levels in tobacco plants at the current stage of knowledge. These presentations set the tone for the week ahead and emphasized the importance of collaborative scientific efforts.



TUESDAY 10 OCTOBER

NAM Symposium

Tuesday morning kicked off with the New Approach Methods (NAM) Symposium - Applications in Tobacco Regulatory Sciences-II. Seven expert toxicologists were invited to share their case examples of applying *in vitro*- and *in silico*-based NAMs to address some of the immediate gaps in product screening and assessment. Chaired by Monica Lee, Associate Fellow in Regulatory Sciences at Altria Client Services, USA, and moderated by Liam Simms, Pre Stewardship Toxicology Evaluation Manager at Imperial Brands, UK, the presentations were followed by an animated panel discussion during which the participants - Robert Leverette and Brian Keyser from RAI Services Company, USA, Zhang Jingjie from Altria Client Services, USA, Marja Talikka from Philip Morris, Switzerland, and special guest Todd Cecil from the US FDA, answered specific questions from the floor thus contributing to a comprehensive and informative exchange of ideas.

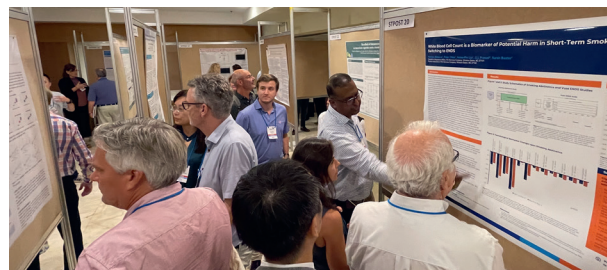




TUESDAY 10 OCTOBER *(continued)*

Posters

Tuesday afternoon was entirely dedicated to posters. Each poster stood as a visual statement to the dedication of its presenter, showing detailed graphs, charts and images that summarized months or even years of meticulous work and, as always, attracted a great number of participants. The poster room resonated with enthusiastic discussions as presenters eagerly explained their methodologies, results and the implications of their work.



Networking

Tuesday evening saw the poolside El Zocalo area again serve as the perfect backdrop for socializing during the appropriately named Networking Session. These CORESTA events are always appreciated, they not only help those who attend a Conference for the first time but also those who wish to expand their connections, opportunities and knowledge in a friendly and relaxed atmosphere.



WEDNESDAY 11 OCTOBER

On Wednesday morning the Conference continued with a session dedicated to Biological Assessment and after the coffee-break it was followed by another captivating session on Clinical Studies, this time examining biomarkers of exposure, of potential harm and respiratory symptoms in adult smokers or the analysis of smoke components in smokers' oral fluids.

CROM Symposium

Wednesday afternoon the delegates gathered for the Symposium on Consumer Reported Outcome Measures (CROM) whose focus was on "Essential Measurement Science for Self-Report in Tobacco and Nicotine Product Research". The participation of seven experts brought in a diverse range of insights and knowledge. A thorough overview of Psychometric CROMs was given by Stacey McCaffrey from Juul Labs, USA. Tobacco regulatory science was addressed by Alexander Persoskie, from the FDA Center for Tobacco Products, USA. Psychometric properties of CROMs were evaluated by Meghan Morean from the Yale School of Medicine, USA. In her presentation, Esther Afolalu from Philip Morris Products, Switzerland, explained how to assess the validity of CROMs when applied to heated tobacco products (HTPs). Ryan Black from Juul Labs, USA, pondered measurement dependence by proper psychometric analysis. And finally Saul Shiffman from Pinney Associates, USA, questioned the capacity of individuals with limited health numeracy to use quantitative scales to make ratings of risk perceptions. The presentations were followed by a Q&A session during which the panelists shared a diverse range of insights and more specific information on their field of expertise and interacted with the audience.



THURSDAY 12 OCTOBER

There were still many important topics to share on the last Conference day, such as Product Use Behaviour and HTP-Aerosol Assessment, which were covered during the morning sessions. The afternoon sessions saw presentations on topics related to Tobacco Processes and Cigarette & Filter Design. And all too soon, the intense scientific programme handed the stage over to the finale.

With the help of the Grand Oasis team, Eduardo had arranged an enchanting reception in the Oasis Arena Hall. With soft lighting and live Mexican music playing in the background, the delegates were able to unwind and connect with fellow attendees, creating lasting memories and valuable connections in a more relaxed setting.



Cancun • Mexico

CORESTA
AP 2023



- Hosted by CORESTA
- Held at the Grand Oasis Cancun, Mexico
- 127 delegates, 20 accompanying persons
- 56 organisations from 20 countries
- 18 working sessions; 3 workshops
- 9 SGTF/Cttee meetings
- Presentations: 69 oral, 21 posters, 13 SGTF reports

Abstracts, available presentations and full texts, published on the CORESTA website www.coresta.org

Agronomy & Leaf Integrity and Phytopathology & Genetics

15-19 October 2023

SUNDAY 15 OCTOBER

The weekend saw the AP working groups hold their meetings prior to the start of the official AP2023 Conference. These meetings were followed by the welcome reception, which had to be moved indoors due to rainy weather - but this did not dampen the lively atmosphere that filled the Oasis Arena. Arriving at the venue, delegates were greeted by a welcoming ambiance that reflected the spirit of the event.

Similarly to the SSPT delegates, the AP participants were happy to reconnect with each other and to discover new faces and environments. Stéphane Colard, Secretary General of CORESTA, expressed his heartfelt thanks to all the delegates for being present in such large numbers and, on behalf of CORESTA Secretariat who organised the Conference, he warmly welcomed all to Mexico.



