



# NEWSLETTER

Issue 46 – December 2016

## CORESTA CONGRESS 2016

9–13 October, Berlin, Germany



Walls can be built everywhere but the good news is that they can be demolished and the same stones used to build bridges. Just one stone can be a starting point to bridge the gaps both in a physical and metaphorical sense.

This year's CORESTA Congress was held in Berlin, Germany, location of the iconic former "Berlin Wall" – a perfect example of how barriers can be broken and differing viewpoints bridged to form a peaceful, united, mutually understanding group. The Congress was held from 9-13 October at the Hilton Hotel, centrally located at the Gendarmenmarkt.

The Congress defied all expectations and broke the 2006 and 2014 participation records. 465 scientists and tobacco professionals (together with 31 accompanying persons) from 36 countries came together to bridge the gaps between sound science and preconceived ideas, thanks to knowledge sharing.

To these numbers should be added an extra 69 persons who attended only the Sub-Group and Task Force (SGTF) meetings prior to the Congress. Although the Congress officially started on the evening of Sunday, 9 October, more than twenty SGTFs met from Friday to Sunday taking the Congress as an ideal opportunity to gather a maximum number of their members for the group meetings. The meetings were followed up with presentations during the Working Sessions by the Coordinators of each group to report on the work of their groups over the last year.

Along with a record number of attendees, the 2016 Congress scientific programme had a record number of papers presented – 223 in total. Concurrent sessions had to be organised for both Study Groups – a first for the Agro-Phyto Study Group since 2004.

Abstracts of all presentations, PowerPoint presentations and available full manuscripts may be found on the CORESTA website at [www.coresta.org](http://www.coresta.org).



### Presentation Numbers

	No.	Total
Intergroup Papers and Posters	6	<b>6</b>
Agro-Phyto (Oral)	64	
Agro-Phyto (Posters)	17	
<b>Total Agro-Phyto</b>		<b>81</b>
Smoke-Techno (Oral)	51	
Smoke-Techno (Posters)	43	
<b>Total Smoke-Techno</b>		<b>94</b>
<b>Workshop Presentations</b>	16	<b>16</b>
<b>Sub-Group / Task Force Reports + ACAC</b>	23	<b>23</b>
<b>Invited Speaker Presentations</b>	2	<b>2</b>
<b>Prize Winner Presentation</b>	1	<b>1</b>
<b>TOTAL PRESENTATIONS</b>		<b>223</b>



### Future Meetings

- 8-12 October 2017 – Smoke Science / Product Technology Study Groups – Kitzbühel, Austria (Hosted by delfortgroup)
- 22-26 October 2017 – Agronomy & Leaf Integrity / Phytopathology & Genetics Study Groups – Santa Cruz do Sul, Brazil (Hosted by SindiTabaco)
- 2018 – CORESTA Congress – Kunming, China (Hosted by CNTC)

## SCIENTIFIC PROGRAMME

### Invited Speakers

Monday morning working sessions began with a plenary session where two keynote speakers, Delon Human and Jean-Louis Verrier, drew the audience's attention first to the theme of the 2016 Congress "bridging the gaps" and secondarily to CORESTA's 60-year background.

Delon Human, an international lecturer and health care consultant based in Switzerland, evoked the wide gap between industry science and public health. Jean-Louis Verrier, Breeding Manager at Bergerac Seed & Breeding in France, reviewed evolutions and challenges in tobacco agronomy during the past sixty years.

Delon Human noted that although tobacco is a major causative agent in the pathogenesis of non-communicable diseases, there has nevertheless recently been a significant increase in industry investment in tobacco harm reduction science and product development. He invited delegates to think about such questions as: Why has tobacco industry science consistently been ignored by public health? How can public and individual health benefit from industry science? What is the preferred future for industry-led tobacco harm reduction science? And what immediate steps need to be taken by industry R&D leaders?



Jean-Louis Verrier in turn recalled the evolution of cooperation since CORESTA was founded in 1956. He showed how institutes and university extension services have played a key role by providing assistance to tobacco growers with CORESTA coordinating the collaboration. He highlighted the necessity for social responsibility and compliance with regulations and declared that the leaf sector worldwide is facing a challenge, with a dramatically increased need for training and information but decreased means to satisfy it.



### Intergroup Papers

Altogether four intergroup papers had been selected for the Congress. The first topic, "*Enhancing sustainability in tobacco production: energy efficient curing barn development for smallholder growers in Zimbabwe*", was presented by Wisdom Munanga from the Tobacco Research Board, Zimbabwe. He reflected on the different possibilities of energy consumption in the tobacco curing process and their potential environmental impact while considering sustainable production.

The emergence of genome editing technologies is revolutionising the manner in which large, complex eukaryotic genomes may be modified. This was described in the second intergroup paper entitled "*High efficiency precision editing of the tobacco genome*" presented by Ralph Dewey from the North Carolina State University. The presentation pointed out that targeted mutagenesis via designer nucleases is far superior to traditional chemical- or radiation-based approaches commonly used by plant breeders. It also raised the question of whether plants modified in this manner are

"GM", and how they should be treated by regulatory agencies particularly within the European Union.

The third and fourth intergroup papers were presented by Christopher Wright and Jana Ticha, respectively, both from British American Tobacco, Group R&D. They recalled the Congress theme "bridging the gaps" in their two-part paper "*The fitness for purpose of existing tobacco product test methods*", which firstly identified the gaps and then showed how to bridge them by assessing, improving and harmonising the reproducibility of analytical methods.

### Agro-Phyto Presentations

Among the specific themes treated during Agronomy & Leaf Integrity and Phytopathology & Genetics sessions were nematodes, fungal diseases, soil nutrition, nicotine content in tobacco leaves, biotechnology, crop protection agents (CPAs), tobacco specific nitrosamines (TSNAs), breeding, virological and bacterial diseases, and sustainability. In the miscellaneous sessions, different approaches to alternative sucker control, organic tobacco, and the use of bio-oils were covered.

The nematode and fungal diseases sessions concentrated on tobacco cyst nematode (TCN), root-knot nematodes and black shank. TCN was reported to remain an important parasite of flue-cured tobacco in Virginia, USA. Resistance to root-knot nematodes on commercial tobacco cultivars in Zimbabwe was evoked and the use of the Katambora Rhodes grass variety (GHR1) for nematode management under tighter rotations was described. Also, a study investigating root-knot nematode species/races occurring in tobacco fields in Japan was presented.

The nutrition session dealt with different aspects of soil fertilisation, namely the effect of organic nitrogen sources and application rates, liming and soil nutrient availability. Efficiency of potassium use in tobacco leaf quality was likewise considered.

