



NEWSLETTER

Issue 64 – December 2022



*“Everything happens in threes” ...
CORESTA holds its main annual event
online for the third time!*





Stéphane COLARD

A word from the CORESTA Secretary General, Dr Stéphane Colard

Back in 2020 we never for one moment expected the last three years to turn out as they did. In December 2021, due to past experience and wary of the future, the in-person CORESTA Congress planned for Washington DC, USA, was cancelled and the event transferred online. For the third time, CORESTA rose to the challenge of organising a virtual gathering.

On behalf of CORESTA, I would sincerely like to thank all the contributors – presenters, audience, chairpersons and moderators – for their unwavering support of the association and their professionalism in making the 2022 Congress the success that it turned out to be. I would also like to thank all the CORESTA member organisations for their commitment to the association’s mission to being a centre for scientific cooperation based on robust science and research excellence.

The technological advances and the experience we have all unexpectedly gained over the last three years will serve us well for the future as we look forward to returning to in-person meetings in 2023 with strong backup from virtual meetings.

SCIENTIFIC PROGRAMME

AGRO-PHYTO

The Agronomy and Leaf Integrity & Phytopathology and Genetics Study Groups had their programme organised into 10 sessions held over seven days with a total of 56 papers presented.

Papers on tobacco production always easily fill a session. The impact of nutrition, soil and management on tobacco crops is subject to continuous research in order to improve yield and optimise resources. This first session of the Congress featured talks on hybrid seed production, greenhouse tobacco transplant production, fertiliser recommendations, soil bacterial community structures and machine learning to assist in the curing process.

Sucker control is critical to obtain higher yields from a tobacco crop, yet its management remains challenging. Papers in this session chose to focus on adapting field conditions to improve tobacco standability and evaluating spray technology and techniques in order to more efficiently apply suckercides. Breeding for more suckerless tobacco varieties and adapting harvesting times were also considered.

Advances in technology play an important role in assisting tobacco crop management and a session was devoted to the application of technology in genetics and physiology. An interesting presentation was made on the use of DNA barcoding to identify tobacco so as to limit disputes. Other relevant presentations focused on the use of a special spectrometer to identify leaf infection, and on the use of protoplast technology to confer resistance to viruses affecting tobacco crops, such as the tobacco mosaic virus.

Breeding and biotechnology have an impact on the genetics of tobacco. Talks in the fourth session of the programme featured breeding for high nicotine varieties for the purposes of ‘next generation products’, the use of exotic tobacco germplasm to confront an inverse genetic correlation in flue-cured tobacco, and studies on the genetic mechanisms underlying cold stress and drought stress, and also resistance to black shank and powdery mildew diseases.

Other ways to manage pests and disease were covered in a session dedicated to this important topic. Tobacco problems involving slugs, angular leaf spot, black shank, broomrape, leaf curl virus and its vector, the whitefly, were addressed. Also covered was the management of habitat to enhance arthropod services and a study on the molecular mechanism of maize pollen infecting tobacco.

To further address the issue of pests and diseases, and also sucker control, a full session was devoted to crop protection agents (CPAs) in tobacco production but from an efficiency, residue and analysis angle. Compounds such as maleic hydrazide, 2,4-D and dicamba, cyantraniliprole, flutriafol, flutriafol + azoxystrobin, and S-metolachlor studies were reported. The promotion of sustainable farming practices with real time, up-to-date regulatory information on CPAs and the evaluation of fungicide programmes on cigar leaf production were also presented.



A number of papers, specifically from China, had investigated the effect of microbial populations on cured tobacco leaves. This intriguing topic covered the diversity of bacteria on tobacco leaves during aging and their aroma-enhancing effects, the effect of the fermentation medium on cigar filler and the changes of bacterial community structures and their correlation with amino acids during cigar processing.

Work on studying leaf constituents continues with focus still on tobacco specific nitrosamines (TSNAs). An overview was provided on TSNA reduction, along with a talk on the influence of harvesting methods on nitrate content and TSNA formation. Tobacco chemistry was also covered with a targeted metabolomics analysis of tobacco from different areas and the association with its sensory characteristics, and a study that showed the importance of environment effects on the physical characteristics of the tobacco plant.

Sustainability is a key subject these days and a common discussion point worldwide. Tobacco is no exception and an intense session consisting of eight papers had researchers describing studies on enhancing sustainability through integrated programmes and production practices. One company explained its development of ESG programmes to help foster social, environmental, and governance initiatives in its global tobacco supply chain. The evaluation of the use of bio-control CPAs on tobacco was covered, along with the biological control of bacterial wilt and root-knot nematodes and the effect of liquid smoke from tobacco waste on tobacco diseases. Papers on the determination of carbon sequestration in tobacco plants and the efficiency of sawdust briquettes as an alternative source of energy for tobacco curing were also presented.

The last session of the Agro-Phyto programme focused on low nicotine tobacco, a topic that has come to the fore as a result of the possibility of nicotine content being regulated by governmental authorities. The development of ultra-low nicotine tobacco varieties that retain acceptable agronomic and quality properties is a challenge. Reports were made on studies focusing on ultra-low nicotine Burley tobacco CRISPR lines, ultra-low nicotine tobaccos created by combining knockout mutations in alkaloid biosynthetic pathways, and the modification of cultural practices to reduce nicotine accumulation in leaves.

All the presentations were complemented by the possibility for the audience to type their questions and have immediate answers from the presenters either orally or via chat reply. The last session on low nicotine continued with an impromptu “Workshop” with the speakers forming a discussion panel facilitated by the session chair and moderator.

SMOKE-TECHNO

The Smoke Science and Product Technology Study Groups programme was organised into 16 sessions held over eight days with a total of 86 presentations.

Currently, much research work is focused on behavioural sciences and quite aptly, the first session covered how nicotine products are perceived and used. Papers on puffing topography were presented, along with surveys and studies on the attitudes and motivations related to the use of cigarettes, e-cigarettes, heated tobacco products and nicotine pouches and their related risk perception.

Biomarkers are important indicators of the effects of product use. The session on biomarkers presented studies on method improvement for the analysis of biomarkers using MHC-LC-MS/MS and GC-MS/MS and the dynamics of nicotine status, and urinary and blood biomarkers in smokers who switched to electronic nicotine delivery systems (ENDS).

E-vapour products continue to be a major research area. Several sessions covered multiple topics on the subject including product design and chemistry, product assessment, analytical methods, toxicological assessments and e-vapour and e-liquid modelling. Under product design and efficiency, the transfer efficiency of flavour compounds, the capacity of aroma delivery by atomisation agents, the retention of flavour compounds in pods, ketene generation and selected analyte yield were discussed. Product assessment featured talks on chemical analyses, toxicological evaluations and stability studies to assess the health risk and safety of e-vapour products. A specific section was devoted to toxicological assessment of ENDS in comparison to tobacco cigarette smoke inhalation by the use of *in vitro* tests - one paper specifically focused on a literature review of potential acute and chronic risks of e-cigarette use. The development of analytical methods for the study of e-cigarette and e-liquid flavours, formulations and aerosols using solvent-free squeezing, cryogenic trapping, UPLC-MS/MS and Scikit-O-ToF-MS was reported. On the modelling aspect, papers were presented on the numerical simulation of e-cigarette aerosol evolution, the capillary evaporation model, and brand and counterfeit verification based on electronic nose technology.

Widely targeted metabolomics...
Bio-stud tobacco growing in...
and association with sensory of...

Agrochemical Residues:
Recent Experiences with Cyantraniliprol, Flutriafol, Fludioxonil, Azoxystrobin, and S-metolachlor

UK KENTUCKY
College of Agriculture, University of Kentucky

CORESTA 2022

Effects of Fermentation on...
Generating Ultra-Low...
Steps of the Alkaloid...

Determination of Carbon Sequestration in Tobacco Plants

Change of bacterial community structure and their correlations with contents of free amino acids during cigar processing

Progress towards the evaluation of bio-based insecticides & fungicides for use

SOLVENT-FREE TO OBTAIN HIGH PARTICLE FORMAL HEATED TOBACCO

THE IMPORTANCE OF ASSESSING PUFF TOPOGRAPHY TO INFORM E-CIGARETTE TESTING

Multi-Country Modern Oral Product (MPO) Consumption

Risk Perception

Reduction Biomarkers Smokers S

Development and validation of a new method for the determination of 3-hydroxybenzoic acid in tobacco

Dynamics of Nicotine Status in Smoking

BT14: Determination of transfer efficiency of 27 flavor compounds during vaping of electronic cigarette liquid (e-liquid)

Actual Use Study of heated Tobacco Product (igloo™)

Removal of Residual Wash

Assessment of Potential Absorption Agents on Cigarette Delivery in E-Liquid

Interaction mechanisms between S-RP serum albumin (HSA)

Nicotine Characterization in Modern Oral Nicotine Pouch Products



2022 CORESTA CONGRESS ONLINE



bowls and heaters: Does the ISO
ct what is available to consumers of
waterpipe tobacco?