MONDAY 16 OCTOBER

The Agro-Phyto Conference 2023 was opened by the President of the Scientific Commission, Dongmei Xu. She welcomed all the participants and expressed her gratitude to the SGTF Coordinators and Secretaries for their commitment and dedication to CORESTA's work. In her opening speech, she in particular outlined CORESTA's expanding scope. She then presented the invited speaker, Mr Alejandro Turrent from Casa Turrent Mexico, one of Mexico's largest cigar tobacco producers. In his talk Alejandro presented cigar production in Mexico and explained the art of cigar making with a video of the different processes.



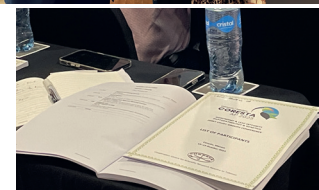
CORESTA Prize

During the opening session Marco Prat received the CORESTA Prize for his contributions to the work of CORESTA. Marco had not been able to attend the award ceremony in June 2022 in Paris, France, so the opportunity was taken to present him with the CORESTA Prize at the AP2023 Conference. He was rewarded for his long and diligent work within CORESTA and in particular for his efforts to reduce CPA residues in tobacco and cigar crops through his chairmanship of the Agrochemical Advisory Committee. One imagined that he had seen almost everything related to tobacco production during his career - but how can one possibly know what "the everything" really means? A philosophical reflection on this topic was the focus of Marco's Prize Award elocution.



Sustainability Workshop

Four speakers with different approaches to sustainability spoke during the Workshop on Sustainability. Environmentally centred research was presented by David Reed (Virginia Tech, USA), an informative overview of the use of climate appropriate tobacco varieties and green pesticides in Zimbabwe was given by Susan Dimbi (Tobacco Research Board - Kutsaga, Zimbabwe), insights from the Agrochemical Advisory Committee (ACAC) were shared by Lea Scott (Universal Leaf Tobacco, USA), and Ramsey Lewis (NCSU, USA) reported on the NGPC Task Force. Many questions from the floor were addressed to the speakers, some of which will spark new ideas for the future.



TUESDAY 17 OCTOBER

Breeding and genetics were the first topics covered in the Tuesday morning session. The large number of papers submitted had necessitated that concurrent sessions be organized for the rest of the day – these featured papers on biological processes, flavours and aromas, TSNAs and technology related research.

Posters

Two hours were reserved for the Poster session in the first part of the Tuesday afternoon. There was a large diversity of posters and the session attracted many of participants. In this dynamic environment, collaboration and knowledge sharing were at the forefront with participants offering constructive feedback to poster presenters. Topics covered ranged from plant nutrition, crop protection and pest and disease management, through to technology and genetics. Poster sessions have the advantage of giving presenters and participants a more direct forum for interaction and allows more personalized communication.



WEDNESDAY 18 OCTOBER

Wednesday had another intense working programme in store for participants, beginning with a session on pest and disease control, followed by sessions on CPA management and environmental, social, and governance (ESG).

ESG Workshop

The Wednesday afternoon concluded with a Workshop on Environmental, Social and Governance (ESG) featuring three speakers who provided diverse perspectives on the subject. An overview of an industry ESG initiative called the Sustainable Tobacco Program (STP) was outlined by Brittany Irving (Altria Client Services, USA). Cristina Quatke (JT International SA, Switzerland) explored different ways to enhance the livelihoods of tobacco growing communities to achieve and sustain a living income. A farmers' perspective on ESG and future opportunities was examined by 'Farmer' Steve Griffin (Tobacco Growers Association of North Carolina, USA). A thorough thought-provoking panel discussion followed the presentations that expressed the audience's varied viewpoints, highlighting the gap between theories and real life situations.



THURSDAY 19 OCTOBER

Cigars had already been evoked by the invited speaker during the opening session of the Conference, but cigars was also the main theme of the Thursday morning sessions, which opened with a session on cigar tobacco production. This was an introduction to the highlight of the morning, the Cigar Workshop.

Cigar Workshop

Four presentations were made during the Cigar Workshop: Rene Ramos (ITG Brands, USA) presented a paper on challenges of cigar tobacco production. Ben Green (Lancaster Leaf Tobacco Company, USA) explained cigar tobacco production by the Amish in Pennsylvania. Paul Varakas (European Cigar Manufacturers Association - ECMA, Belgium) spoke about international cigar tobacco leaf's critical role in the manufacture of EU cigar and cigarillo products, and explained how legislative measures in the EU increased the risk of supply disruption. Thomas Anspach (Eurofins Dr. Specht International GmbH, Germany) discussed the perspectives on cigar crop protection agent analysis based on a study using multi-residue methods. The resulting data may support local production teams and establish recommendations towards stewardship practices.



During the discussion diverse questions were asked covering environmental regulations and requirements for product quality and safety. It was accepted that cigar production was challenging and that the issues faced were very much country-specific, and dependent on factors such as government regulations, climatic conditions, and social and economic situations. One participant underlined the specificity of cigar production and thanked CORESTA for understanding the diversity of problems encountered and the work done to guide and enhance the development of recommendations for growers.

Similarly to the Welcome Reception, the Closing Dinner was initially planned as an outdoor event but climatic conditions decided otherwise and it had to be relocated at the last minute. Once again, the hotel staff proved their reactivity and managed to arrange the event indoors at short notice. Cheerful Mexican music accompanied the delegates during the meal, it was time to relax and enjoy the atmosphere before finally taking leave of each other.





Conclusion: Learning from each other

The presentations made during the two-week period, in both events, shed light on the evolving landscape of the tobacco industry, including new products, regulatory challenges, as well as social and environmental concerns. They also provided valuable insights and discussions on the latest research and findings related to low nicotine tobacco and tobacco harm reduction (THR) and once again highlighted the role of CORESTA as a platform for sharing knowledge and fostering collaboration across multiple disciplines.