The Monday session on nicotine covered the spectrum from role of polyamines of low alkaloid tobacco varieties, passing through reduction of nicotine content by modification of transporter gene expression, to evaluation of three transgenic and three conventional varieties for low alkaloid production with three nitrogen variables.

In Tuesday's biotechnology session, *Nicotiana* genomes were highlighted and the important role of *Nicotiana tabacum* L. as a model organism for research was once again brought to the fore. Tobacco sucker control through biotechnology was discussed, and by the end of the morning the identification of differentially expressed axillary bud specific genes and their promoters had been explained.

CPAs had their own session on Wednesday. One of the papers discussed the range of greener and more compliant agrochemicals recommended for use in controlling insect pests, root-knot nematodes and diseases in tobacco production in Zimbabwe. Another paper focussed on the characterisation and degradable influence factors of carbendazim residues in tobacco leaf in China and there was also a presentation on the evaluation of non-tobacco labelled herbicides for late season application.

The session dedicated to Breeding presented varied topics ranging from the genetic diversity of *Nicotiana rustica* accessions using inter-simple sequence repeats, efforts made to understand the genetics of soil-borne resistance in flue-cured tobacco cultivar K346, to the electron-beam irradiation presented as an effective way to screen for elite flue-cured tobacco germination lines.





Wednesday's TSNA session presented a two-year experiment carried out to study the pattern of accumulation of benzo[a]pyrene (B[a]P) and TSNA during fire-curing. It also featured a paper on the establishment of a protocol for the procedure of sampling bales of tobacco presented for sale by growers as well as an investigation of the interaction relationship and effects on TSNA formation during leaf storage in incubation chambers.

Thursday's session on viruses and bacterial diseases covered the main concerns in this field. To mention just a few: Potato virus Y (PVY) resistance was discussed in three papers, a tobacco mosaic virus (TMV) study elucidated whether TMV infection on tobacco plants induced autophagy and *Ralstonia solanacearum* colonisation of tobacco roots was discussed along with factors affecting virulence.

The last Agro-Phyto session dealt with the different aspects of sustainability in tobacco production and curing in different countries. The problem of deforestation in Zimbabwe was examined. A strategy for saving energy and environmental conservation in the construction of large bulk curing barn groups by integrating hot water with central solar heaters was seen from a Chinese perspective. Another study from China described biomass moulding fuel (BMF) as an environmentally friendly and renewable energy source. The French specialists presented the EGES® method, which is the first French tobacco energy and greenhouse gas assessment. And last but not least, the Italian experts presented a study on energy saving and renewable energy production for a more sustainable tobacco crop.

### Smoke-Techno Presentations

The sessions dedicated only to Smoke Science and Product Technology presentations were divided as follows: Beiträge Journal, biomarkers, smokeless and heated tobacco products, methods, product design, consumer behaviour, ignition propensity, e-cigarette device parameters and methods, stewardship, and toxicology.

As the 2016 Congress took place in Berlin, the first Smoke-Techno session was almost entirely devoted to a much appreciated scientific journal, *Beiträge zur Tabakforschung International (BTFI)* (Contributions to Tobacco Science), headquartered in the city. The first presentation was reserved for one of the editors of the publication and gave an overview on the background, fields concerned, "landmark" papers, reviewing process, editorial structure, and future expectations of the journal. The second paper gave an insight into a special issue of the journal "*Devices for generation, exposure and collection of main stream smoke – from history to the future*". This presentation also took into account the cell systems used for evaluation of the toxic properties of tobacco smoke over the course of time. The third BTFI presentation highlighted the publication's time profile and various toxicological aspects reflecting changes that have taken place in the fields of smoking and health and within the tobacco industry over the last 55 years.

During the biomarkers session, as its name suggests, different studies were brought forward, e.g. biomarkers of exposure (BoE) in the presentation "*Reduction of harmful or potentially harmful constituents (HPHCs) following partial or complete substitution of cigarettes with electronic cigarettes in adult smokers*". The impact of smoking cessation on the metabolic profile

of former smokers was one of the subjects, along with the outcome of the targeted fatty acid analysis with the aim to reveal suitable biomarkers of effect relevant to tobacco smoke exposure.

The smokeless and heated tobacco products session brought together various topics of interest, among which an UHPLC-MS/MS NDMA analysis method as well as experiments on heat-not-burn (HnB) tobacco substrates. Tuesday morning presentations were all about analytical methods and parameters in order to develop better measurement instruments, to determine components and also to ensure consistency in quality. Delegates interested in tipping papers and different paper composition properties were spoilt for choice in the product design session, with papers on filters, pressure drop, reduction of phenol deliveries, fine-cut smoking articles and storage conditions.

Tuesday sessions continued with papers on consumer behaviour, characterisation of puff topography variables among electronic and conventional cigarette smokers, measurement of addictiveness, and better understanding of the impact of self-extinguishment during smoking on consumer exposure. Different aspects of ignition propensity (IP) were covered in presentations on studies on IP measurement tests on smouldering combustion of the cellulosic substrate, and regulatory aspects of implementation of lower ignition propensity (LIP) were taken into account.

E-cigarette devices and e-vapour products were approached from different angles during the Congress. The main concerns being how to make them even safer and how to assess the potential risks for consumers. Analytical methods and generated data were presented under various topics including computational modelling of e-vapour aerosol dynamics, deposition in the respiratory tract, evaluation of e-cigarette formulations and aerosols that are known to contain trace levels of tobacco derived constituents. All in all a clear message for responsible manufacturers was that appropriate stewardship should be undertaken to provide reassurance to both consumers and regulatory authorities.

### Workshops

CORESTA Congresses and meetings have been holding workshops since 2009 and these are steadily gaining in popularity as a working platform and team teaching tool where panelists interact with the audience. This year's CORESTA Congress offered a series of workshops that allowed many experts with a broad field of skills to share their knowledge.

**Extension and Training:** On the Agro-Phyto side, the first workshop discussed how scientific progress in key technologies can be transmitted to growers and field technicians in different parts of the world. The focus this time being on China, USA and Zimbabwe. An interesting and vivid discussion concluded that extension and training were a necessity and concerted efforts should continue to be made to reach as far an audience as possible.





**Nicotine:** The second workshop was on nicotine, a subject common to all delegates and therefore open to all in a plenary session. One of the invited panellists, having had to cancel his attendance at the last minute, managed to participate via videoconference and was thus heard and seen even better by the audience. The rationale behind the WHO TobReg's "global nicotine reduction strategy" was highlighted and the key aspects of nicotine's role in smoking behaviour were examined in the discussion. An important topic of the workshop was the reduction of nicotine content in leaf tobacco and its direct impact on leaf production, not to mention genetics-based reduction of nicotine content in tobacco.