In vitro Toxicology Risk Assessment (TRA) approach for evaluating the health risk of E-cigarette

Comparison of *in vitro* human alveolar macrophage responses after exposure to cigarette smoke and e-cigarettes

Analytical methods for the determination of nicotine and cotinine in tobacco products

Microscopic Analyses of Filtering Media

Strategy to bridge between HTP products and cigarettes using exemplar HTPs

Effect of Flavor Metal Complexes with Adjustable Hydrolysis Temperature by Metal Ion Selection

Adsorption hysteresis of tobacco blends based on thermodynamics

Evaluation of heat transfer of tobacco products

Preparation technology of heated tobacco product based on powder blending process

Rapid determination of alkaloid content of reconstituted tobacco based on near-infrared spectroscopy technology

Numerical Simulation of Aerosol Evolution for E-cigarette

An Approved Method for the Determination of Cotinine in Cigarette Smoke and Reconstituted Tobacco

An integral part of tobacco, nicotine covers the whole tobacco cycle from the plant to the finished product. A session was dedicated to the subject with presentations on methods to distinguish tobacco-derived nicotine from synthetic nicotine in commercial nicotine samples, nicotine characterisation in nicotine pouch products, S/R nicotine binding to human serum albumin and, on a practical level, how to remove nicotine to recycle machine wash water.

Reports on clinical studies on the effects of nicotine and analysis of data were presented with talks on nicotine pharmacokinetics of nicotine pouches and that of e-cigarettes compared to conventional cigarettes. A meta-analysis of nicotine exposure was also covered as was abuse liability assessments. Governmental authorities have a mission to protect consumers and a paper was presented on a project to develop tobacco related standards to speed regulatory review and decision making as well as achieve efficiencies for all stakeholders. All this generates much data, which has led to research on the application of innovative big data techniques for improving data processing and accelerating risk assessment in new tobacco products.

The analysis of oral tobacco products was the focus of one of the sessions with work reported on the variability of moist smokeless tobacco products and the comparison of HPHC constituents in smokeless tobacco products and pharmaceutical nicotine replacement therapy products. The determination of nicotine-related impurities by LC-MS/MS and the modification of a QuEChERS method for nicotine extraction using UPLC-MS/MS were also described, together with methods to overcome challenges in effective quality assurance for oral pouches. Similarly to tobacco and ENDS, novel tobacco products including nicotine pouches, are also subject to toxicological evaluations and several presentations covered *in vitro* assessment studies undertaken to compare products.

Two sessions devoted to heated tobacco products (HTPs) covered product design, modelling and testing, and investigated analytical methods. Innovation is key to the development of new products. This was shown by papers that looked at using cigarette combustion science and data from different HTPs as a bridge to drive new product innovation. Relevant to HTPs, presentations were made on the effect of perforation on mainstream smoke temperature as well as on heat transfer processes and the release of key components, the use of cellulose acetate microspheres for HTP filter rods, the preparation technology of core material based on the powder forming process, and a comparative study of the use of reconstituted tobacco in powder or granule form under heat-not-burn conditions. On the HTP analytical side, methods to determine minor alkaloids, carbonyls, PAHs were presented, and also a method to compare emission profiles of non-tobacco based substrates.

Research on flavours continues with methods being developed to determine flavour compounds and to seek ways to replace human sensory panel based tests by chemical or physical analyses. This topic was also related to work done on waterpipes with two papers presented on waterpipe tobacco in-use product chemistry and on the ISO standard requirements related to waterpipes.

Despite research being turned increasingly towards novel tobacco products, work is still ongoing on conventional tobacco products. The session on cigarette components and design featured talks on filter ventilation hole characteristics, analysis of filtering media, pack tactile consumer usage, absorption hysteresis, flavour metal complexes and the process parameters of paper-making reconstituted tobacco. Talks on tobacco and cigarette smoke analytical methods presented ways to determine nicotine content in reconstituted tobacco, as well as nitrogen, minor alkaloids, carbonyls, aromatic amines and organic acids in cigarette smoke.

As with the Agro-Phyto section, presenters were available to answer questions live or via chat after each presentation.



CORESTA extends its sincere thanks to all the presenters who contributed to the Congress by preparing papers and being available “live” during the sessions.

Access to the **pre-recorded videos**, and presenter bios and email addresses, is available for CORESTA members via the “Member Content” tab on the CORESTA website until 31 December 2022.

Abstracts and the PDFs of presentations have been published in the “Abstracts” section of the CORESTA website and can be accessed publicly when authorisation has been granted by the author(s).

CONGRESS NUMBERS

142 presentations

56 AP / 86 SSPT

449 registered participants

26 sessions

3-week duration

>35 hours live broadcast

2650 cumulated number of participants

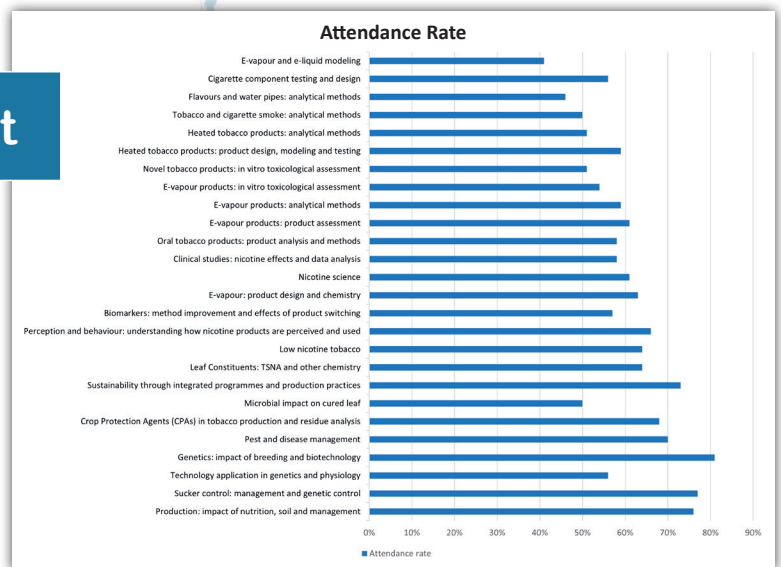
920 session replays

270 questions asked by audience



Presenters from 19 countries, 44 organisations

Registered participants from 34 countries, 130 organisations



POST-CONGRESS SURVEY

Similarly to 2021, a survey was sent to all presenters and participants to gauge satisfaction after the Congress.

Asked how they would rate the event overall, 90 % of presenters and 88 % of participants gave a rating of “very good” to “excellent”, with presenters more inclined to “excellent” and participants leaning more towards “very good”. All unanimously agreed that the rehearsal sessions had been most useful and that the live Q&A after the presentations gave added value to the event.

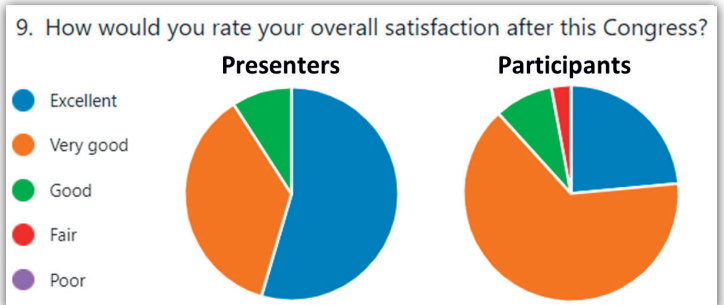
On the presenter side, most found the submission of abstracts and preparation of their pre-recorded presentation quite easy. They also found the livestreaming platform to be user-friendly and efficient. On the downside, the recurrent comment was that networking was not possible and that a mix of in-person and online meetings would be better.

On the participants side, email reminders of the sessions were appreciated as was the possibility to watch session replays. The advantage of online events giving an opportunity for persons to participate who would otherwise not have been able to travel was highlighted. On the negative side, time zone constraints, system connection difficulties, and the lack of personal interactions were the main points raised.

With regards to attendance at a future in-person meeting, around 70% of respondents said they would “probably” to “definitely” travel, and 90% said they would definitely attend another online event. 90% also indicated that they would definitely make a presentation at an online event.