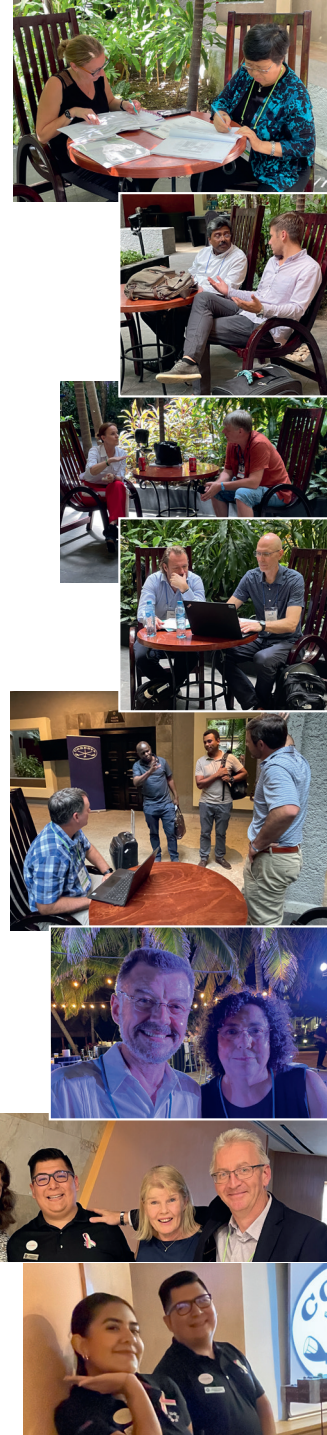
The social aspects of CORESTA events are vital for creating a dynamic and interactive environment that enhances networking, collaboration, and personal development opportunities for attendees. Building personal connections with colleagues from different parts of the world not only broadens one's global perspective but also enables a deeper understanding and appreciation of cultural diversity and associated challenges.

As we all know natural elements in the working environment create a positive impact on the overall engagement of participants and this proved to be the case for both SSPT and AP Conference attendees. At the 2023 Conference venue, you were greeted by lush tropical vegetation in warm inviting surroundings. During the lunch break, when you stepped out of the conference building, you found yourself surrounded by meticulously landscaped gardens, bursting with tropical plants and towering palm trees that provided shade and a sense of tranquillity. In multiple restaurants you were treated to delightful culinary experiences inspired by the flavours of Mexico. Colourful fruits, freshly caught seafood, tacos, fajitas or tortillas and of course all the spices were part of the menu every day. After a long conference day, a short walk from the venue led you to the beach that offered breathtaking panoramic view of the Caribbean sea whose crystal clear waters reflected shades of azure and emerald. All this helped forget the jetlag and stay perky, and the meeting rooms were kept fully-packed with attentive delegates.

The hosts of the Conferences, Eduardo Bera Nuñez and the CORESTA Secretariat team, sincerely hope that these eventful two weeks left attendees feeling inspired, informed, and motivated to continue making meaningful contributions to the advancement of CORESTA's mission.

Thank you Eduardo for having proposed this amazing location! Thank you Adriana for having taken care of the accompanying persons during the SSPT Conference! And thank you to the team from the Grand Oasis - Sebastian, Paulina and colleagues – for their professionalism, efficiency, reactivity, and their friendliness.

MUCHAS GRACIAS to all !



UPCOMING CORESTA MEETINGS / CONGRESS (2024)

Meeting	Date	Location
ACAC - Agrochemical Advisory Committee	14 January	Knoxville, TN, USA
Scientific Commission	18-19 January	Knoxville, TN, USA
Board	6-7 February	Tokyo, Japan
SG AA - Agrochemicals Analysis	end of July (TBA)	Thessaloniki, Greece
CORESTA CONGRESS (see last page)	13-17 October	Edinburgh, Scotland - UK

CORESTA SUB-GROUPS & TASK FORCES

SUB-GROUP & TASK FORCE COORDINATORS and SECRETARIES

NEW

- **SG IVT – In Vitro Toxicity Testing**
Coordinator: Liam Simms (Imperial Brands, United Kingdom) replaced Damian McHugh (Philip Morris Products SA, Switzerland)
Secretary: Yuki Kanemaru (JT International SA, Switzerland)
- **SG GMO – Proficiency Testing for Detection of Transgenic Tobacco**
Coordinator: Sitakanta Pattanaik (University of Kentucky, USA) replaced Colin Fisher (University of Kentucky, USA)
- **SG GTS – Green Tobacco Sickness**
Coordinator: Michele Di Giacomo (Philip Morris Products SA, Switzerland) replaced Lea Scott (Universal Leaf Tobacco Co., USA)
Secretary: Fabienne Lalande (JT International Germany GmbH, Germany)
- **SG BKS – Collaborative Study Black Shank**
Coordinator: Yuan Zeng (Virginia Tech, USA) replaced Wei Ding (Southwest University, China)
Secretary: Daisy Ahumada (North Carolina State University, USA)

PHYTOPATHOLOGY & LEAF INTEGRITY Study Group

Disbanded: Sub-Group Extended Diagnostic Expert System (XDES)

DISBANDED

Formed in 2013 to expand the work of the Diagnostic Expert System Translation (DEXT), the XDES Sub-Group completed its objectives in 2023. These were to collect international data on plant diseases, such as pictures, descriptions, diagnostic, available treatments, etc., and to format this information for upload to the e-Phytia[®] tobacco website and related portable applications.

In cooperation with the French National Research Institute for Agriculture, Food and Environment (INRAe), the Sub-Group has made available an extensive diagnostic tool in the form of a website, e-Phytia[®] tobacco, and a mobile application, Di@gnoPlant[®] Tobacco, in French, English and Portuguese. The Sub-Group was formally disbanded in November 2023.