**Toxicant Ceilings:** On the Smoke-Techno side one of the hot topics is toxicity of products. The proposals by the WHO TobReg study group to introduce ceilings for the nicotine-corrected levels of selected toxicants in cigarette emissions were presented. The workshop participants agreed that the methods and tests to fix those ceilings need to be backed and validated by robust science and their impact on farmers and suppliers requires close examination.



Nicotine Workshop panellists



Poster Session

**Reference Products:** CORESTA has played a key role in supporting the tobacco research community by providing reference products for a long time. These are an invaluable laboratory tool for scientists and are commonly used by testing facilities to verify ongoing method performance, detect analytical method drift and to qualify or validate new analytical techniques or methods. The availability of tobacco reference products was reviewed and differences in design characteristics discussed during the workshop.

### Posters

62 were displayed from Monday to Wednesday. Similarly to the 2014 Congress, the poster session ran concurrently with the General Assembly and the Board and Scientific Commission elections. This time scheduling avoided the overcrowding of poster session space and the presenters were well at ease to show their posters and answer delegates' questions.

## SOCIAL PROGRAMME

The Congress was officially launched on Sunday night by the CORESTA Board President, Diane Raverdy-Lambert and the CORESTA Secretary General, Pierre-Marie Guitton, as CORESTA was the official host of the Congress. At the top of the hotel lobby stairs, they welcomed all the delegates and led the way to a casual welcome cocktail in 'Berliner Cabaret' style. While cabaret singers and musicians provided rhythm entertainment, the delegates enjoyed drinks and local German delicacies, whilst reconnecting with peers and meeting newcomers.

The accompanying persons' programme included a guided day tour to Potsdam, the former residence of the Prussian rulers with its palaces and gardens, and a half day walking tour in Berlin during which they had an opportunity to enjoy historical sights and main attractions and to see Berlin from the river Spree during a scenic boat trip.

The closing Gala Dinner on Thursday evening was organised at the Estrel Festival Centre and featured the show "Stars in Concert". A talented Elvis Presley look-and-sound-alike artist began the show and later, during dinner, was followed by "Madonna", the "Blues Brothers", "Rod Stewart", "Tina Turner" and "Michael Jackson", all accompanied by a band and dancers. The quality of artists made them at times virtually indistinguishable from the real artist and the audience was thrilled with the performances.

The CORESTA medal awards ceremony also took place during the evening, however the presentation was not done by a look-alike but by the President of the Board, Diane Raverdy-Lambert, herself. Her two-year term being over, she warmly thanked all CORESTA members for their cooperation and welcomed the new Board President, Huub Vizée. The Gala Dinner was topped off with a birthday cake to celebrate CORESTA's 60-year anniversary.

The Congress was organised by the CORESTA Secretariat who warmly thanks the Trocadero Swing event planning team for their assistance, and the generous sponsors, who all helped make this event such a memorable success.



Diane Raverdy-Lambert



"Stars in Concert"



Delegates in admiration

## CHARACTERISING FLAVOURS - A Brainstorming Scientific Session

On 7 October 2016, a satellite session to the CORESTA Congress in Berlin was convened to discuss the European Union's characterising flavour requirements. The meeting, chaired by Liliana Chaves from Imperial Tobacco, considered the background to the requirements, measures companies with an interest in this area may take and whether CORESTA could have a supporting scientific role. A detailed presentation of the European Union's Tobacco Product Directive (TPD) requirements on characterising flavours and the current status of implementing acts was given to start the session. Following this, a number of key questions were discussed, focusing on the opportunities available, and the need for any scientific action. Views were exchanged on whether any scientific activity on this topic would be premature or if available opportunities have passed. The CORESTA Secretary General, Pierre-Marie Guitton, offered his support to any of the attendees who may seek to initiate a new work item proposal or working group under the CORESTA umbrella.

The session was well attended with over 40 participants from Canada, India, Korea, Malawi and USA, international laboratories and the University of Kentucky as well as representatives from the European flavour companies and the tobacco industry.

Overall, the session succeeded in highlighting this topic so that participants left well informed. Attendees are now able to discuss the subject outside the CORESTA forum with a broader picture of the industry's views, which may lead to additional discussion and proposals on the management of this important regulatory area.

## AWARDS

### CORESTA PRIZE



**Steve PURKIS** joined Imperial Tobacco Limited in 1971 and gained his honours degree in Chemistry in 1977 through part time study. For many years he worked as a Research Scientist with his main interests in tobacco and smoke chemistry and emphasis on flavour characterisation. By the mid-1980s, Steve was involved in numerous scientific areas such as information science, patent portfolio management, product development and smoking and health issues. In the 1990s, he coordinated the internal product stewardship programmes across the full tobacco portfolio for raw tobaccos, unsmoked blends and smoke analysis, including the testing then reduction of agrochemical usage on tobacco bought by Imperial. In 2003, he presented to both the UK Department of Health (DoH) and Health Canada on "Hoffmann Analyte" variability using smoke data commissioned by Imperial. From the late 1990s onwards, Steve represented his company at working groups in the UK Tobacco Manufacturers' Association on "Environmental Tobacco Smoke", "Fate of Additives During Smoking", "Technical Steering Group" and the Scientific Liaison Working Group concerned with tar, nicotine compliance testing. He co-wrote papers to explain the usefulness of a forum with the Government agencies to discuss effects of methodology changes on yield data and product compliance and another paper generally reviewing smoke data variability issues and cases of misinterpretation. At CORESTA, he presented the data from the UK benchmark study requested by the UK DoH. Within the European manufacturers' association

(CECCM), Steve presented data on "Low Ignition Propensity" to the European Commission and for Imperial to several individual European Government agencies. Within ISO from early 2000 onwards, Steve was a member of expert working groups (WG8, WG9 and WG10) and regularly presented data within WG10 on the use of alternative smoking regimes for smoke collection, analysis and interpretation. He ensured that relevant work was published in the expanding Imperial Tobacco Group and helped create the Imperial Science website to ensure that important data was freely available in the public domain.

Steve served in several CORESTA Groups and took over the secretary role in the Special Analytes SG in 2005 where he led the publication of the work on method development of key smoke analytes identified as of regulatory interest alongside repeatability and reproducibility data from associated collaborative studies. He presented a summary of this work to the US FDA. Steve has authored or co-authored 23 publications and presented or co-authored 14 presentations and 5 posters given at CORESTA and Tobacco Science Research Conference (TSRC) gatherings. He was invited to give one of the key themed presentations at the 2013 TSRC.

