

PARTICULARS

The E-Newsletter of the American Association for Aerosol Research **WINTER 2021**

In This Issue

President's Message | 1

38th Annual Meeting Reflections 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links: AAAR Website Career Opportunities

As always, we'd love any feedback or suggestions you may have for *Particulars*

Simply email **info@aaar.org** with the subject line 'Particulars'

Editor:

Gabriel Isaacman-Van Wertz Virginia Tech

Sr. Assistant Editor: Kerry E. Kelly, University of Utah

Jr. Assistant Editor: Krystal Pollitt, Yale University

American Association for Aerosol Research (AAAR)

11130 Sunrise Valley Drive | Suite 350 Reston, VA 20191 USA

T: 703.437.4377 OR 800.485.3106 E: info@aaar.org | www.aaar.org

President's Message

Dear AAAR Members,

I am truly honored to start my 2020-21 AAAR President's term. AAAR has been my main professional association since early 2000s. I am always looking forward to AAAR annual meetings because they offer a fantastic platform for networking and exchanging ideas with other people devoting their lives to aerosol science and technology. I will work tirelessly in this coming year to ensure that AAAR can become even more vibrant and useful to all of its members. The 2020-2025 AAAR's strategic plan is founded on four strong pillars of excellence: improving member **Engagement**, promoting research **Innovation**, fostering **Education** and maintaining professional **Integrity**. My highest priority tasks for the upcoming year are to help develop a strategic plan for the future of our journal *Aerosol Science & Technology*, increase the level of diversity of our members, increase the level of visibility of AAAR in our society, and ensure the high level of quality of our upcoming annual meeting.

As you know, 2020 has not been a typical year for AAAR by any stretch of imagination. We have experienced a dramatic disruption in our operation prompted by COVID-19. Our initial plans for the 2020 conference had to be essentially thrown out, and we had to start planning over from scratch. The amazing dedication of the former AAAR President Andrea Ferro, Conference Chair Matti Maricq, Treasurer Amy Sullivan, Abstract Virtuoso **Donald Dabdub**, Administrative Director **John Lessard**, Events Specialist Kayla Chandler, and numerous other people from Virtual and AAAR has made it possible to put together the first virtual conference we ever had. While not everything went as smoothly as we hoped, the Conference on the whole was a great experience for the AAAR members. It was especially heartwarming for me to see more than 700 people register for the conference, with additional 300 people registering for the free COVID-19 Plenary Talk. It was also inspiring to witness the loyalty of our long-term (as well as new) sponsors who contributed to the success of the Conference (please see the Outgoing Chair Message on page 3 for more details). On behalf of the entire AAAR membership, I thank the sponsors for their support, which helped improve the quality of the conference!

The 2021 Conference Chair **Chris Hogan** is already working very hard on putting together the next conference program for the **AAAR 39th Annual Conference**, planned for **October 18-22, 2021** at the Albuquerque Convention Center in Albuquerque, NM. We are all looking forward to returning to the in-person conference format. We have learned a lot of

continued

AAAR | PARTICULARS | WINTER 2021 | 1

President's Message | 1

38th Annual Meeting Reflections | 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities valuable lessons during the 2020 Conference, and in case our plans are again disrupted by the COVID-19 pandemic, we should be much more prepared for it.

Despite the pandemic, social unrest in the country, and some unavoidable financial losses because of the change in the conference format, the AAAR financial standing remains very strong. We will be able to keep the 2021 Conference registration fee at the 2019 level and maintain the popular travel grant programs for graduate students and junior professionals. Our endowment funds are also in an excellent shape. I am excited that the recently established Presidents Fund and AS&T Outstanding Publication Award Fund have already reached the true endowment level, and the newly established Susanne V. Hering Award Fund is on track to become a true endowment in 2021. We are hoping to be able to make the first Susanne V. Hering Award already at the 2021 meeting! The amazing generosity of AAAR members is a reflection of how much this Association means to them. If you are interested in contributing to these or other AAAR funds you can do it at https://www.aaar.org/donations/.