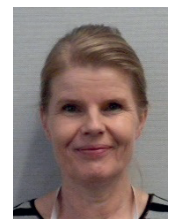
From DEXT Task Force to XDES Sub-Group (2011-2013-2023)

Thanks to the groups Diagnostic Expert System Translation (DEXT) and Extended Diagnostic Expert System (XDES), the Diagnoplant Tobacco website and Di@gnoPlant[®] Tobacco application are available in English and Portuguese. In 2011, the CORESTA Scientific Commission proposed a cooperation project with the French National Institute of Agronomic Research (INRA)* to translate their e-Phytia[®]tabac website from French into English. This was how the Di@gnoPlant[®] Tobacco website and application were born. Through these, the diagnostic and advice tools to recognise symptoms, signs or pests observed on diseased tobacco plants could be freely accessible to all English speaking tobacco growers. Since 2013, CORESTA members have regularly supplemented and improved Di@gnoPlant[®] Tobacco by sending relevant information or pictures on tobacco diseases and protection methods from their institutions or universities to the XDES Sub-Group, which had superseded the DEXT Task Force.

During the AP2017 Conference in Santa Cruz do Sul it emerged that the English version of the Di@gnoPlant[®] Tobacco application was challenging for the Brazilian farmers and therefore CORESTA decided to translate the website and the application into Portuguese.

The Coordinator of the XDES Sub-Group, Eeva Marignac, is sincerely grateful to all the individuals and institutions who participated in the translation work and thus allowed Brazilian tobacco stakeholders access to Di@gnoPlant[®] Tobacco.

The objectives of the XDES Sub-Group being completed, and with the retirement of the Sub-Group's Coordinator, the project was considered completed and subsequently disbanded in November 2023.



Eeva MARIIGNAC
XDES SG Coordinator

The multilingual mobile version of the Di@gnoPlant application is available from the [App Store](#) and [Google Play](#)



* since 2020 INRA is named INRAe (French National Research Institute for Agriculture, Food and Environment)

Agrochemicals Analysis (AA) Sub-Group

As the oldest CORESTA Sub-Group established in 1972, the Agrochemical Analysis Sub-Group (AA SG) is one of CORESTA's most active Sub-Groups with a core group of members that consistently demonstrate a high level of participation and collaboration. The main objective of this Sub-Group is to perform regular proficiency testing of Multi-Residue Methods for the analysis of agrochemical residues on tobacco. It is also focused on undertaking joint experiments among laboratories as well as producing and maintaining a series of technical notes and guides to aid method development and improvement.

The annual meeting in 2023 took place in Charleston, South Carolina, USA, from 24-26 October, immediately following CORESTA's AP Conference held in Cancun, Mexico. The meeting was generously hosted by Global Laboratory Services from Wilson, North Carolina, USA.

Among the items on the agenda for the first day were the review of the minutes of the 61st meeting held in 2022 in Dubai, UAE, review of FAPAS Proficiency Test Round 19 including timeline, participant laboratories, scope, protocol, test material preparations, homogeneity testing, study design, spiking and assigned value, as well as a z-score summary of this testing round. Furthermore, the analytes with low number of z-scores were separately discussed as well as the analytes with analytical challenges. In summary, the overall z-score trend was displayed thereby depicting laboratories' performance in testing CPAs (Crop Protection Agents) in tobacco samples throughout the years. A brief update from ACAC (Agro-Chemical Advisory Committee) as well as from the RFT SG (Agrochemical Residue Field Trials Sub-Group) was presented to the participants and it was especially relevant for those who had not attended the CORESTA AP Conference the preceding week. The day closed with open discussion points related to the work of the Sub-Group, including the update of CORESTA Guide No. 5, potential JETS (Joint Experiment Technical Study) related to the insecticide Pymetrozine, a review of the AA SG membership lists, and a provisional date and location for the meeting in 2024.

The second day of the meeting was marked by a dynamic session featuring seven presentations, each sparking engaging discussions. The diverse topics presented led to thought-provoking conversations that enriched our understanding and set the stage for future collaboration. The active participation and enthusiasm from all participants made it a day filled with insights and constructive exchanges.

The annual meeting was incredibly productive, with meaningful discussion and collaborative efforts that will undoubtedly contribute to our shared goals. Throughout the sessions, we addressed key topics, exchanged valuable insights, and established a roadmap for the upcoming year. The active engagement and thoughtful contributions played a crucial role in the success of the meeting.

As we look forward to implementing the action items and working together to achieve the objectives we have outlined, we thank the members for their dedication and commitment to our collective success. We are looking forward to building on this momentum in the year ahead.

For those that are interested in the work of this SG, or wish to participate in its annual meetings, feel free to contact Aleksandra Pochucha (aleksandra.pochucha@jti.com).



Aleksandra POCHUCHA
AA SG Coordinator



Heather WESTBERG
AA SG Secretary

2024 Proficiency Test Call for Participation

CORESTA's Agrochemicals Analysis Sub-Group coordinates the only industry supported tobacco Proficiency Test, which is organised by the FERA Science UK–FAPAS scheme.

Registration for the laboratory proficiency testing for pesticide residue analysis in tobacco is open. The deadline for registration is **9 February 2024**.

Should you wish to participate or receive further information, please contact Aleksandra Pochucha.

CORESTA GUIDES

Revision and Update

CORESTA Guide No. 16

Molecular Markers in Tobacco

(Second edition – November 2023) [APIC-387-CTG-16]

Conventional plant breeding usually identifies genetic variation by visual or chemical selection. The process of developing new crop varieties can take up to 25 years. However, with the advancements in molecular biology, the duration has been considerably shortened to 7-10 years. One of the important techniques that makes it efficient for scientists to select plant traits is Marker-Assisted Selection (MAS). In this guide, the most commonly used molecular techniques in tobacco have been surveyed, different types of molecular markers are explained in detail, and recommendations made.