From 2008 to 2014 Steve was elected as President of the CORESTA Smoke Science Study Group in the Scientific Commission (SC). He felt it important to demonstrate externally the value of CORESTA and that senior SC members should help, support and encourage scientists across the various SGs to produce clearly written publications that not only identified key objectives and conclusions but also provided perspective. He encouraged conference workshops as a useful tool to educate young and newly introduced scientists to the tobacco world and the placement of information on the CORESTA website regarding the relevance and successes of the study group activities. Although now retired, Steve is still on the Editorial Board of the *Beiträge* journal.

### CORESTA MEDALS

#### Gold Medals



**Michael INTORP** joined Reemtsma R&D in 1984 as a research scientist and started to manage an analytical research laboratory in 1985. He was involved in product research projects and method development for tobacco, smoke and ingredient constituents. He and his team introduced environmental tobacco smoke (ETS) measurements which now enables the measurement and evaluation of components from combustible and heated tobacco product categories. Michael developed methods to characterise compounds evaporating or migrating from the packaging onto the tobacco products as a quality assessment for suppliers. Michael's team also developed a new technical process for the treatment of Burley tobacco in primary processes in Reemtsma factories. After the take-over of Reemtsma by Imperial Tobacco in 2002, he was in charge of the Special Analytes Laboratory in Hamburg. Following the merger between Imperial Tobacco and Altadis, Michael gained overall responsibility for the Group's Non Routine Laboratories in Germany and France.

Michael has been actively involved in CORESTA since 1987. He contributed to the activities of the Routine Analytical Chemistry, ETS and Smokeless Tobacco SGs and was a member of the Sidestream Smoke and Alternative Smoking Regimes TFs. Since 1999, he was engaged in the Special Analytes SG first as Secretary then as Coordinator. During this period the SG contributed to the scientific dialogue between the tobacco industry and regulatory authorities by the publication of study reports and presentations to FDA. The group also published six recommended methods, four of them now ISO standards. Michael was elected to the Scientific Commission as President of the Smoke Science Study Group in 2014. He was awarded a CORESTA bronze medal in 2006 and a silver medal in 2012.



**Jean-Louis VERRIER** obtained a the AgroParisTech master of engineering in 1976 and a doctorate in Plant Ecology in 1979. After working as maize then sugar beet breeder in France and Canada, he joined the SEITA Institut du Tabac de Bergerac in 1994. At that time French smokers were shifting from dark to blond cigarettes and specific cultivars were needed. In charge of tobacco breeding, Jean-Louis headed the development of such cultivars, which eventually were found useful in Europe, then Africa and Asia. This contributed to the background on which the company Bergerac Seed & Breeding (BSB) was set up in 2015, following the closure of the former Institute. Jean-Louis now pursues his breeding work at BSB, with the aim of transferring his knowledge to younger colleagues.

Jean-Louis began his involvement in CORESTA in 1995 when he proposed to set up a new SG dealing with the widespread Potato Virus Y. He coordinated this group, and also coordinated the blue-mould collaborative study until 2001. Since 2000, Jean-Louis has served six terms with the Scientific Commission, as Member, Secretary, then President of the Phytopathology Group, and President of the Scientific Commission in 2012. He helped to set up different Sub-Group and Task Forces, including the project to translate into English the e-Phytia® tabac website and Di@gnoplant application, paving the way for the current Extended Diagnostic Expert System TF which aims to collect worldwide data on tobacco diseases. Since 2000, Jean-Louis has presented papers at each CORESTA Congress or Agro-Phyto Meetings on tobacco breeding, phytopathology, tobacco leaf chemistry and smoke components. He was awarded a CORESTA bronze medal in 2002 and a silver medal in 2006.





## Silver Medals



**Colin FISHER** grew up on a tobacco farm in Zimbabwe. He studied plant pathology and worked at the Tobacco Research Board during university breaks and then joined the staff in 1979. He attended his first CORESTA meeting in 1980. He became Coordinator of the Collaborative Study on Powdery Mildew from 1986 to the end of the study in 1992 and was Coordinator of the Collaborative Study on Bacterial Wilt from 2002-2008. Colin served two terms as a Member and one term as Secretary of the Phytopathology Study Group of the Scientific Commission from 1988-1996, first with the Tobacco Research Board, then Universal Leaf in Kazakhstan, and again from 1998-2000, when he was working for Universal Leaf in Poland. He joined the University of Kentucky in 2008 and currently is Coordinator of the TSNA in Air-cured and Fire-cured Tobacco SG, an author and co-editor in the Integrated Pest Management SG and he collaborates in the Agrochemical Residue Field Trials SG. Colin received a Bronze Medal in 1994.



**Eeva MARIIGNAC** obtained a Master degree in English Literature from a French University, and later a diploma of Intermediate Studies in Psychology and Special Education from a Finnish University. When she started to work in CORESTA as a part time documentation assistant in 1985, she had in mind to stay for a couple of months. However, in 1990 she was offered a full time job as a translator in charge of documentation. Since then she was involved in producing the CORESTA Bulletin (at the time it was bilingual) and the former CD-ROM. More recently, she translated the Di@gnoplant website and application and wrote articles for the Newsletter and various tobacco journals. Today, she manages the follow-up of the Sub-Group and Task Force documents, she is the Coordinator of the Extended Diagnostic Expert System TF, and a member of Website and Standards TFs. Last but not least she is actively involved in organising the CORESTA yearly events, and particularly the 2016 Congress. Eeva received a Bronze Medal in 2006.



**Keisuke NAKAYAMA** is Principal Research Scientist at Japan Tobacco Inc., Tokyo, in the Corporate Scientific and Regulatory Affairs division. After graduating from the School of Pharmaceutical Sciences, he started his career in the pharmaceutical and agrochemical industry in 1983. He joined Japan Tobacco Inc. in 2002 and took responsibility for various product stewardship programmes including CPA management in tobacco products. Keisuke joined the CORESTA Agrochemical Advisory Committee in 2004 and has been involved in reviewing existing and establishing new GRLs. He had a leading role in documenting the scientific basis for each GRL and "residue definition". Since "residue definition" is an integral part of the GRL list, he has been spreading the importance of "residue definition" to also the Agrochemical Analysis SG. Furthermore, he compiled a GMO dossier as one of the ACAC activities. Since 2012, he coordinates the CORESTA Agrochemical Residue Field Trial SG and completed the first 3-year cycle trial. Keisuke received the Bronze Medal in 2008.