Suggested improvements to the online events included allowing more time for discussion, and mention made of the benefit of the impromptu discussion that followed on after the last session of the AP section. However, the wish for a return to in-person meetings was even more strongly felt than in 2021.

The CORESTA Events Committee will take the survey results into consideration and forward suggestions to the Board.



A few words on the organisation of the event ...

Hosting an online Congress was considered a temporary “hassle”, a good learning experience, and a fairly exciting one time change to the routine organisation of on-site meetings ... or so CORESTA thought back in 2020 when the Congress in Vienna had to be cancelled due to Covid. Three years on, CORESTA once again hosted its main annual event online, along with many other subsidiary meetings all through the year. In the long run, the investment in developing virtual skills was definitely worth the “hassle”!

Nevertheless, the plan to have a large event online does tend to trigger a cold sweat when thinking of the new software and streaming platforms that need to be investigated in order to pull off an event that improves on the previous ones and caters to the needs and requests of participants. In spite of the challenges, and although still amateurs, CORESTA once again managed to successfully hold its third online live Congress in October 2022. Spread over a period of three weeks, 56 presentations were presented in the Agro-Phyto section from 10-18 October, and 86 presentations made in the Smoke-Techno section from 19-28 October.

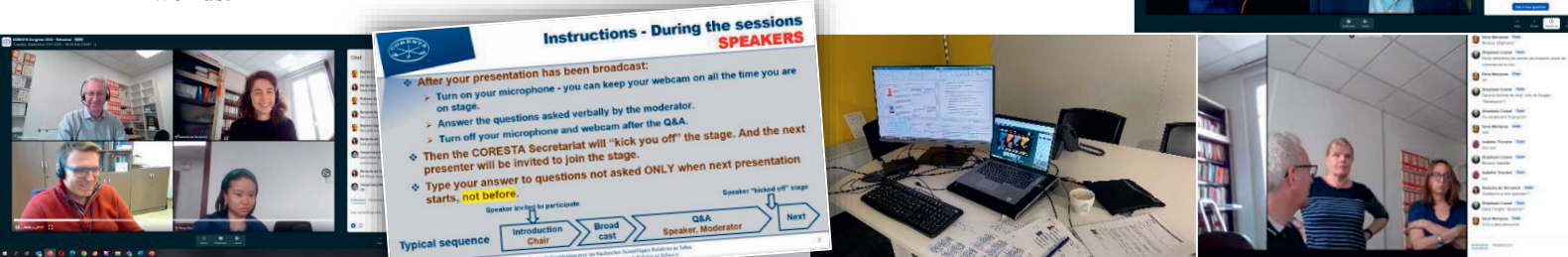
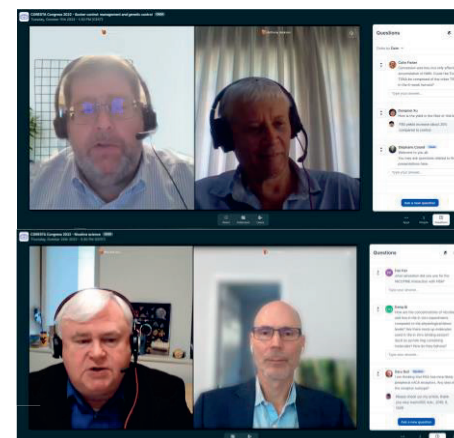
Many may believe that it is comfortable to “travel” 10 meters from the kitchen to the computer, professionally dressed in shirt, short and slippers, and watch one’s pre-recorded presentation. But speakers may beg to differ. Having worked hard to do several takes for their narrated presentations, the prospect of having to then make sure the internet connection is stable and answer “live” questions from all over the world can be a little daunting - “I should really change my screen background!”, “Is my hair ok?”, “I’ll quickly just put on a bow tie at the last moment!”. Virtuality allows us to show the audience only what we wish them to see. But don’t be fooled, it sounds easy but creating and operating in a virtual environment is not self-explanatory and there are many different aspects to be taken into consideration in order to succeed and provide the best and most beneficial experience for everyone.

Each virtual event sets new requirements for the organisers, speakers and participants alike. Building on previous experience and feedback from participants, CORESTA had to invest in a new technical platform to implement the request for smooth real-time streaming of the event. This year, CORESTA selected the Livestorm platform to broadcast the Congress. Following a rapid familiarisation period by the CORESTA Secretariat, coaching sessions were then organised with the speakers, chairpersons and moderators to ensure that the event was as straightforward and professional as possible. Prior to the Congress, all in all over 15 rehearsal sessions were organised with over 140 speakers, with a few extra sessions added to cater for particular situations and a set of slides provided with the main logistical points to remember. A dedicated rehearsal session was organised for the chairpersons and moderators to ensure they were familiar with their particular roles in time management, speaker identification, question triage, and problem solving.

Fortunately, the easiest part of the Congress was reserved for the participants. Once registered, the audience were able to build their own agenda according to content relevant to their interests and watch the presentations of their choice. They were able to interact with speakers in real-time using the question box or chat box after each presentation. The extra bonus was the access by participants to the session replays enabling them to view or review the proceedings after the end of the sessions.

One may conclude that a well-executed digital event creates team spirit, interaction and collaboration across a broad section of people regardless of their location. Experience shows that virtual events must be relevant and keep the viewer focused. This was achieved by carefully constructing the programme according to key topics over two-hour sessions and allocating a set time limit of 15 minutes for individual presentations, with approximately 12 minutes for the presentation and three minutes for questions & answers. Pre-recorded videos also ensured the quality of the Congress presentations and avoided potential problems with the internet connection.

For CORESTA, the past three years have shown that virtual events offer opportunities that have a positive impact on the association, especially in that it strengthens its role as a “cooperation centre” by enabling speakers and participants from all over the world to join in and contribute. It certainly looks like online events will remain a part of our lives in the future! However, the past three years have also shown that face to face meetings are vital to maintain motivation and consolidate cooperation through networking and human relationships. With the return of in-person meetings in 2023, CORESTA particularly looks forward to being able to provide its members and the scientific community with what it hopes to be the best of both the virtual and physical worlds.



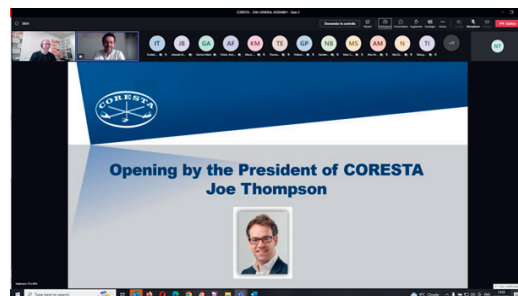
ORDINARY GENERAL ASSEMBLY – 23 November 2022

In June 2022, the General Assembly took the decision to hold an Ordinary General Assembly online after the Congress, in November 2022, in order to present the Activity and Financial Report for the 65th and 66th Financial Years (from 1 April 2020 to 31 March 2022).

Financial Report: The independent audit of the accounts conducted in July 2022 confirmed that the CORESTA financial statements were a fair presentation of the financial position of the Association in accordance with French accounting rules and principles. The financial reports were unanimously approved by the participants at the General Assembly.

Activity Report: The Secretary General reminded the context of the last two and half years highly impacted by the COVID-19 pandemic with all in-person meetings having to be replaced by virtual meetings. This period had demonstrated the agility and resilience of CORESTA, with working groups and governing bodies remaining fully engaged. A large number of documents (recommended methods, technical reports, ...) had been produced and published through scientific cooperation, and several successful online events had been organised. During the last two years the Secretariat continuously upgraded its IT tools to meet Members' expectations. The Activity Report was also unanimously approved by the participants at the General Assembly.

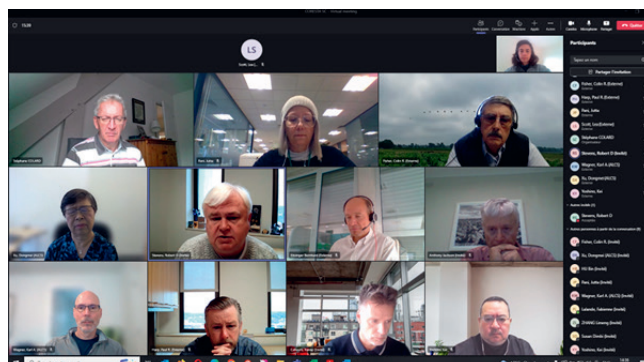
Outlook for 2023: Next year is expected to be the year of a return to a certain normality with regards to in-person interactions. The new Board has already decided to meet in-person in February 2023, and the new Scientific Commission will meet in January 2023. A workshop on harm reduction will also be organised in February, and 16 working groups are planning to meet in April in France. The AP and SSPT Conferences will be held in Cancun, Mexico, in October 2023. Building on past experience, online meetings will continue with the organisation of thematic and educational events.