All CORESTA Guides may be
downloaded in PDF format at
www.coresta.org

CORESTA REPORTS

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

- **Cigar Smoke Analysis - 16th Collaborative Study**

Technical Report [CSM-355-CTR] – September 2023 (Sub-Group Cigar Smoking Methods)

Since 2006, the CORESTA Cigar Smoking Methods Sub-Group conducts periodic collaborative studies in order to improve repeatability and reproducibility measurement methods of different cigar sizes and types. The purpose of the 16th Collaborative Study was to estimate the mean values, repeatability, and reproducibility for NFDPM (tar), nicotine, carbon monoxide and other measures for different sizes and types of cigar products and test pieces and to provide a tool for participating laboratories to prove competence in cigar smoke analysis. Most of the mean values were in good agreement with the 2020 result. The r&R results indicated large variability, but this is in line with the inherent variability seen with cigars. The z-scores indicated reasonable agreement among the laboratories, except for a few that exceeded $|z|>3$ and warrant investigation by the corresponding laboratory.

- **16th Round Robin Test for Multi-Capillary Pressure Drop Calibration Standards (2021-2023)**

Technical Report [PTM-271-CTR] – December 2023 (Sub-Group Physical Test Methods)

Regular round robin tests are organised for calibration laboratories to compare their capability to calibrate standards used in physical test instrumentation and to provide a baseline of pressure drop instrument performance across the industry, since this standard type is used in the pressure drop instrumentation of each supplier. Each laboratory is also able to use the result set in internal and external audit assessments. The results of this 16th round robin test, covering the period between January 2021 and October 2023, continue to conform to the historical performance of the method presented in ISO 6565:2015 and to the results of previous round robin tests.

- **1st Round Robin Test for Pressure Drop Calibration Standards with Low Pressure Drop (2021-2023)**

Technical Report [PTM-317-CTR] – December 2023 (Sub-Group Physical Test Methods)

In regular round robin tests carried out since 2011 pressure drop calibration standards with a nominal pressure drop range useful for measurements of combustible cigarettes and filter rods were circulated. However, new product categories may have substantially lower pressure drops. It was thus of interest whether pressure drop standards with a value below 200 mmWG could be manufactured and calibrated and which r&R can be expected in the calibration process. The results of this first round robin test, covering the period between September 2021 and January 2023, serve as an initial baseline for the precision to be expected when calibrating instruments for low pressure drops. Recommendations include the verification of the calculation model used to compensate deviations from standard conditions for its applicability to low pressure drops, and the regular circulation of the calibration standards in round robin tests.

- **3rd Collaborative Study on Air Permeability in Accordance with ISO 2965:2019**

Technical Report [PTM-369-CTR] – December 2023 (Sub-Group Physical Test Methods)

Air permeability is an important parameter of wrapping papers for tobacco products. The first Collaborative Study provided the r&R data for the 2×15 mm² measuring head (allowed by ISO 2965:2019), and the second study served to verify these results. Except for one laboratory, this third study showed that all the participating laboratories were able to reliably measure air permeability. This study allows the participating laboratories to monitor their performance in comparison to other laboratories, to derive actions for improvement of their internal processes and to fulfil accreditation requirements.

CORESTA RECOMMENDED METHODS

New

- **CRM No. 104** – Determination of Oxides of Nitrogen (NO_x) in Mainstream Cigarette Smoke by Chemiluminescence
(August 2023) [SA-295-2-CRM-104]

This Recommended Method is applicable to the determination of oxides of nitrogen (NO_x) in mainstream cigarette smoke by chemiluminescence. The described method is specified using ISO 3308 and ISO 20778 smoking parameters. The CRM is supported by the Technical Report *2021 Study for NO_x in Mainstream Cigarette Smoke*, published in June 2022.

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

CORESTA PROJECTS

- **Project 390: 10th Round Robin Test on Filter Ventilation Calibration Standards**
SG PTM - Physical Test Methods - Approved August 2023
- **Project 391: Study of the Long Term Variability of HPHCs in Commercial Cigars**
SG CSM - Cigar Smoking Methods - Approved November 2023
- **Project 392: Guide on the Selection of Appropriate Intense or Alternate Puffing Regimes for Heated Tobacco Products (HTPs)**
SG HTP - Heated Tobacco Products - Approved October 2023
- **Project 393: Heated Tobacco Products (HTPs): Standardized Terminology and Recommendations for the Generation and Collection of Emissions**
SG HTP - Heated Tobacco Products - Approved October 2023
- **Project 394: 2nd Round Robin Test on Low Pressure Drop Calibration Standards**
SG PTM - Physical Test Methods - Approved October 2023
- **Project 395: Internal CORESTA Project – Organisation of the 2023 Conferences**
CORESTA
- **Project 396: Agro-Phyto Webinar on Low Nicotine Tobacco**
AP - CORESTA Agro-Phyto Study Group – Approved November 2023

CORESTA STAFF

DOCUMENTALIST

Eeva MARIGNAC

As unbelievable as it may seem, Eeva Marignac will be retiring at the end of the year! Eeva is a well known figure within CORESTA – after working for the association for the past ... 38 years ... she has seen it evolve and certainly has a few stories to tell!

Eeva joined CORESTA in 1985 as part-time Assistant. She was responsible for the translation of abstracts from English into French. She continued to be involved in all aspects of the preparation and correction of CORESTA publications gradually shifting from manual record keeping to electronic document management.

Eeva was the sole member of the CORESTA Task Force DEXT and became Coordinator of the Sub-Group XDES that took over from the Task Force. At the same time, as the organisation of CORESTA events became a bigger part of the association’s activities, she also took on the responsibility for all the logistical planning.

Eeva has worked for four CORESTA Secretary Generals – Pierre Ledez, François Jacob, Pierre-Marie Guitton and currently, Stéphane Colard – and seen a number of colleagues come and go. First based at the CORESTA Offices within the SEITA complex at the famous Quai d’Orsay address by the Seine River, in 2000 she helped with the move to the current central address in the Paris Opera sector when CORESTA separated from SEITA and became an independent entity.

CORESTA members, and in particular members of the various Scientific Commissions, Boards, Sub-Groups and Task Forces, will have been in regular contact with Eeva, whether it be to gather the necessary information for the organisation of events, or the relentless follow-up of document revisions! Participants at CORESTA Conferences will be familiar with Eeva’s ever friendly and cheerful presence, always ready to assist and help out.