**Stephen STOTESBURY** has been a member of the tobacco science community for over 25 years. Obtaining his PhD in Chemistry in 1984, he worked as a scientist for the UK Defence Ministry before joining BAT's R&D Department in the early 1990s, moving to regulatory science in Imperial Tobacco from 2000. Within CORESTA, Stephen participated in various Sub-Groups including Routine Analytical Chemistry from 1992 to 1996 and Cigar between 2004 and 2006. He was elected to the Scientific Commission in 2002, serving two terms as Secretary of the Product Technology Study Group. He was involved in organising the 1998 CORESTA Congress in Brighton, UK, alongside Richard Baker, and was responsible for organising the 2005 Smoke-Techno meeting for Imperial Tobacco in Stratford-upon-Avon, UK. Stephen has made presentations at a number of Congress and Study Group meetings between 1993 and 2014. Since 2014, he has represented Imperial Tobacco at the CORESTA Board, chairing the Science Communications Committee which coordinated several of the workshops at the present Congress. Stephen received the Bronze Medal in 2006.



## Bronze Medals



**Pierre-Marie GUITTON** (Secretary General, CORESTA, France) was appointed Secretary General in 2010. Pierre-Marie has since initiated a number of evolutions in the way CORESTA is managed, redefining the new Membership structure, promoting the establishment of the E-Cigarette TF, representing CORESTA in external events and formalising the management of the ever increasing number of documents published by CORESTA. Pierre-Marie also actively contributes to the Standards and Website TFs and coordinated the organisation of the CORESTA events in Quebec, Izmir and Berlin.

**Wolfgang TRINKIES** (Analytics Development Manager, British American Tobacco, Germany) started participating in CORESTA in 2001 as Coordinator of the TF on Pressure Drop, mainly dealing with improvements related to calibration of transfer standards. In 2005 he initiated the establishment of a SG dealing with physical topics. This Group was launched as the Monitoring and Maintenance of Physical Test Methods SG (now shortened as Physical Test Methods), which he coordinated from 2005-2007. Aside from other CORESTA activities, Wolfgang currently brings his ISO standardisation expertise to the CORESTA Standards TF.



**Huib VIZÉE** (Head of Regulatory Affairs, delfortgroup AG, Austria) joined CORESTA for the first time in 1994 as a member of the Fine Cut Tobacco TF. He then participated in several TFs and SGs, such as Tobacco Factory Emissions and Routine Analytical Chemistry and in 2008 he became Member of the Board, representing Imperial Tobacco until 2010. In 2012 Huib again became a Board Member on behalf of delfortgroup and he served the last two years as Vice President. On behalf of the Board, he is also the liaison member of the Website TF.

**Kei YOSHINO** (Chief Scientist, Scientific Product Assessment Center, Japan Tobacco Inc., Japan) has been actively involved with the In Vitro Toxicity TF since 2002, becoming Secretary in 2012 and its Coordinator since 2013. With the need for long term work on toxicity issues, the Task Force became a Sub-Group in 2015. From 2010-2014 Kei served on the Scientific Commission as Secretary of the Smoke Science Study Group and was In Vitro Toxicity SG liaison.

The CORESTA Prize and medals were presented to the recipients by the outgoing President of the CORESTA Board, Diane Raverdy-Lambert.

## GENERAL ASSEMBLIES

CORESTA held an Extraordinary and Ordinary General Assembly on Wednesday, 12 October 2016. Member companies present totalled 76 and a further 8 were represented by proxies, out of the 150 CORESTA Member Organisations.

The General Assembly was chaired by Diane Raverdy-Lambert, the outgoing President of the Board. The report on CORESTA activities for the years 2015 and 2016, together with the financial report for the 59<sup>th</sup> and 60<sup>th</sup> Financial Years, was presented by the CORESTA Secretary General, Pierre-Marie Guitton. As outlined in the Statutes, the detailed CORESTA Activity Report had been distributed to the official delegates of Member Organisations before the Congress.

With regards to the voting system, this year saw the introduction for the first time of a new electronic voting system. The logistics procedure remains to be fine-tuned but it is expected that this technological innovation will hopefully lead to significant time savings in the future.

The proposed amendments to the CORESTA Statutes, Internal Rules and Rules Governing the Functions of the Scientific Commission and Study Groups were explained in detail, put to the electronic vote and approved with a large majority. This was followed by the election of the Board.



## MODIFICATION OF STATUTES AND RULES

Due to the rapid evolution of new products, the modification of the purpose and scope of CORESTA, as defined in the association Statutes, was necessary in order to incorporate work being done on tobacco derived products. This change also entailed adjustments to the CORESTA Internal Rules. Other changes were made in terms of elections (possibility to allow voting systems other than paper ballots, Member Organisation voting rights, and the abrogation of co-option for the appointment of members within the Executive Committee of a Study Group). The opportunity was taken to review and edit some additional paragraphs for purposes of clarity and consistency.

### 2016-2018 BOARD

Five companies were elected to the Board for a four year term of office and four companies were co-opted.

#### ELECTED MEMBERS

##### A) Members elected in 2014 (for 4 years)

delfortgroup AG (Austria)  
KT&G Corporation (South Korea)  
Reynolds American Inc. Services Co. (USA)  
SWM International, Inc. (USA)  
Universal Leaf Tobacco Company (USA)

##### B) Members elected in 2016 (for 4 years)

Alliance One International, Inc. (USA)  
British American Tobacco (UK)  
China National Tobacco Corporation (China)  
Imperial Tobacco Ltd (UK)  
Japan Tobacco Inc. (Japan)

#### COOPTED MEMBERS (for 2 years)

Alternative Ingredients, Inc. (USA)      Swedish Match AB (Sweden)  
Borgwaldt KC GmbH (Germany)      University of Kentucky (USA)

#### Board President: Huub VIZÉE, delfortgroup AG, Austria



Huub Vizée has a degree in chemistry and joined the tobacco industry 29 years ago. During that period he held several positions in leaf buying and blending, quality, research, product development and engineering before becoming Head of Group Regulatory Development at Imperial Tobacco. He subsequently joined delfortgroup AG as Head of Regulatory Affairs. In 1994 he participated in CORESTA for the first time as a member of the Fine Cut Tobacco TF. He then was active in several SGTfS, such as Tobacco Factory Emissions and Routine Analytical Chemistry and in 2008 became Member of the Board, representing Imperial Tobacco until 2010. In 2012 Huub again became a Board Member on behalf of delfortgroup and served the last two years as Vice President. Huub has also been on the CECCM and ECMA Boards and for the last two years has been part of the GTNF Advisory Board.