CORESTA Scientific Commission and Board Meetings

An informal meeting of the outgoing **SCIENTIFIC COMMISSION** was held online on 10 November 2022 to discuss the items that will have to be addressed by the newly elected Scientific Commission, including action items, recommendations and the perspectives for 2023. The contents of an initiation meeting was discussed that would ensure a smooth transition with the incoming members.

The meeting was also an opportunity for outgoing members, some of whom had served an exceptional eight-year mandate, to bid each other farewell.



The **BOARD** met in Alexandria, VA, USA on 14 and 15 November. The meeting was kindly hosted by Universal Leaf. The Secretary General reported on the budget and main projects, and the President and Vice-President of the Scientific Commission reported on the most recent achievements and perspectives of the SGTFs. The Board continued to work on the outcome of the Workshop and Science Day organised in Paris in June 2022, and elaborated two-year plans for the event, science communication and strategic projects.

■ **Budget:** The forecast Q2 remains aligned with the initial budget, and the surplus generated by the Congress fees will be fully used to upgrade the CORESTA website. ■ **IT:** the main projects are the website and central database upgrades, and the replacement of the server of the Secretariat (10 years old). ■ **Events:** a CORESTA meeting on harm reduction is planned in April 2023 in France; a series of 16 Sub-Group and Task Force meetings is planned in April 2023 in France, and the AP and SSPT

Conferences will both take place in October 2023 in Cancun, Mexico. ■ **Communication:** the workshop in Paris showed the need to improve science communication internally and externally. Plans to do this will be implemented in 2023 and 2024. ■ **Strategy:** Taking into account the outcomes of the Science Day, particular efforts will be focussed on sustainability and emerging product areas. Communication and alignment with the Scientific Commission will continue to be enhanced.



2022-2024 BOARD

As reported in the last Newsletter, the CORESTA Board was renewed at the Ordinary General Assembly held on 8 June 2022 in Paris, France, and four additional Member Organisations were subsequently co-opted at a special Board meeting held on 30 June 2022. The mandate of the new Board began on 1 December 2022 and the former Board President and Vice-President were unanimously re-elected.

<p>Members elected in 2018 <i>whose terms were due to expire 2022 but were exceptionally extended to 2024</i></p> <p>Borgwaldt KC GmbH (<i>now Körber Technologies Instruments GmbH</i>) (Germany) delfort (Austria) Reynolds American Inc. Services Co. (USA) Swedish Match AB (Sweden) Universal Leaf Tobacco Company (USA)</p>	<p>Members elected in 2022 (for four years)</p> <p>Altria Client Services (USA) British American Tobacco (UK) China National Tobacco Corporation (China) Imperial Brands (UK) Japan Tobacco Inc. (Japan)</p>
<p>Co-opted members (for two years)</p> <p>Alliance One International, Inc. (USA) Alternative Ingredients, Inc. (<i>now Mother Murphy's Laboratories, Inc.</i>) (USA) KT&G Corporation (South Korea) University of Kentucky (USA)</p>	



Board President: Joseph THOMPSON, Imperial Brands, UK

Joe Thompson has degrees in physiology and toxicology, is a EUROTOX Registered Toxicologist and a Fellow of the Royal Society of Medicine in the UK. He has been in the tobacco industry for almost 23 years having held positions in product risk assessment, tobacco & health, product stewardship, compliance, and product quality. As Director of Group Science and Regulatory Affairs for Imperial Brands he leads all research and scientific substantiation of products for harm reduction, stewardship & compliance for Imperial and its subsidiaries worldwide. He joined the Board of CORESTA representing Imperial Tobacco in 2016, was elected as Vice President in 2018 and President in 2020, and has served on both the Strategy and Communication Board Sub-Committees.



Board Vice-President: Anne FISHER, University of Kentucky, USA

Anne Fisher has degrees in plant breeding and quantitative genetics. She has been in the tobacco industry for 47 years; 27 years with the Tobacco Research Board (TRB) of Zimbabwe and 20 years with the University of Kentucky (UKy). At the TRB, she was Head of Plant Breeding, focusing on nematode and disease resistance. At UKy, where she is currently Research Director at Kentucky Tobacco Research and Development Center (KTRDC), she has focused on the agronomic aspects of alkaloids and TSNAs, and developed the LC Protocol for screening seed for low conversion. She first participated in CORESTA in 1994, as coordinator of the Bacterial Wilt Sub-Group. She is the coordinator of the IPM Sub-Group and a member of several other working groups. She has served several terms on the Scientific Commission and has been a member of the Board, representing the University of Kentucky since 2016 and serving as Vice-President of the Board in 2020. She has also served on the TSRC Policy Committee, and is a member of the *Contributions to Tobacco Science* Editorial Board and of the Tobacco Science Council.

2022-2024 SCIENTIFIC COMMISSION

Similarly to the Board, the Scientific Commission elections were held after the first Ordinary General Assembly in Paris, France, on 8 June 2022, with a mandate starting on 1 December 2022.

The Scientific Commission from 2022-2024 is as follows:



Scientific Commission President

Dongmei XU, Altria Client Services, USA

Dongmei holds a PhD degree in crop sciences and is trained in plant molecular biology and genetics. She has been working on tobacco since 1992 and is currently a Fellow and Scientific Strategy leader for plant genetics and harm reduction at Altria Client Services in Richmond, Virginia, USA. She has been active in CORESTA since 1999, has served as president of the Phyto/Genetics Study Group, and participates in various SGTFs.



Scientific Commission Vice-President

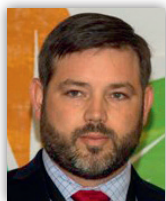
Xavier CAHOURS, Imperial Tobacco-SEITA, France

Xavier has a PhD in Bio-Pharmaceutical Sciences. He has worked in a variety of positions in different science areas. Xavier is currently Product Research Senior Manager. He is the secretary of the CORESTA Product Use Behaviour SG and the SC liaison member for the CROM TF.

AGRONOMY & LEAF INTEGRITY STUDY GROUP

President

Matthew VANN, North Carolina State University, USA



Matthew obtained his PhD in Crop Science from NC State University in 2015 and was hired as an Assistant Professor and Tobacco Extension Specialist in the Department of Crop and Soil Sciences. He is currently an Associate Professor with tenure and was named the William K. and Ann T. Collins Distinguished Scholar in Tobacco Research and Extension in 2022.

Matthew maintains an active tobacco agronomy research and extension programme, while also mentoring and training graduate students. He has participated in CORESTA meetings since 2010 and joined the Agrochemical Residue Field Trial SG in 2012, where he currently serves as the secretary and is a field trial executor. Matthew is also active in the BIO SG and LNTP TF.

Secretary

Leonardo CARUSO, JT International S.A., Switzerland



Leo earned a CORESTA Study Grant for tobacco research in 2000. He completed his PhD in 2003 at the University of Kentucky (USA) and has since been working for the tobacco and nicotine industry. Leo is currently responsible for JTI's scientific & regulatory affairs stewardship strategies to address complexities driven by worldwide agricultural raw materials, product/market dynamics and the surrounding environment.

Member

Limeng ZHANG, Yunnan Tobacco Group Co., Ltd. of CNTC, China



Limeng holds a PhD degree in soil science and plant nutrition from Kiel University, Germany. He is currently the director of the Tobacco Production Technology Research Center of Yunnan Tobacco Company of CNTC. He is also a senior agronomist and chief scientist at the Biological Control Engineering Research Center of CNTC.

Vice-President

Stewart LIVESAY, Universal Leaf Tobacco Co., USA



Stewart obtained a BSc in Agriculture from Western Kentucky University. He is currently Director of Agronomy Services at Universal Leaf Tobacco Company, Inc. He supports the coordination of Universal's global agronomy production and R&D programmes. Stewart has previously served on the Scientific Commission within the Agronomy Study Group. He currently serves as a deputy member of the CORESTA Agrochemical Advisory Committee.

Member

Chengalrayan KUDITHIPUDI, Altria Client Services, USA



Chengal has a PhD in Plant Biotechnology. He has been working on tobacco trait development and breeding since 2004 and is currently Principal Scientist II in the Product Development division at Altria Client Services in Richmond, Virginia, USA. Chengal has been active in CORESTA since 2016 and participates in SGTFs and is currently the coordinator for LNTP TF.