On behalf of all CORESTA members, we thank her for her enduring dedication to the association and we wish her all the very best for a long, happy and well deserved retirement and the fruitful accomplishment of her many personal projects, which we know will be keeping her very busy!



Isabelle THURIERE will be taking over a part of Eeva’s responsibilities. Isabelle has been with CORESTA since 2017 working part-time as Documentation Assistant and is familiar with the workings of the association.

Isabelle has a Master’s degree in Applied Languages and a professional degree in Information and Knowledge Management.

Isabelle looks forward to taking on the challenges of her new role within CORESTA and working in closer contact with the CORESTA executives and members.



Agro-Phyto Webinar
Low Nicotine Tobacco - Current Insight & Perspectives
for the Agricultural Production of Raw Materials
 5 December 2023 | 2:00 pm to 3:30 pm CET

The Agronomy & Leaf Integrity and Phytopathology & Genetics Study Groups were proud to host their first online webinar on the topic of low nicotine tobacco on 5 December 2023.

Low nicotine tobacco (<0.5 mg/g) and proposed standards from regulatory entities remain a key challenge within the industry. The potential transition from traditional production to low nicotine production systems would impact all stages of crop growth and management. For example, the current suite of commercially available varieties are unlikely to meet the proposed nicotine limit; therefore, new varieties will be required by interested producers. Moreover, crop management practices have traditionally been developed to secure acceptable yield and alkaloid balance for a diverse range of tobacco-based products. Therefore, alternative agricultural practices will have to be developed for low nicotine tobaccos.

The webinar sought to highlight the current understanding of low nicotine production capabilities as well as the successes and failures of applied research in the areas of genetics and agronomy.

First to speak was Ramsey Lewis, University Faculty Scholar and Distinguished Professor of Plant Breeding at the North Carolina State University, USA, who investigated the opportunities



Matthew VANN
NCSU



J. Stewart LIVESAY
Universal Leaf Tob. Co.



Ramsey LEWIS
NCSU



Anna MALPICA
Bergerac Seed & Breeding



David REED
Virginia Tech

to use modified plant genetic to reduce tobacco nicotine levels.

Anna Malpica, Breeding and R&D Manager at Bergerac Seed & Breeding, France, discussed what was involved in the breeding of low nicotine tobacco varieties and the impact on plant defence.

T. David Reed, Tobacco Extension Agronomist at Virginia Tech, USA, presented on the agronomic practices for low nicotine tobacco production.

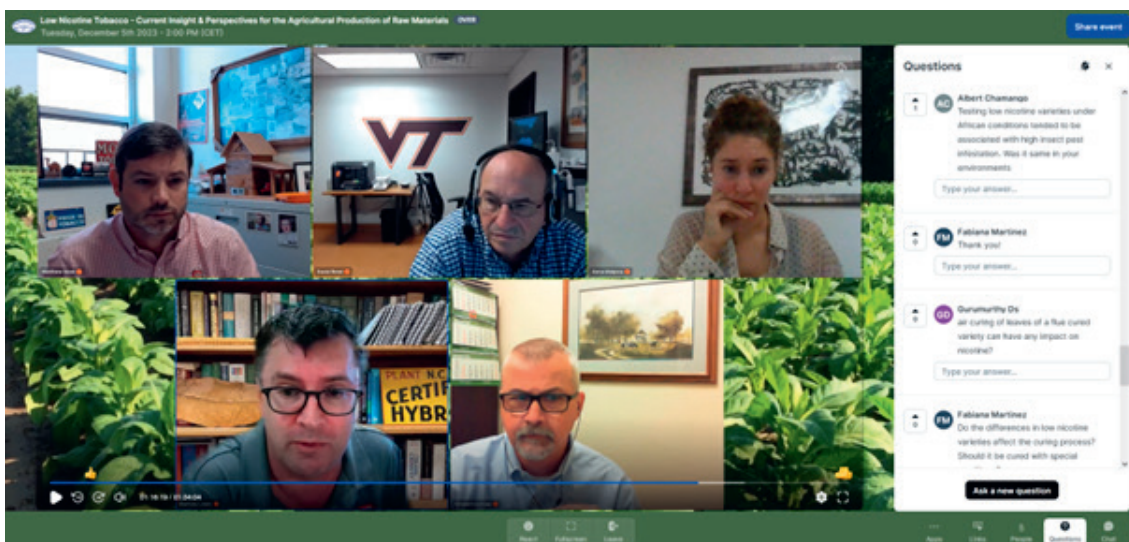
The presentations were followed by a lively question and answer session that triggered much discussion.

Out of over 240 registrations, more than 170 participants “attended” the event, several of whom are not CORESTA members but who have a vested interest in the topic.

The event was introduced and chaired by Matthew Vann, Associate Professor / Tobacco Extension Specialist at the North Carolina State University, and moderated by J. Stewart Livesay, Director of Agronomy Services at Universal Leaf Tobacco Co.

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

<https://www.coresta.org/events/agro-phyto-webinar-low-nicotine-tobacco-current-insight-perspectives-agricultural-production>



CORESTA COMMUNICATION AT EXTERNAL EVENTS

Tobacco Science and Research Conference (TSRC 2023)

Two CORESTA presentations were made at the Tobacco Science Research Conference (TSRC) held in Norfolk, VA, USA, from 24-27 September 2023.

- Presentation "CORESTA tobacco harm reduction workshop overview" by Jason Flora (Altria Client Services, USA) and Rob Stevens (RAI Services Company, USA), CORESTA Board Members.
- Poster presentation "CORESTA strategy, cooperation and achievements" by Johan Lindholm (Swedish Match, Sweden) and Rob Stevens (RAI Services Company, USA), CORESTA Board Members.