#### Board Vice-President: Diane RAVERDY-LAMBERT, SWM International, France



Diane Raverdy-Lambert has an MSc in Agricultural Engineering from Lasalle Beauvais Institut Polytechnique. She joined SWM's affiliate LTR Industries in 1990 as a product developer and worked in several R&D and regulatory affairs positions dealing both with reconstituted tobacco and papers. Diane is currently SWM Chief Scientist & Director Regulatory Affairs. She attended her first CORESTA Congress in 1990 and participated in the RYO and Cigarette Butt Degradability TFs and the Tobacco Factory Emissions SG. Diane was elected member of the Scientific Commission in 2004 and served as President (2006-2008), then Secretary (2008-2010), of the Product Technology Study Group. She has represented SWM on the CORESTA Board since 2010 and was President of the Board from 2014-2016.

## STUDY GROUPS

Following the voted annulment of co-options by the General Assembly, representatives of the CORESTA Member Organisations elected all 20 members to the Scientific Commission. 12 executives were re-elected and eight members were newly elected. A full meeting of the Scientific Commission was held during lunchtime on 13 October, with both the outgoing and incoming executives present to ensure a smooth transition of roles between the members.





## 2016-2018 SCIENTIFIC COMMISSION



### Scientific Commission President

Michael MEGER, JT International S.A., Switzerland

Michael holds a PhD in bio-analytical chemistry and has a professional background in product technology, smoke analysis and exposure monitoring. He joined JTI Scientific & Regulatory Affairs in 2002. Michael also serves as member and nominated expert in several technical committees, associations and international working groups.



### Scientific Commission Vice-President

Lea SCOTT, Universal Leaf Tobacco Co., USA

Lea obtained a BSc in Agronomy from North Carolina State University. He is currently the Vice President of Agronomy Services at Universal Leaf Tobacco Company, Inc. He coordinates Universal's global agronomy production and R&D programmes and represents Universal on agro-science issues. Lea also serves on the CORESTA Agrochemical Advisory Committee.

## AGRONOMY & LEAF INTEGRITY STUDY GROUP

### President

Lea SCOTT, Universal Leaf Tobacco Co., USA (*see above*)

### Vice-President

Anthony JACKSON, Premium Tobacco International DMCC, UAE



Anthony holds a BSc Hons in Agriculture from University of Natal. He has been involved in tobacco production since 1980 and has wide experience both in Africa and Asia. He is responsible for coordinating global agronomy and compliance programs for the Premium Group. He has represented Premium in a number of forums and has

recently been appointed to the CORESTA Agrochemical Advisory Committee by the SC.

### Secretary

Marcos LUSSO, Altria Client Services, USA



Marcos has a PhD in Plant Pathology and extensive training in tobacco breeding, agronomy and curing practices. He has worked in tobacco since 1992 and his current position is Associate Principal Scientist at Altria Client Services in Richmond, Virginia, USA.

### Member

Keisuke NAKAYAMA, Japan Tobacco Inc., Japan



Keisuke has an MSc in Pharmacology of Pharmaceutical Sciences and worked in the pharmaceutical and agrochemical industries before joining Japan Tobacco Inc. in 2002. He is currently Principal Research Scientist in the JT Corporate Scientific and Regulatory Affairs division. Keisuke is also a Coordinator of the CORESTA Agrochemical Field Residue Trials SG and serves on the Agrochemical Advisory Committee.

### Member

Yongfeng GUO, Tobacco Research Institute, Academy of Agricultural Sciences, China



Yongfeng holds a PhD in Horticulture from Cornell University. He is currently a professor and lead scientist of Tobacco Functional Genomics at the Tobacco Research Institute of CAAS. His research focus includes molecular regulation of leaf senescence.

## PHYTOPATHOLOGY & GENETICS STUDY GROUP

### 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 Senior Principal Scientist and technical leader for biotechnology at Altria Client Services in Richmond, Virginia, USA. She has been active in CORESTA since 1999 and participates in various SGTfS.

### Vice-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 SG and participates in other Agro-Phyto SGTfS.

### Secretary

Irving BERGER, British American Tobacco (Souza Cruz SA), Brazil



Irving holds a PhD in Agronomy from the University of Sao Paulo, Brazil. He has been with BAT (Souza Cruz) for over 10 years and is currently Leaf Science & Innovation Senior Manager. Irving also serves on the CORESTA Agrochemical Advisory Committee

### Member

Susan DIMBI, Tobacco Research Board, Zimbabwe



Susan has a PhD in Agricultural Entomology and a professional background in tobacco plant pathology and entomology. She has worked for the TRB since 2003 and is currently the Assistant General Manager, Research & Extension. Her main responsibility is to coordinate the research and extension programmes. Susan also teaches at various Zimbabwean universities and has been active in several CORESTA SGTfS since 2006.



## PHYTOPATHOLOGY & GENETICS STUDY GROUP (continued)

### Member

Fabienne MORNET, 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 is working in the Global Leaf Agronomy Department as CPA Compliance Manager. She has been active in several CORESTA SGTFS and participated several times in Agrochemical Advisory Committee meetings as an observer.

## SMOKE SCIENCE STUDY GROUP

### President

Martin BLUMENSTOCK, British American Tobacco, Germany



Martin holds a PhD in analytical chemistry from the Technical University, Munich. During his 14 years of service for BAT he obtained experience on product technology & analysis and scientific & regulatory affairs. He is an active member in various national and regional technical committees and currently heads-up BAT's Western Europe Analytical labs in Bayreuth, Germany.

### Vice-President

Xavier CAHOURS, Imperial Tobacco Limited - 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 also the secretary of the CORESTA Smoking Behaviour SG.

### Secretary

Rob STEVENS, ITG Brands, USA



Rob holds a PhD in Analytical Chemistry and has over 23 years of tobacco science and product technology experience. He is currently the Director, Product Science at ITG Brands. He has been active in several diverse areas of CORESTA including Secretary of the E-Vapour SG, and member of Cigarette Variability TF, Routine Analytical Chemistry and Special

Analyses SGs. He is also a member of US TAG for ISO/TC 126.

### Member

Paul HARP, RAI Services Co., USA



Paul has a PhD in Pharmaceutical Sciences and is certified as a Diplomat of the American Board of Toxicology. He joined R.J. Reynolds Tobacco Co. in 2001 and he is currently Director Product Integrity at RAIS, where he leads the Agrochemical Stewardship Program and also leads various initiatives of the RAIS Product Stewardship Program. He has been a member of the CORESTA Agrochemical Advisory Committee since 2009.