PHYTOPATHOLOGY & GENETICS STUDY GROUP

President

Colin FISHER, University of Kentucky, USA



Colin has a PhD in Pathology from the University of Rhodesia. After working for the Tobacco Research Board in Zimbabwe and Universal Leaf Tobacco worldwide, he now works as a research scientist at the University of Kentucky. Colin currently leads the CORESTA TSNA and GMO SGs and participates in other Agro-Phyto SGTFs.

Member

Albert CHAMANGO, Agric. Research & Ext. Trust, Malawi



Albert holds an MSc in Crop Sciences from the University of Malawi. He also attained advanced training in Plant Breeding and Genetics at the University of KwaZulu Natal in South Africa. He has worked on various agricultural research and development initiatives in Malawi since 1995, targeting sustainable agricultural production with a focus on tobacco and other complementary crops. Albert joined the Agricultural Research and Extension Trust (ARET) in 2013 and is currently a Principal Plant Breeder. He has been an active member of CORESTA since 2015 and participates in various SGTFs.

Secretary

Fabienne LALANDE, JT International GmbH, Germany



Fabienne has an MSc in Agronomy from the National School of Agricultural Engineering of Bordeaux with a specialisation in Plant and Environment Protection. She joined JTI in 2012 and works in the Global Supply Chain Agronomy Department as Product Integrity Director. She has been active in several CORESTA SGTFs and she currently serves as a deputy member on the CORESTA Agrochemical Advisory Committee.

Member

Simon GOEPFERT, Philip Morris Products, Switzerland

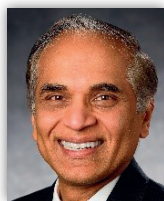


Simon trained as plant biochemist at the University of Strasbourg in France and has a PhD in Plant Molecular Biology from the University of Lausanne in Switzerland. He works in the Product and Process Technology Department at Philip Morris International in Neuchâtel, Switzerland, where he leads the Plant Research team conducting research programmes on agronomy and genetics towards varietal improvement and crop sustainability.

SMOKE SCIENCE STUDY GROUP

President

Mohamadi SARKAR, Altria Client Services, U.S.A.



Mohamadi, M.Pharm., Ph.D., FCCP, is a Clinical Pharmacologist and a Fellow, Scientific Strategy & Advocacy, Regulatory Affairs for Altria Client Services (ALCS) in Richmond, VA, USA. In this role, he provides strategic direction towards developing the science and evidence for regulatory submissions for smoke-free tobacco products for Altria's tobacco operating companies. He currently leads the CORESTA Biomarkers SG and contributes to the Product Use Behaviour SG and the CROM TF.

Secretary

Xavier CAHOURS, Imperial Tobacco-SEITA, France
(see page 8)

Member

Kei YOSHINO, Japan Tobacco Inc., Japan



Kei obtained a Master's degree in Veterinary Science and joined Japan Tobacco Inc. in 1990 as a toxicologist in the Pharmaceutical Division. He has been working in the Tobacco Division since 1999 and is currently Principal Scientist in the JT Scientific Product Assessment Center, R&D Group.

Vice-President

Sarah BAXTER-WRIGHT, RAI Services Co., U.S.A.



Sarah has been with RAI Services Company for six years and is currently Vice President - Regulatory Science. In this role, she leads the scientific strategy for FDA regulatory submissions of next generation products for Reynolds/BAT. She holds a PhD in Biochemistry from the Vanderbilt University and has a research background in proteomics and metabolomics research with a focus in cancer biomarker studies.

Member

Cyril JEANNET, Philip Morris Products, Switzerland



Cyril obtained a BSc from the Chemical Engineering School of Fribourg, Switzerland, in 1993. He joined Philip Morris the same year and worked in the analytical laboratories as Laboratory Manager, and then took the position of Product Characterisation Manager. In this position he contributed to the MRTPA submission of PMI Heat-not-Burn product to FDA. In his current position as Principal Scientist Testing Standard, Cyril is responsible for establishing internal testing standards or product standards, mainly in the RRP area and ensuring the liaison with external standard bodies such as ISO TC-126, CEN TC-437 and CORESTA in which he is member of several working groups.

PRODUCT TECHNOLOGY STUDY GROUP

President

Jutta PANI, Imperial Tobacco-Reemtsma, Germany



Jutta holds a Mag. rer. nat. in Chemistry/Food Chemistry from the University in Vienna. She has been working in tobacco industry for more than 22 years obtaining experience in tobacco science, product technology and chemical analysis. Jutta is currently Manager Laboratory Network Operations. She is active in several CORESTA SGs including Smoke Analytes, Tobacco and Tobacco Products Analytes, E-Vapour, Heated Tobacco and Physical Test Methods and is currently liaison member for the Heated Tobacco Task Force and Cigar Smoking Methods SG.

Secretary

Bernhard EITZINGER, delfort, Austria



Bernhard obtained an MSc degree in Mechanical and Electrical Engineering and a PhD in Non-linear Systems Theory at the Johannes-Kepler University in Linz, Austria. Since 1998 he is working in R&D related to paper components for tobacco products. He is the coordinator of the CORESTA Physical Test Methods SG, member of the Advisory Board of *Contributions to Tobacco & Nicotine Research* and also active in DIN and ISO.



Member

Johan REDEBY, Swedish Match, Sweden

Johan has been with Swedish Match for ten years and is the Senior Manager of Analytical Science in Stockholm. Besides laboratory experiences, he has been involved in regulatory submissions and is active in ISO and national standardization work and in the CORESTA SG Tobacco and Tobacco Products Analytes. He holds a PhD in Analytical Chemistry from the Royal Institute of Technology in Stockholm and worked at the National Food Agency in Sweden with analytical testing development prior to joining Swedish Match.

Vice-President

Jana JEFFERY, British American Tobacco, U.K.



Jana has a PhD in Food Chemistry and Analysis. She joined British American Tobacco in 2009 and has since worked in the analytical science area leading scientific projects across product categories; her current role is Analytical Manager. Within CORESTA, Jana is a Co-coordinator of the CORESTA Smoke Analysis SG and participates in several Product Technology SGTFs.

Member

Bin HU, Zhengzhou Tob. Research Institute of CNTC, China



Bin obtained a PhD in analytical chemistry from the University of Science & Technology of China. He joined ZTRI of CNTC in 2006 and he is currently Professor of Engineering in Tobacco Chemistry. His research focuses mainly on chemistry analysis, and tobacco science & technology innovation strategy and policy.



Matthew Vann

INSIGHT FROM A MEMBER

HOPE SPRINGS ETERNAL ...

The 2022 tobacco season has officially drawn to a close here in the Old North State, thanks in part to a "killing frost" that settled across most of North Carolina a few weeks ago. For many tobacco growers, the frosty mornings brought about a sudden end to another season marked by adverse weather, increased disease pressure, rising production costs, a shortage of inputs, a hurricane, and a [sometimes] unclear path forward. 2022 was a season for the record books, and not for any of the good reasons we'd hoped to celebrate when the first greenhouses were seeded. Farmers, by nature, are a resilient bunch, if not, they wouldn't be farming very long. I often get the impression that in order to be a farmer, one must believe that better days lie just ahead. After all, hope springs eternal.

Just as farmers find hope in the next season, we in CORESTA look to the future with a favorable disposition as well. The first CORESTA event I attended was the 2010 Congress in Edinburgh, Scotland. In the years since that meeting, I have gradually become more involved in a number of CORESTA events, sub-groups, and task forces. One might blame my ignorance and short tenure within CORESTA, but I can't say that I've ever felt such momentum and connectedness within our organization. In June we convened in Paris to address the matters of business that are vital to CORESTA. That meeting could have been a one day event full of voting, debating, and the usual things that are unexciting necessities. However, the Scientific Commission had a vision to host a first-of-its-kind Science Day, and I am thankful that they did. This single event created an opportunity for significant cross-talk between the Agro-Phyto and Smoke-Techno groups. The synergy and excitement generated almost brought down the adjacent National Opera House! Not really, but surely you get the point. On a serious note, I've not previously experienced that level of engagement within CORESTA, and it was exciting to say the very least. Leaving the event later in the week, I felt the great surge of motivation and optimism that I always feel after our traditional meetings. Thus, hope springs eternal...