The Association cannot sustain itself without the dedication of its members. If you were unable to attend the annual conference this year, you may renew your AAAR membership online at **https://www.aaar.org/ myaaar**/. Your membership includes online access to the journal *Aerosol Science and Technology* and one **free** abstract submission code for the 2021 conference.

I am looking forward to the coming year and working with all of you on further improving our already excellent Association! •

Sergey Nizkorodov AAAR President



NEW & EXCITING FEATURES!

Ambient Ion Monitor (AIM)

The AIM is a scientifically-advanced, multi-pollutant monitoring method which allows for time resaved direct measurements of particle sulfate, nitrate, ammonium, chloride, potassium, magnesium, calcium and sodium.

This state-of-art realtime air sampling system has the ability to separate and analyze each ion individually.

- Unique Parallel Plate Denuder
- Ceramic Coated Super Saturation Chamber
- New AIM Driver for Chromeleon 7.2

Stainless Steel, Teflon Coated, Aluminum, and Anodized Aluminum



Stainless Steel Cyclone

5Lpm Flow Rate, 2.5µm Cutpoint





URG-2000-30EGN-A Anodized Aluminum Cyclone 16.7Lpm Flow Rate, 2.5µm Cutpoint

Inorganic & Organic Collection | Diesel Emissions | Atmospheric Gas & Particle Speciation | Outdoor & Indoor Air Sampling

Anodized Aluminum Cyclone

8Lpm Flow Rate, 2.5um Cutpoint

PM-1 | PM-2.5 | PM-10

President's Message | 1

38th Annual Meeting Reflections | 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities



Reflections on the **38th Annual AAAR Meeting**

As the first ever virtual meeting, the 38th AAAR Conference marked an unusual event in an unusual year. The COVID pandemic of 2020 introduced many changes into the conference planning and the conference itself. The closing date for abstract submission was delayed to early July to allow more time to ascertain and plan for the pandemic's impact on in-person meetings. The conference was stretched from four to five days to spread out the time that participants would spend in front of their computers. Tutorials were moved to the week prior to the conference. Platform talks were pre-recorded to minimize potential virtual platform glitches. Poster presenters were able to augment their presentations with audio and video. Attendance for the full conference stood at over 700 participants, and the Monday COVID plenary drew an additional 300 attendees. I am grateful to the AAAR conference committee and participants who met these changes and accompanying challenges with good cheer.

Since aerosols play an important role in the transmission of infectious diseases, and since this topic was attracting much attention across the globe, we added a special symposium on COVID-19 to the conference agenda. The necessity of a virtual conference had the side benefit to allow us to share the Monday COVID-19 plenary session freely to people who were interested in this topic, but who would normally not attend the AAAR annual conference. The COVID-19 plenary and special symposium were both very successful. The two plenary talks given by **Linsey Marr** and **Donald Milton** drew over 650 attendees. The special symposium offered about 25 platform talks and an equal number of posters on this very relevant topic of aerosol transmission of disease and its mitigation.

The conference featured four additional special symposia:

- Satellite-Data and Environmental Health Applications
- Dusty Plasma
- Environmental Justice: Technology Frameworks and Outcomes
- Missing Contributors to SOA: The Role of Volatile Chemical Products

David Kittleson, Annmarie Carlton, Marit Meyer and **Douglas Worsnop** gave the plenary lectures to fill out the rest of the week on

topics ranging from engine exhaust PM, the clear sky bias, air quality in spacecraft, and atmospheric aerosol chemistry. The conference provided about 270 platform talks and 250 posters.

It provided three special events:

- Job Seekers
- Early Career Event
- Celebrating Diversity and Inclusivity in AAAR.

President's Message | 1

38th Annual Meeting Reflections | 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities



Albuquerque Convention Center Albuquerque, NM A great group of people worked hard to make this virtual conference a success, and to them I am grateful.

The working group chairs:

Gabriel Isaacman-VanWertz, Eirini Goudeli, Andy May, Anne Perring, Prem Lobo, Marit Meyer, Krystal Pollitt, Suresh Dhaniyala, Marina Vance, Alison Aiken organized the 600+ abstracts into a structured program.