All TSRC abstracts and presentations are also accessible via the Abstracts section of the CORESTA website



RESEARCHER SPOTLIGHT

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

DAISY H. AHUMADA

Name:

Daisy H. Ahumada

Current Employer and Position:

North Carolina State University
Assistant Professor and Extension Pathologist for Tobacco, Corn, and Cotton

General Job Description:

Research and outreach in disease management of tobacco and other field crops

Current Work Location:

Raleigh, North Carolina, USA

Place of Birth:

Phoenix, Arizona, USA

What brought you into the tobacco industry?

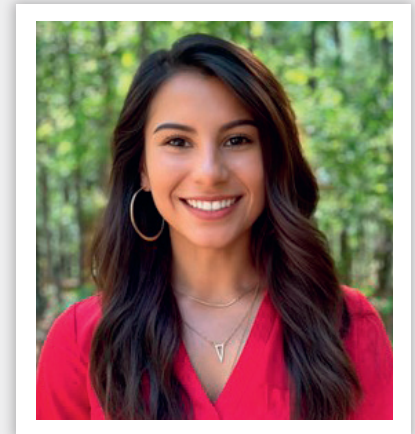
Growing up in an agricultural town showed me how important agricultural industries were for the livelihood of entire communities. I have always had an interest in contributing to the success and sustainability of agriculture in my community. With North Carolina as my home now, the goal of my work in plant pathology is to support the disease management needs of major agricultural industries in the state, including tobacco.

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

The industry will undergo significant transformations driven by the aging producer population, the shifting demands of consumers, and climate change. I expect increased cross-platform collaborations and accelerated technology adoption.

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

Valuing past experience, we should encourage innovative ideas and sustainable change in this ever-evolving industry. Harboring collaborations that attract and retain producers, implementing mentorship programs that can bridge skill gaps and optimizing processes with new technologies can address some of the challenges we face.





Matthew Vann

INSIGHT FROM A MEMBER

TO "P" OR NOT TO "P", THAT IS THE QUESTION

Sustainability initiatives have every sector of modern society bound in their clutches, and for good reason, as we *Homo sapiens* have done a rather poor job looking out for Mother Nature and our fellow man. I have but a small role to play in this game of life and within the global tobacco industry as a whole, but specific to my job as an agronomist, I carry the constant thought of "what can I do to help sustain tobacco farmers?". This is a rather complex question, because one must balance the need for sustainable production practices with the need for sustainable economic models. It can sometimes be difficult to merge these two areas, and in times like these, I am reminded of a comment I heard some years back. What I heard went something like this, "Sustainability is great, but that word is spelled with two letter S's and one of those has to be a dollar sign! (Su\$tainability)". Obviously, that was shared with a bit of humor, but it rings true nonetheless.

Here we are as an industry, at the end of 2023, that faces many challenges. One of those is identifying the crossroads of environmental stewardship and economic sustainability. One very specific area that I continue to think about in my research and extension program relates to phosphorus (P) fertilizer application. First and foremost, we are rather fortunate that our dear tobacco plant is not a massive consumer of P derived nutrients. For example, agronomic studies inform us that the flue-cured tobacco plant does not require more than about 18 kg P₂O₅ per hectare to realize maximum leaf yield and quality (3,300-3,400 kg/ha). This is about one-third to one-half the amount of P₂O₅ required to realize decent corn (maize) and soybean yields in North Carolina, respectively.

The second, and likely most interesting point, is that in North Carolina we have documented similar growth responses when comparing as little as five or six kg P₂O₅/ha applied in transplant water solutions to 20 - 25 kg P₂O₅ applied sidedress after transplanting. This has proved advantageous to farmers for three key reasons. One, the simultaneous act of transplanting tobacco seedlings and applying P fertilizer eliminates a task that needs to be performed after transplanting. So, operating efficiencies are improved to some degree in this scenario. Two, P application in transplant water has afforded farmers the opportunity to decouple traditional NPK fertilizer products, thus it offers the ability to use alternative fertilizer programs. This has created access to fertilizer products not historically considered by tobacco farmers. Three, in many cases, there is often a significant cost savings with the marriage of reduced P application and the use of alternative fertilizer programs. Across a wide range of fertilizer programs, we often document a 15 to 25 % cost savings in this scenario, depending upon which inputs are used. This has created a win-win scenario, as it is agronomically, economically, and environmentally sound. Put another way, it just makes cents (or sense, you be the judge)!

I readily admit that grower adoption of changes as dramatic as this one are oftentimes slow. Recent survey data from our County Extension Agents in tobacco growing areas around North Carolina informs us that about 20% of our local grower base utilizes the transplant water application to supply all of their P needs for tobacco. While that's nowhere close to 100 %, it's still a small victory - and we take those when we can get them! For example, traditional NPK fertilizers that have been formulated for tobacco production will often provide about 45 kg P₂O₅ per hectare, on average. A reduced rate of 6 kg P₂O₅/ha creates a difference of 39 kg. If we extrapolate this figure to reflect the total production area in North Carolina alone (48,500 ha) and account for the 20 % adoption rate (9,700 ha), we have eliminated 378,300 kg of P₂O₅ from potentially moving off-site and into the bodies of water our state has been blessed with. A small victory, but a victory nonetheless.

next page →

INSIGHT FROM A MEMBER (continued)

TO "P" OR NOT TO "P", THAT IS THE QUESTION (continued)

Certainly, this isn't the full story. The only reason our reduced P input programs work is because our soils have large residual pools of plant available P for crop utilization. To be specific, soil testing information from the North Carolina Department of Agriculture and Consumer Services - Agronomic Division tells us that roughly 85 % of the tobacco growing soils in the state do NOT require supplemental P for tobacco production. This means that 85 % of our tobacco growing area doesn't need P for maximum leaf yield, which is a rather incredible fact. Here, our story comes full circle because those residual pools have been built over decades of crop production and decades of excessive P application (a ton of 3-9-9 or 4-8-12 per acre tends to do that...). This has been both a curse and a blessing, as one might imagine. In reality, our fertility system may not be appropriate for all areas of production, not in North Carolina and certainly not in all origins in which flue-cured and other tobacco types are produced. However, it remains true that in origins with soil texture, chemistry, and pH that are similar to those described, the same approach can be considered. That sounds like a very interesting research project with the potential for global impact!