Now, as we look forward to (hopefully) putting COVID behind us and coming back together for in-person events, it's time to keep lightning in a bottle. Not the white lightning that the American South is world famous for, but the collaboration and vision that we found in Paris. The world has changed since 2020, and not all of it is for the worse. For far too long, our industry (and us by extension) has operated with everyone staying in their lane. In other words, "You do your thing, I'll do mine, and if we happen to overlap, we'll see what happens...". That time has passed. If we collectively look to the future, everyone sees the same things: new product technologies, new regulations, new markets, new farmers, new production systems, increased environmental challenges, additional socio-political strain, and questions about *all* aspects of sustainability. The only way we can ensure the livelihoods of the next generation of tobaccoists is to work together toward these common themes - as your challenges are *my* challenges. They may not always look the same, but they are. Alas, hope springs eternal...

With a genuine hope for our future as an industry and an organization, I call on the leadership and member groups of CORESTA to sustain the motivation and collaboration that was shared earlier this year. Are there barriers and large challenges that stand in our way? Yes. Are we up to the task? Yes. Are all of the pieces in place to move forward? Yes. Because hope springs eternal, I firmly believe that CORESTA is uniquely positioned as an independent, scientifically-based organization to address the issues that we collectively face. It's my hope that our colleagues and industry partners feel the same way.

Matthew C. Vann, PhD

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

25 October 2022

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

CORESTA PROJECTS

The following projects were approved by the Scientific Commission and launched:

- **Project 343: Presentation at 75th TSRC on Scientific Cooperation to Support Harm Reduction Strategies**
CORESTA - Consumer Reported Outcome Measures Consortium - Approved September 2022
- **Project 344: 9th Round Robin Test on Filter Ventilation Calibration Standards**
SG PTM - Physical Test Methods - Approved September 2022
- **Project 345: 2022 Routine Stability Study of CRPs Manufactured in 2016**
SG TTPA - Tobacco and Tobacco Products Analysis - Approved September 2022
- **Project 346: Presentation of Summary of Proficiency Study HTP Aerosol for ISO/TC126/WG22 Meeting**
SG HTP - Heated Tobacco Products - Approved September 2022
- **Project 347: CROM Virtual Workshop on Risk Perception of Tobacco and Nicotine-Containing Products**
TF CROM - Consumer Reported Outcome Measures Consortium - Approved September 2022
- **Project 348: Determination of Nicotine, VG and PG (+ACM/DML) in the Aerosol from HTP by GC-FID**
SG HTP - Heated Tobacco Products - Approved November 2022
- **Project 349: Determination of Carbon Monoxide in the Aerosol from HTP with a Non-Dispersive Near Infrared Analyser**
SG HTP - Heated Tobacco Products - Approved November 2022
- **Project 350: Determination of NO and NO_x in Aerosols of HTPs by Chemiluminescence Method**
SG HTP - Heated Tobacco Products - Approved November 2022
- **Project 351: Methodological Considerations and Best Practices for ‘Actual Use’ Study Designs**
SG PUB - Product Use Behaviour - Approved November 2022

CORESTA REPORTS

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

- **Proficiency Study for Propylene Glycol, Glycerin, Nicotine, CO, NO, NO_x, ACM, and DML in HTP Aerosol**
Technical Report [HTP-280-CTR] – September 2022 (Task Force Heated Tobacco Products)
In 2021, a proficiency study was carried out to determine and recommend suitable methods for the analysis of propylene glycol, glycerin, nicotine, nitrogen oxide, nitrogen oxides, carbon monoxide, aerosol collected mass and device mass loss when applicable in HTP products. A protocol was drafted allowing participating laboratories to use their own methodology for quantifying the basic analytes across all three HTP product configurations. The results and statistical evaluation indicated that many of the laboratories were analysing the samples using similar methodology and yielding comparable results, which meant that the study could be considered both a proficiency study as well as a collaborative study. The results of the study were used to develop the CORESTA Recommended Methods (CRMs) 99, 100 and 101 (*to be published soon*).
- **2021 Study for Select PAH in Mainstream Cigarette Smoke**
Technical Report [SA-294-1-CTR] – September 2022 (Sub-Group Smoke Analysis)
In 2021, a project was launched with the objective to establish a CORESTA Recommended Method for analysing select polycyclic aromatic hydrocarbons (PAH) in mainstream cigarette smoke. The study design included reference and monitor samples across a range of nominal ISO 3308 tar levels and use of an intense and non-intense regime in order to evaluate methodology across a broad analyte and matrix level. Laboratories reported method details, basic smoking measures, and the specified PAH compounds. Based on these results, the next step recommendation is to conduct a collaborative study (CS) with one or two candidate methods from this study based on the criteria discussed in this report.

CORESTA REPORTS (continued)

- **2021 Study for HCN in Mainstream Cigarette Smoke**

Technical Report [SA-296-1-CTR] – September 2022 (Sub-Group Smoke Analysis)

Similarly to the study on PAH, another project was launched in 2021 with the objective to establish a CORESTA Recommended Method for analysis for hydrogen cyanide (HCN) in mainstream cigarette smoke. The study design included reference and monitor samples across a range of nominal ISO 3308 tar levels and use of an intense and non-intense regime in order to evaluate methodology across a broad analyte and matrix level. Laboratories reported method details, basic smoking measures and HCN. The next step recommendation is to conduct a collaborative study (CS) to confirm the repeatability and reproducibility calculations given in this report and if the results are favourable, to then proceed with developing a CRM.

- **Assessing Product Use Behaviour and Exposure: Definitions and Methods**

Technical Report [PUB-BMK-273-1-CTR] – October 2022 (Sub-Groups Product Use Behaviour / Biomarkers)

Over the past number of years, the tobacco and/or nicotine containing product portfolio has expanded to include products such as e-vapour products, HTPs and nicotine-containing tobacco-free oral products. Although scientific papers and regulatory requirements/recommendations related to product use behaviour and exposure have been published for these novel nicotine-containing/tobacco products, there is great diversity in the terminology used to describe these types of products. The aim of this paper was to define the terms and methods used for assessing product use behaviour and exposure, with the objective of generating a uniform application of the terms used by scientists working in this field of research.

- **2021 Collaborative Study for the Determination of Metals in E-Liquids**

Technical Report [EVAP-312-1-CTR] – October 2022 (Sub-Group E-Vapour)

A review was commissioned to investigate the determination of metals in e-liquids. The review led to a proficiency study for the determination of metals in e-liquid samples using laboratories' in-house methods, either microwave digestion or dilution method. Upon completion of the study in 2019 the Sub-Group carried out a collaborative study using only the dilution method, with the aim of producing a CORESTA Recommended Method. This report outlines the results from the collaborative study. Based on the outcome, a CORESTA Recommended Method for the analysis of metals in e-liquids was published (CRM98).

- **2021 Collaborative Study for the Determination of Tobacco-Specific Nitrosamines in E-Liquids**

Technical Report [EVAP-304-1-CTR] – November 2022 (Sub-Group E-Vapour)

Following a survey of its members analytical capabilities pertaining to the analysis of tobacco-specific nitrosamines (TSNAs) that indicated a high amount of overlap between sample extraction and mode of analysis, the CORESTA E-Vapour (EVAP) Sub-Group approved the initiation of a collaborative study for the determination of TSNAs in e-liquid products. The compounds included NNK, NNN, NAB and NAT. The purpose of this study was to evaluate the repeatability and reproducibility (r & R) values of the methodology. The results demonstrated that this collaborative study supported the publication of a CRM for the analysis of TSNAs in e-liquids.

- **5th Proficiency Test (2022) on Diffusion Capacity of Cigarette Papers**

Technical Report [PTM-336-CTR] – November 2022 (Sub-Group Physical Test Methods)

This proficiency test is the fifth one carried out to assess the capability of the participating laboratories to measure diffusion capacity using the CORESTA Recommended Method (CRM) No. 77 as a general guideline. The results from this study serve as a check that laboratory procedures and their development over time does not lead to a substantial increase in between-laboratory variability and it further offers each laboratory the possibility of assessing its performance in comparison with other laboratories and to derive actions for improvement. This study showed no substantial change in the robust coefficient of variation for measurements on LIP bands, and no significant difference in mean values and variability obtained with instruments from different manufacturers.

- **8th Round Robin Test for Multi-Capillary Ventilation Calibration Standards (2019-2022)**

Technical Report [PTM-212-CTR] – November 2022 (Sub-Group Physical Test Methods)

The CORESTA Physical Test Methods (PTM) Sub-Group organises a nominally annual series of round robin tests to establish the capability to calibrate standards used in physical test instrumentation. This testing provides a baseline of ventilation instrument performance across the industry since this standard type is used in the pressure drop/ventilation instrumentation of each supplier. Each laboratory is also able to use the result set in internal and external audit assessments. This report covers the results of the 8th ventilation standards test conducted between June 2019 and September 2022. As a difference to the first seven tests, this round robin test also included a set of slim filter ventilation calibration standards in order to check if there is any effect on the precision of the measurement of filter ventilation for cigarettes with slim format. The general results were broadly in line with the historical performance of the method as were those of the test on slim filter ventilation calibration standards. It was concluded that for the measurement of the filter ventilation of slim cigarettes different similar repeatability and reproducibility properties may be expected than for cigarettes with normal format.