The special symposia chairs:

Gedi Mainelis, Paul Dabisch, Meytar Sorek-Hamer, Richard Moore, Shelly Miller, Lupita Montoya, Girish Sharma, Sukrant Dhawan, David Cocker, Brian McDonald recruited speakers and defined the symposia topics.

Patricia Fritz, Lupita Montoya, Kirsten Koehler, Shanna Ratnesar-Shumate organized the events and tutorials.

Marit Meyer and **Marwa EI-Sayed** took care of the Particle Art and Student Poster competitions.

Donald Dabdub and **Jeff Lindley** did a terrific job organizing the abstract submissions and generating a conference program that they could quickly update with every scheduling change.

Pat Keady and **Sergey Nizkorodov** worked tirelessly on getting sponsorship for the conference.

All along I had great support from **Andrea Ferro**, **Sergey Nizkorodov**, and **Amy Sullivan** as we met weekly from April into October.

Finally, I extend a great thank you to the folks at Virtual Inc., **Kayla Chandler, John Lessard**, **Kevin Barr**, **Corinne St. Laurent**, **Leah Sibilia**, **Jackie Wu**, and **Jim Cudahy**, for their tremendous efforts to set up this virtual conference.

The conference would not have been possible without the great sponsorship we received. Thank you!

Platinum: 3M, Anthropocene Institute, NASA, Sunset Laboratory, Inc, and TSI

Gold: Aerosol Devices, Kanomax, Particle Instruments, LLC, and URG

Bronze: Aerodyne Research, Atmospheric Integrated Research at University of California Irvine, Center for Aerosol Science and Engineering at Washington University in St. Louis, and Cooper Environmental; and

Supporting: Earth and Space Chemistry, Aethlabs, Brechtel, Cambustion, Magee Scientific, and USRA.

Finally, thank you everyone who participated and attended. Your loyalty and resilience during these tough times are appreciated. We look forward to seeing you in **Albuquerque** next October, hopefully in person. •

Matti Maricq Outgoing Conference Chair

President's Message | 1

38th Annual Meeting Reflections | 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities

38th Annual Meeting Awards & Honors

AWARD	WINNER
Sheldon K. Friedlander	James Corson
Kenneth T. Whitby	Manabu Shiraiwa
Thomas T. Mercer	Mark Frampton
David Sinclair	Allen Robinson
Benjamin Y. H. Liu	Xiaoliang Wang
AS&T Outstanding	John T. Jayne
Publication Award	Danna C. Leard
	Xuefeng Zhang
	Paul Davidovits
	Kenneth A. Smith
	Charles E. Kolb
	Douglas R. Worsnop



through the integration of **research**, education and outreach.

> Atmospheric Integrated Research at University of California, Irvine http://airuci.uci.edu/

President's Message | 1

38th Annual Meeting Reflections 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities

AS&T Article Highlight

By Dong Gao

"Exhaled respiratory particles during singing and talking"

M. Alsved, A. Matamis, R. Bohlin, M. Richter, P.-E. Bengtsson, C.-J. Fraenkel, P. Medstrand, and J. Löndahl (2020)

Aerosol Science and Technology, 54:11, 1245-1248, DOI: 10.1080/02786826.2020.1812502

Exhaled respiratory droplets and aerosols can carry infectious virus and have been recognized as important transmission mode of COVID-19. Human expiratory activities, such as sneezing, coughing, talking, and simply breathing, can expel virus-laden aerosols. Singing, which often involves continuous voicing and higher sound pressure and frequency, has received considerable attention during this pandemic. Alsved and coauthors investigated aerosol release during singing, as compared to talking and breathing. In this work, twelve professional and amateur singers were enrolled. The singers wore clean air suits and entered an airtight chamber supplied with filtered, particle-free air. In the chamber, the size and concentration of aerosols in the range of 0.5 to 10 μ m were measured during normal breathing, talking, different types of singing and singing with a face mask.



Figure 1.

Median number of emitted particles in the size range of 0.54 – 10 μm per second for the enrolled singers.