Moving forward, how should agronomists and leaf technicians work to ensure that P fertility needs are sufficiently addressed? The answer lies with routine soil sampling. A good soil sampling protocol will provide foundational information about soil pH and the concentration of a range of nutrients (including P). Moreover, repeated soil sampling over an extended period of time will provide information about changes in soil nutrient composition, and hopefully help push the needle a bit in this area of sustainability.

Finally, in a much broader context, the conversation about sustainability is one that needs to continue within our industry. CORESTA leadership and members brought forward specific topics and initiatives during the 2023 AP Conference in Cancun. We hope these conversations stimulated thoughtful dialogue, which planted good seeds that lead to a bountiful harvest in the short and long-term. To further build on this topic, members of the Agro-Phyto Study Group are currently working to update CORESTA Guide No. 17 - Sustainability in Leaf Tobacco Production. The updated document will be ready for publication by early 2024. We hope Guide No. 17 will serve as a useful reference to the entire industry and that it becomes a starting point for other exercises. Sustainability is a long game, but the journey of a thousand miles (km) begins with a single step. Let's start walking together.

Authors Note:

If you'd like to learn more about nutrient management, soil fertility, and soil sampling, below are a few practical bulletins that you might enjoy.

Suggested Readings (in no particular order):

- 🍃 Nutrient Removal by Crops in North Carolina
(<https://content.ces.ncsu.edu/nutrient-removal-by-crops-in-north-carolina>)
- 🍃 Fertilization of Tobacco - North Carolina Department of Agriculture and Consumer Services
(<https://www.ncagr.gov/note-1-tobacco/download?attachment?attachment>)
- 🍃 Overview of Agricultural Lime
(<https://www.ncagr.gov/soil-fertility-note-18-lime/download?attachment?attachment>)
- 🍃 Soil Acidity and Liming for Agricultural Soils
(<https://content.ces.ncsu.edu/soil-acidity-and-liming-for-agricultural-soils>)

Matthew C. Vann, PhD

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

Fall 2023

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

OBITUARY – DAVIS MARTIN



Dr Davis Martin passed away in August 2023 after an illness bravely borne.

Davis had a long career in the agrochemical industry where he served as technical support and development. He worked many years for FMC Corporation and then F.W. Rickard Seeds (a brand of Profigen, Brazil, owned by Altria Client Services) where he was involved in tobacco varieties market development and sales management with responsibility for China, sub-Saharan Africa and the southeast USA.

Until his retirement in 2014, Davis was very active in CORESTA. He regularly attended CORESTA Conferences and Congresses and was respectively a member then secretary of the Agronomy Study Group within the Scientific Commission from 2008-2014. He also participated in several CORESTA Sub-Groups and Task Forces, including Integrated Pest Management, TSNA, Curing Technology, Agrochemical Residue Field Trials and Nematology. He was also awarded a CORESTA bronze medal in 2012.

Davis spent most of his retirement years tending to his family farm near Halifax, Virginia, USA, and doing contract field research on topics that interested him. He was a wealth of information, delivered with his south-side Virginia accent and his always present cowboy boots. He enjoyed traveling the world, meeting people, and was always happy to talk about agriculture.

Davis's tremendous experience and contagious joviality will be sadly missed by CORESTA colleagues who had the opportunity to work with him. CORESTA thanks him for his contribution to the association and sends his family its most sincere condolences.

OBITUARY – DAVID E. TOWNSEND



Dr David Townsend passed away in August 2023 after a long illness.

David obtained a PhD in physical organic chemistry and subsequently worked for R.J. Reynolds for 27 years rising through the ranks to become Executive Vice-President of Research and Development. He retired in 2004.

David's CORESTA career began in 1983 when he attended his first CORESTA Conference. In 1990 he was elected to the Scientific Commission where he was Secretary, Vice-President and President of the Technology Group, and then Vice-President of the Commission. He was the convenor of the Task Force on Cigarette Ignition Propensity, and gave several presentations to the Board and at the Study Group meetings as a special guest. He was awarded a CORESTA bronze medal in 1996 and a silver medal in 2000.

David enjoyed travelling and had many opportunities to do so both for business and leisure. He also enjoyed spending time on his boat on Lake Norman in North Carolina. Passionate about helping those in need, he was actively involved in the resettlement of many Cambodian refugees.

CORESTA remembers with gratitude David's contribution to the development and work of the association and, together with his former CORESTA colleagues, sends its sincere condolences to his loved ones.

CORESTA CONGRESS 2024



The **2024 CORESTA Congress** will be held in Edinburgh, Scotland, from **13-17 October** at the Edinburgh International Convention Centre, and will be hosted by British American Tobacco.

Some CORESTA members may remember when CORESTA previously met in Edinburgh for the 2010 Congress – an amazing experience it was then, and a fantastic experience it will be again! Edinburgh is the capital city of Scotland, which is part of the United Kingdom, and is situated to the north east of the island, on the south side of the Firth of Forth (always a challenge to pronounce!).

Images of castles, cobbled streets, medieval architecture, bagpipes, haggis and whiskey spring to mind when Scotland is evoked. Edinburgh has a rich history filled with royal intrigues, enduring authors, renowned statesmen, and at the same time has looked to the future to become a vibrant modern city whose economy is based on tourism, financial services, higher education and, very aptly, scientific research.

You are invited to “save the date” and keep an eye on the CORESTA website for additional information in the new year.



*Season's Greetings from the CORESTA Staff!
Best wishes for a Merry Christmas, a Happy Holiday Season,
and a Peaceful and Blessed New Year 2024.*