### 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 Chief Scientist in the Product Science Division, R&D Group.

## PRODUCT TECHNOLOGY STUDY GROUP

### President

Stéphane COLARD, Imperial Tobacco Limited - SEITA, France



Stéphane has MSc in Engineering and Electronics, and a PhD in Materials Science. He has worked for the tobacco industry for 17 years and developed Quality Systems and managed physical, smoking, analytical and toxicological testing labs. He is now responsible for the ITL Scientific Research Dept. leading studies in relation with current and future regulations. He is Coordinator of the CORESTA Standards TF.

### Vice-President

Bernhard EITZINGER, delfortgroup AG, Austria



Bernhard obtained an MSc degree in mechanical and electrical engineering and a PhD in non-linear systems theory. He joined delfortgroup AG in 1998 and has been working in R&D focusing on the paper components of cigarettes and their effect on the final product. He is the coordinator of the CORESTA Physical Test Methods SG and member of the Advisory Board of *Beiträge zur Tabakforschung*.

### Secretary

Karl WAGNER, Altria Client Services, USA



Karl has a PhD in Analytical Chemistry. He is an Associate Principal Scientist working in Regulatory Sciences at Altria Client Services LLC. Karl has worked in the industry for over 17 years in a variety of positions including contract lab management, product stewardship and analytical sciences. He is the Coordinator of the CORESTA Smokeless Tobacco SG and Administrator for the US Technical Advisory Group to ISO/TC 126.

### Member

Bin HU, Zhengzhou Tobacco 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 is currently senior engineer in tobacco chemistry. His research focuses mainly on agrochemical analysis and chromatography analysis.



## CORESTA REPORTS

The following reports have been published on the CORESTA website at [www.coresta.org](http://www.coresta.org):

- **Report on the 2nd Round Robin Test for Multi-Capillary Ventilation Calibration Standards (2013/2014)**  
Technical Report – August 2016 (Sub-Group Physical Test Methods)
- **Report on the 3rd Round Robin Test for Multi-Capillary Ventilation Calibration Standards (2014/2015)**  
Technical Report – November 2016 (Sub-Group Physical Test Methods)
- **Report on the 10th Round Robin Test for Multi-Capillary Pressure Drop Calibration Standards (2014)**  
Technical Report – August 2016 (Sub-Group Physical Test Methods)

The above three reports are part of a nominally annual cross-check organised by the CORESTA Physical Test Methods (PTM) Sub-Group for calibration laboratories to compare their capability to calibrate standards used in physical test instrumentation. The 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.

- **Recommendation of Measurement Area for Air Permeability Determination of Super-Slim Cigarette Papers**  
Technical Report – September 2016 (Sub-Group Physical Test Methods)

This report was prepared for submission to ISO in the context of a future revision of ISO 2965:2009 "*Materials used as cigarette papers, filter plug wrap and filter joining paper, including materials having a discrete or oriented permeable zone and materials with bands of differing permeability – Determination of air permeability*". Specifically, neither the ISO Standard nor the equivalent CORESTA method (CRM No. 40 - *Determination of Air Permeability of Materials used as Cigarette Papers, Filter Plug Wrap and Filter Joining Paper including Materials having an Oriented Permeable Zone*) incorporate a recommendation for the measurement of samples of cigarette paper that are not fully enclosed by the smallest measurement clamp that is currently specified.

## CORESTA RECOMMENDED METHODS

### Updated

- **CRM No. 6** – Determination of Ventilation - Definitions and Measurement Principles  
(*Third edition – September 2016*)

This CORESTA Recommended Method (CRM) specifies a method for the determination of ventilation applicable to cigarettes. This update will serve as a basis for the revision of ISO Standard 9512.

### CORESTA CRM No. 72 submitted to ISO

The Scientific Commission and Board authorised CORESTA to bring a New Work Item Proposal to the International Organisation for Standardization (ISO) Technical Committee on Tobacco and Tobacco Products (TC 126).

- **CRM No. 72 – Determination of Tobacco Specific Nitrosamines in Smokeless Tobacco Products by LC-MS/MS.** This method is applicable to the determination of TSNAs in smokeless tobacco products (e.g. moist snuff, snus, chewing tobacco and dry snuff) and raw tobacco. It was proposed in June 2016, circulated to ISO Members and approved in September as a New Project under ISO No. 21766. The project leader is Johan Lindholm (Swedish Match), current Secretary of the Smokeless Tobacco Sub-Group.

Currently, 36 CRMs have an ISO equivalent, and six (CRMs 70, 72, 74, 75, 79 and 81) are under development as ISO Standards.

## CORESTA GUIDES

### New – CORESTA Guide No. 18

Technical Guide for Sample Handling and Sample Collection of E-Cigarettes and E-Vapour Generating Products (*November 2016*)

The objective of this guide, for use by the industry and independent testing laboratories, is to describe the sample handling process after a sample has reached a laboratory and also to recommend general guidance for sample collection. The objective of sample handling is to minimise sample deterioration and to reduce variability in analytical results. The guide covers sample storage, e-liquid extraction preparation and aerosol collection.



## Physical Test Methods Sub-Group Meeting (UK)

The Physical Test Methods (PTM) Sub-Group held its autumn meeting in advance of the CORESTA Congress in Berlin, Germany, on October 7, 2016. The meeting was well attended by 22 participants with a number of new participants and new member companies showing interest in the work of the PTM Sub-Group. The Sub-Group experienced yet another change in its executives. Jing Yi (ZTRI) resigned as secretary and Patricia Müller of delfortgroup volunteered to take over this position, which was approved by the participants.

At the meeting the current status of the two main regular studies, the annual proficiency test on physical parameters and the round robin tests on calibration standards, was discussed. The PTM Sub-Group is intensively working to reduce the backlog of reports that has accumulated in recent years due to difficulties with the statistical evaluation and uncertainty about requirements resulting from the work of the CORESTA Standards TF. These issues have now been overcome and the PTM Sub-Group is optimistic that it will catch up with all reports until April 2017, so that at that time no open reports remain pending.

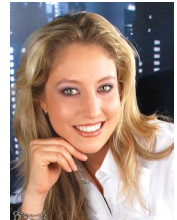
Apart from these regular work items the PTM Sub-Group continues to develop a CRM on Snus Pouch Sealing Strength and expects to be able to submit a final draft for approval by the Scientific Commission in the second half of 2017.