CORESTA RECOMMENDED METHODS

Updated

- **CRM No. 75** – Determination of Tobacco Specific Nitrosamines in Mainstream Smoke by LC-MS/MS
(Fourth edition - September 2022) [SMA-SA-198-3-CRM-75]

This CRM was updated to expand its scope to include cigar smoke analysis for tobacco specific nitrosamines (TSNAs) and to include repeatability (r) and reproducibility (R) for TSNA analytes following the publication of its supporting Technical Report *2019 Collaborative Study for B[a]P and TSNA Compounds in Mainstream Cigar Smoke* [SMA-SA-198-1-CTR].

New

- **CRM No. 98** – Determination of Select Metals in E-Liquid by ICP-MS
(October 2022) [EVAP-312-2-CRM-98]

This CRM is applicable to the determination of select metals in e-liquids. The metals determined with this method are: chromium, iron, nickel, copper, zinc, arsenic, cadmium, tin, silver and lead. This CRM is based on the Technical Report *2021 Collaborative Study for the Determination of Metals in E-Liquids* also published in October 2022 [EVAP-312-1-CTR].

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

E-Vapour (EVAP) Sub-Group

Initially founded in 2013 as the CORESTA E-Cigarette Task Force and converted to the E-Vapour (EVAP) Sub-Group in 2016, EVAP is comprised of over 80 members representing device and e-liquid manufacturers, academia, regulators, equipment suppliers and testing laboratories. EVAP is highly active in the planning and execution of proficiency trials and collaborative studies, generation of CORESTA Recommended Methods and authoring of CORESTA Guides.

The EVAP Sub-Group met virtually in April 2022 and then, on 10 September 2022, had its first physical meeting since the CORESTA Conference in Hamburg in October 2019. 27 members attended in person in New Orleans, LA, USA, prior to the Tobacco Science Research Conference (TSRC), with a further 16 members participating online. The Sub-Group received an update from project leads, Dr Anthony Cunningham and Dr Joe Jablonski, on the progress of Collaborative Studies on metals in e-liquid and TSNAs in e-liquid and finalisation of the associated CORESTA Recommended Methods (CRMs). The study reports and draft CRMs were both completed and are under review. After the meeting, the Collaborative Study report and CRM for the determination of select metals in e-liquids by ICP-MS were published on the CORESTA website, as was the Collaborative Study report for the determination of TSNAs in e-liquids.

The main focus of the meeting was to review the Sub-Group's future plans and to consider potential new work items. After a lively discussion, the group agreed to revise the 2-year and 5-year plans as follows:

2-year plan

- CORESTA reference device - Collaborative Study on nicotine in aerosol
- Glycidol in aerosol - Collaborative Study and CRM
- pH of e-liquid and aerosol - Collaborative Study and CRMs
- Water activity - Collaborative Study to extend scope of CRM 88
- TSNAs in aerosol - Collaborative Study and CRM
- Organic acids (primary and degradants) - best practice guidelines

5-year plan

- Metals in aerosol - Collaborative Study and CRM
- Flavours
- Non-targeted - analysis best practice guidelines

The next meeting of the EVAP Sub-Group will be in France on 19 April 2023. For those that are interested in the work of EVAP or wish to participate in its meetings, please feel free to contact Dr Gene Gillman (gene.gillman@juul.com).



Gene GILLMAN
EVAP SG Coordinator



Colin SINCLAIR
EVAP SG Secretary

Physical Test Methods (PTM) Sub-Group

In 2022 the Physical Test Methods (PTM) Sub-Group met twice with the 34th meeting on 20-21 April and the 35th meeting on 20-21 September. Both meetings were held in a virtual format as two-hour meetings on consecutive days to allow participation from as many time zones as possible. The first day was usually dedicated to a review of the current projects, while the second day covered the systematic document review and future projects. In both meetings about 20 participants attended, which is more than is common for in-person meetings.

The PTM Sub-Group continues with its routine projects, which includes the 15th Collaborative Study on Physical Parameters of Cigarettes and Filters as the main inter-laboratory study in this Sub-Group. The study is already about to be completed and the Technical Report may be expected to be published soon.

The PTM Sub-Group has also completed and published the Technical Report of its 5th Proficiency Test on Diffusion Capacity, which allowed laboratories to assess their proficiency in measuring the diffusion capacity (CRM 77) of bands on lower ignition propensity cigarette papers. Furthermore, the PTM Sub-Group has launched the 2nd Collaborative Study on Filter Capsule Crush Strength (CRM 94) as part of its objective on method maintenance. Also this project is expected to be completed early next year with the publication of the Technical Report.

The PTM Sub-Group also carries out round robin tests of calibration standards for pressure drop, filter ventilation and air permeability. The pandemic caused some delays in these projects, but at least the 8th Round Robin Test on Filter Ventilation Standards could be completed and the Technical Report published in November 2022, and the PTM Sub-Group expects that the schedule for the remaining projects will normalise in the near future.

Future topics under discussion include the calibration of pressure drop instruments for measurement of low pressure drops, which may be relevant for HTPs and the mathematical model used to compensate pressure drop for deviations in temperature, absolute pressure and relative humidity from standard conditions.

As a number of new members have joined the PTM Sub-Group to replace members who have retired or withdrawn from the Sub-Group, the Sub-Group agreed that the next meeting shall not only cover the managerial aspects of the ongoing projects but also provide information on the overall process and outcome of these projects to serve as an introduction for new members and to make it easier for new members to contribute to the work of the Sub-Group.

If the situation continues to improve, and the PTM Sub-Group is optimistic in this respect, the 36th PTM Sub-Group meeting will be held as an in-person meeting on 19 April 2023 in France.



Bernhard EITZINGER
PTM SG Coordinator



Patricia MÜLLER
PTM SG Secretary

JOURNAL PUBLICATIONS

The Cigarette Variability (CVAR) Task Force published the results of its work [CVAR-080-CXP] as follows:

HPHC Testing of Tobacco and Smoke to Examine Cigarette Temporal Variability

Rana Tayyarah⁽¹⁾, Michael J. Morton⁽²⁾, and Jason W. Flora⁽²⁾

(1) ITG Brands, LLC, Greensboro, NC, USA; (2) Altria Client Services Inc., Richmond, VA, USA

Contributions to Tobacco & Nicotine Research, Volume 31 • No. 2 • July 2022

<https://sciendo.com/article/10.2478/cttr-2022-0012>

DOI: 10.2478/cttr-2022-0012

The Biomarkers (BMK) Sub-Group published an external publication [BMK-249-2-CXP] as follows:

Population estimates of biomarkers of exposure to carbon monoxide, nicotine, and NNK in smokers and non-smokers

Felix Ayala-Fierro⁽¹⁾, Thomas Verron⁽²⁾, Pavel Lizhnyak⁽³⁾, Robert Freeland⁽⁴⁾, Kimberly Frost-Pineda⁽⁴⁾, Ashraf Elamin⁽⁵⁾, Mohamadi Sarkar⁽³⁾

(1) JUUL Labs, San Francisco, United States; (2) SEITA - Imperial Brands, Paris, France; (3) Altria, Richmond, United States; (4) Reynolds American, Winston-Salem, United States; (5) Philip Morris International, Neuchâtel, Switzerland

Qeios, May 2022

<https://www.qeios.com/read/ZJJ66O.2>

DOI: 10.32388/ZJJ66O.2

CROM Workshop

Risk Perception of Tobacco and Nicotine-Containing Products: From Measurement Challenges to Unique Opportunities for Strengthening CROM-Related Science

29 September 2022 | 2:00 to 4:30 pm CET

Created in 2018, the objectives of the Consumer Reported Outcome Measures Task Force (CROM TF) are (1) to generate guidelines and best practices for the selection, development, modification, and implementation of CROM, and (2) to facilitate access to CROM through a knowledge repository for evaluating tobacco and nicotine-containing products.

Part of the mission of the CROM TF is to promote knowledge sharing between researchers within industry, regulatory agencies, and academia through different forums, e.g., external conferences but also symposium and workshops organised by the TF and hold by CORESTA.