Also two new work items have been discussed. It was agreed to carry out a third proficiency test on diffusion capacity of lower ignition propensity cigarette papers and participation of about 10 laboratories is expected. This work item has already been approved. Further, the PTM Sub-Group will propose the development of one or more CRMs related to physical measurements on flavour capsules for filters. A small working group has been established to more precisely define the scope of this proposal so that a New Work Item Proposal (NWIP) is planned to be submitted after the spring meeting in 2017.

The 24<sup>th</sup> meeting of the PTM Sub-Group will take place on April 27, 2017, in Trier, Germany, upon kind invitation by Japan Tobacco International.



Bernhard EITZINGER  
PTM SG Coordinator



Patricia MÜLLER  
PTM SG Secretary

## NEW CORESTA WEBSITE

[www.coresta.org](http://www.coresta.org)

The new website project has been divided into three development phases:

- **Phase 1:** the public section (completed in April 2016).
- **Phase 2:** the general Members' section.
- **Phase 3:** the Sub-Groups, Task Forces and Committees working section.

The Members' section was launched in September 2016 and a presentation made at the Congress by the Website TF Coordinator, Natacha de Tervavent.

This section contains the following information and features:

- User account.
- Additional CORESTA presentations.
- CORESTA full manuscripts.
- Bookmark feature for abstracts and other documents.
- Export of abstracts into PDF and/or Excel.
- Additional Sub-Group and Task Force meeting information, when available.
- General Member information.
- Commonly used CORESTA admin forms.
- Image Gallery.

The Members section is open to persons belonging to CORESTA Member Organisations. Applications for access can be made by completing the "Join CORESTA Extranet" form under the "Member Access" link located at the top right of the CORESTA website.

Work on Phase 3 is now underway. This section will be reserved for the work of Sub-Groups, Task Forces and Committees and accessible only by the members of these groups.

The image displays three screenshots of the CORESTA website. The top screenshot shows the 'Member Access' page with a login form for email and password, and links for 'Log in', 'Forgotten your password?', and 'Join CORESTA Extranet'. The middle screenshot shows a user profile for 'Jane DOE', Scientific Director at ABC Corp, GREENLAND, with a LinkedIn URL and bio. The bottom screenshot shows a document page for 'Changes in e-cigarette aerosol during transport for toxicology studies' by TINDALL I, JONES C, and COLE A. The document page includes a presentation slide, full manuscript, authors, organizations, and sources.



## UPCOMING CORESTA MEETINGS (2017)

Meeting	Date	Location
Agrochemical Advisory Committee (ACAC)	9-10 January	Geneva, Switzerland
Scientific Commission	11-12 January	Geneva, Switzerland
Board	13-15 February	Santa Cruz do Sul, Brazil
SG In Vitro Toxicity Testing (IVT)	11 March	Baltimore, MD, USA
SG Cigar Smoking Methods (CSM)	16 March	Hamburg, Germany
SG Smoking Behaviour (TSB)	19 April	Orlando, FL, USA
SG Biomarkers (BMK)	19 April	Orlando, FL, USA
SG Physical Test Methods (PTM)	27 April	Trier, Germany
TF Cigarette Variability (CVAR)	1 May	Charlottesville, VA, USA
SG E-Vapour (EVAP)	2 May	Charlottesville, VA, USA
SG Smokeless Tobacco (STS)	3 May	Charlottesville, VA, USA
SG Routine Analytical Chemistry (RAC)	4 May	Charlottesville, VA, USA
<b>SMOKE SCIENCE and PRODUCT TECHNOLOGY STUDY GROUPS</b>	<b>8-12 October</b>	<b>Kitzbühel, Austria</b>
<b>AGRONOMY &amp; LEAF INTEGRITY and PHYTOPATHOLOGY &amp; GENETICS</b>	<b>22-26 October</b>	<b>Santa Cruz do Sul, Brazil</b>

### Acronyms / Abbreviations used in the Newsletter

ACAC .....	CORESTA Agrochemical Advisory Committee	JTI .....	Japan Tobacco International
B[a]P .....	benzo[a]pyrene	LC-MS/MS .....	Liquid Chromatography Tandem Mass Spectrometry
BAT .....	British American Tobacco	LIP .....	Lower Ignition Propensity
BMF .....	Biomass Moulding Fuel	NDMA .....	N-nitrosodimethylamine
BoE .....	Biomarkers of Exposure	PTM .....	Physical Test Methods
BSB .....	Bergerac Seed & Breeding	PVY .....	Potato Virus Y
BTFI .....	Beiträge zur Tabakforschung International	R&D .....	Research & Development
CAAS .....	China Academy of Agricultural Sciences	RAIS .....	Reynolds American Incorporated Services
CECCM .....	Confederation of European Community Cigarette Manufacturers	SC .....	Scientific Commission
CNTC .....	China National Tobacco Corporation	SG .....	Sub-Group
CPA .....	Crop Protection Agent	SGTF .....	Sub-Group and Task Force
CRM .....	CORESTA Recommended Method	SWM .....	Schweitzer-Mauduit
DoH .....	Department of Health	TAG .....	Technical Advisory Group
ECMA .....	European Cigar Manufacturers' Association	TCN .....	Tobacco Cyst Nematode
EGES® .....	Energie et Gaz à Effet de Serre	TF .....	Task Force
ETS .....	Environmental Tobacco Smoke	TMV .....	Tobacco Mosaic Virus
EU .....	European Union	TobReg .....	Tobacco Product Regulation
FDA .....	Food and Drug Administration (USA)	TPD .....	Tobacco Product Directive (EU)
GMO .....	Genetically Modified Organism	TRB .....	Tobacco Research Board
GRL .....	Guidance Residue Level	TSNA .....	Tobacco Specific Nitrosamines
GTNF .....	Global Tobacco & Nicotine Forum	TSRC .....	Tobacco Science Research Conference
HnB .....	Heat-not-Burn	UK .....	United Kingdom
HPHC .....	Harmful or Potentially Harmful Constituents	UPLC-MS/MS ...	Ultra-Performance Liquid Chromatography Tandem Mass Spectrometry
IP .....	Ignition Propensity	US .....	United States
ISO .....	International Organization for Standardization	USA .....	United States of America
ISO/TC 126 ...	ISO Technical Committee on Tobacco and Tobacco Products	WHO .....	World Health Organisation
JT .....	Japan Tobacco	ZTRI .....	Zhengzhou Tobacco Research Institute

*The CORESTA staff wishes you  
a Merry Christmas, a Happy Holiday Season  
and a Peaceful and Prosperous New Year 2017*