The second CROM Workshop this year, “Risk Perception of Tobacco and Nicotine-Containing Products: From Measurement Challenges to Unique Opportunities for Strengthening CROM-Related Science,” focused on risk perception, a very important construct that can predict future use behaviour such as experimentation, cessation, as well as switching to other tobacco- and nicotine-containing products. The main purpose of the Workshop was to use the case study of Philip Morris Products (PMP) S.A.’s CROM development, the ABOUT™—Perceived Risk, to illustrate important considerations for CROM-related science in the tobacco regulatory space.

Dr Christelle Chrea of PMP S.A., Coordinator of the CROM TF, provided a summary of the key regulatory questions to be addressed by risk perception measurement, acknowledging that one of the major challenges was to define a common metric among all tobacco and nicotine products in order to establish a continuum of perceived risk. She then introduced how the development of the ABOUT™—Perceived Risk and its further evolution between 2013 and 2020 precisely aimed at addressing this gap.

Dr Thomas Salzberger (who consults to PMP S.A. and to the CROM TF) presented the methodology and results of a recent study that provided insights on a measurement mechanism underlying perception of risk by specifying the contribution of probability and negative utility to explain the psychometric properties of the ABOUT™—Perceived Risk items and the level of perceived risk.

Finally, Dr Suzanna Al Moosawi, presented longitudinal data on IQOS™ health risk perception relative to cigarette smoking from PMP post-market cross-sectional surveys in several countries. Findings showed that risk perception is an evolving construct that changes over time and may be influenced by various factors including the availability of information on the product’s risks and benefits.

The full video of this workshop can be found on the CORESTA website, along with presenter biosketches and an abstract of the workshop, at:

<https://www.coresta.org/events/crom-virtual-workshop-september-2022-36676.html>

The CROM TF is in the process of planning additional public presentations, and intends to hold a publicly available symposium early 2023 on the topic of Abuse Liability (date and speakers are to be determined). If you have suggestions for topics of future CROM TF Workshops or Symposium, please reach out to the CROM TF coordinator, Dr Christelle Chrea at Christelle.Chrea@pmi.com. Those interested in being notified via email about upcoming CROM TF Workshops and Symposium should reach out to the CORESTA Secretariat and request to be added to the email distribution list.

PROGRAMME

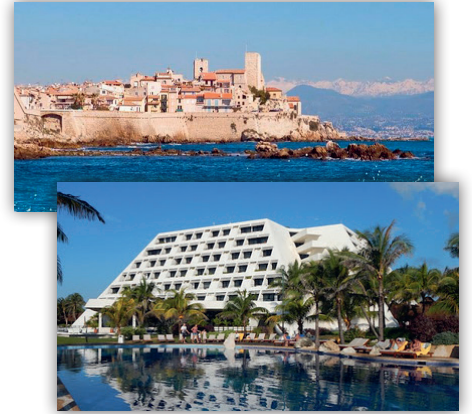
Time	Topic	Speaker
2:00 - 2:05 p.m.	Introduction	Stacey McCAFFREY, PhD JULI LABS INC.
2:10 - 2:30 p.m.	The Perceived Risk Continuum for Tobacco and Nicotine-Containing Products – Diet	Christelle CHREA, PhD Philip Morris Products S.A. & CROM Consortium Coordinator
2:40 - 2:45 p.m.	Overview of the ABOUT™—Perceived Risk Development and Evolution	Emilie CLERC, MSc Philip Morris Products S.A.
2:50 - 3:00 p.m.	Understanding of the Mechanisms Underlying Perception of Risk	Thomas SALZBERGER, PhD University of Vienna (WU Wien)
3:10 p.m.	Break	
3:15 p.m.	Evolution of Risk Perception of IQOS Over Time: Evidence from PMP's Post-Market Cross-Sectional (PMK) Surveys	Suzanna AL MOOSAWI Philip Morris Products S.A.
3:30 p.m.	Audience Q&A following speakers presentations	Moderated by Stacey McCAFFREY, PhD JULI LABS INC.
4:00 p.m.	Closing remarks	Stacey McCAFFREY, PhD JULI LABS INC.



UPCOMING CORESTA MEETINGS (2023)

After the successful set of **SGTF meetings** held in conjunction with the Tobacco Science and Research Conference (TSRC) in September, this meeting format will be repeated with a number of SGTFs set to gather in-person in April 2023 in **Antibes Juan-les-Pin, France**.

Also, CORESTA is very pleased to announce that its next annual Conferences, **SSPT2023 & AP2023**, will be held in-person in **Cancun, Mexico**. After three years of online presentations, this is a welcome and exciting development. The organisers of the SSPT event, Mother Murphy's Laboratories, are sincerely thanked for facilitating the arrangements and helping CORESTA organise the AP event.



Below is a list of the scheduled events but please visit the CORESTA website for the most up-to-date information (www.coresta.org/meetings/upcoming).

Meeting	Date	Location
Scientific Commission	17-18 January 2023	Vienna, Austria
Board	February 2023	UK
CROM Symposium	February 2023	Online
SG BMK - Biomarkers	19 April 2023	Antibes Juan-les-Pins, France
SG CSM - Cigar Smoking Methods	19 April 2023	Antibes Juan-les-Pins, France
SG EVAP - E-Vapour	19 April 2023	Antibes Juan-les-Pins, France
SG PTM - Physical Test Methods	19 April 2023	Antibes Juan-les-Pins, France
SG PUB - Product Use Behaviour	19 April 2023	Antibes Juan-les-Pins, France
SG TTPA - Tobacco and Tobacco Products Analytes SG	19 April 2023	Antibes Juan-les-Pins, France
TF HTP - Heated Tobacco Products	20 April 2023	Antibes Juan-les-Pins, France
SG IVT - In Vitro Toxicology Testing	20 April 2023	Antibes Juan-les-Pins, France
TF LNTP - Collaborative Study of Low Nicotine Tobacco Agronomic Production Practices	20 April 2023	Antibes Juan-les-Pins, France
TF NGTX - 21st Century Toxicology for Next Generation Tobacco and Nicotine Products	20 April 2023	Antibes Juan-les-Pins, France
SG RFT - Agrochemical Residue Field Trials	20 April 2023	Antibes Juan-les-Pins, France
SG SA - Smoke Analysis	20 April 2023	Antibes Juan-les-Pins, France
SG BIO - Efficacy of Biological and Eco-Friendly CPAs	21 April 2023	Antibes Juan-les-Pins, France
SG GMO - Proficiency Testing for Detection of Transgenic Tobacco	21 April 2023	Antibes Juan-les-Pins, France
SG IPM - Integrated Pest Management	21 April 2023	Antibes Juan-les-Pins, France
SG TSNA - TSNA in Air-cured and Fire-cured Tobacco	21 April 2023	Antibes Juan-les-Pins, France
Workshop – Harm Reduction	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
SMOKE SCIENCE and PRODUCT TECHNOLOGY (SSPT2023)	7-12 October 2023	Cancun, Mexico
AGRONOMY & LEAF INTEGRITY and PHYTOPATHOLOGY & GENETICS (AP2023)	14-19 October 2023	Cancun, Mexico

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

CORESTA COMMUNICATION AT EXTERNAL EVENTS

Tobacco Science and Research Conference (TSRC 2022)

Two CORESTA presentations were made at the Tobacco Science Research Conference (TSRC) held in New Orleans, LA, USA, from 11-14 September 2022.

- Presentation "Scientific cooperation to support harm reduction strategies: CORESTA recent work and perspectives" by Rob Stevens (RAI Services Company, USA), President of the CORESTA Scientific Commission.
- Presentation "Consumer-reported outcome measure (CROM) guidelines with respect to descriptive-CROM for research on tobacco and nicotine-containing products" by Lai Wei (Altria Client Services, USA) on behalf of the CORESTA CROM Task Force.



International Organization for Standardization (ISO)

ISO/TC126 WG 22 Web Meeting – 6 December 2022

Presentation "Heated Tobacco Products (HTP) Task Force: Proficiency Study for Propylene Glycol, Glycerin, Nicotine, CO, NO, NO_x, ACM, and DML in HTP Aerosol" by Taryn Winner (RAI Services Company, USA) and Takatsugu Hyodo (Japan Tobacco Inc., Japan), members of the CORESTA HTP Task Force.



The above presentations can be viewed in the Information/CORESTA Communication section of the CORESTA website

*The CORESTA staff wish you
the Joy of Christmas, the Peace of the Holiday Season
and the Hope of a Happy, healthy and Prosperous New Year 2023*