The results showed differences between breathing, talking, and singing, with more aerosols expelled while singing than talking or breathing, with increased release with song loudness. Wearing a surgical face mask was found to efficiently reduce the emissions. Though the researchers also attempted to detect SARS-CoV-2 in the air samples collected from COVID-19 positive patients while singing and talking, virus was not detected. Overall, this study supports singing in groups is likely an activity that poses higher risk for disease transmission. •

President's Message | 1

38th Annual Meeting Reflections 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities

Aerosol Scientist in the Spotlight

By Krystal Pollitt



Marina Vance, PhD

Assistant Professor, Mechanical Engineering Department University of Colorado, Boulder

Research Website: https://www.colorado.edu/lab/vance/marina-vance

1. How did you get involved in the aerosol science community?

I have been fascinated with air quality since I was an undergraduate student in environmental engineering back in Brazil. Although I worked with different aspects of air pollution during my undergraduate degree, then as an engineering consultant, and then again during my master's degree, it wasn't until my PhD that I started working with aerosols specifically. I was recruited and hired by **Prof. Linsey Marr** to join CEINT, the Center for the Environmental Implications of Nanotechnology (a multi-institution center funded by NSF and EPA) as one of a few PhD students who investigated science questions associated with engineered nanoparticles in air. To present some of this work, I attended my first AAAR conference in 2010 and I was ecstatic to win a poster award. I loved the community and the science presented at AAAR and I was very interested in continuing to participate in this organization.

2. Which people or programs in our field have been the most influential to you and your path, or who have most influenced your ideas about aerosol research?

In terms of people who have been influential to my career path, I'd first have to bring up my undergraduate thesis adviser (and one of MS thesis co-advisers), **Prof. Henrique de Melo Lisboa** (now retired) from the Universidade Federal of Santa Catarina (UFSC) in Brazil. I took his Air Quality Control course and became fascinated about air pollution after an exam question about someone smoking at a bar and having to calculate the steady-state concentration of formaldehyde in air. Until then, I was pretty certain that I was going to become a water treatment researcher, but that course made me realize how widespread air pollution is, and how interesting it is to study it.

Then, I was incredibly lucky to have been recruited by **Prof. Linsey Marr** to join her research group at Virginia Tech for my PhD. Linsey taught me to become a rigorous researcher and an effective writer. Through our interactions, I learned the basics of aerosol science and also how to run a research group. But beyond academic training and professional growth opportunities, I credit Linsey for altering

continued

President's Message | 1

38th Annual Meeting Reflections 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities my life path. It was because she gave me the opportunity to work in her group that I moved to the US to do aerosol research and ended up staying here. My original plan was to return to Brazil and get a faculty position there, but I fell in love with the research environment here in the US. There are challenges, sure, but in the end of the day, we can do cutting edge research for a living, and that's pretty great. Other researchers that influenced my views as an aerosol scientist, not necessarily due to personal interactions, but because of their groundbreaking work, are researchers who helped shape the literature in indoor aerosols and aerosol exposure science, such as **Bill Nazaroff** and **Lidia Morawska**.

There have been two research programs that influenced my trajectory in the world of air quality and aerosol research. Being affiliated with CEINT (mentioned above) enabled me to gain experience using surface and materials characterization tools that can be very useful for aerosols but are not used very often, like electron microscopy and energy dispersive spectroscopy. It was ultimately very beneficial for me to straddle the aerosol and environmental nanoscience communities during my PhD because that gave me some interesting insights and technical knowledge I wouldn't have gained otherwise. Another program that has drastically influenced my career as a faculty member is the Chemistry of Indoor Environments initiative at the Alfred P. Sloan Foundation. Dr. Paula Olsiewski, program director, invited me to run the community building initiatives for this program, which allowed me to create IndoorChem, a network of scientists focused on the chemistry of indoor environments. Our initiatives include a website, social media accounts, a newsletter, YouTube channel, and associated science meetings. Beyond IndoorChem, this organization also enabled me to meet Prof. Delphine Farmer, and together we created the HOMEChem field study, which gathered an incredible group of scientists to answer questions about the air and surface chemistry of a home environment. And now we are excited to plan another field study together, this one titled CASA (Chemical Assessments of Surfaces and Air), likely to take place in 2022.

3. Together with Delphine Farmer, you led the HOMEChem study. What is the most interesting research contribution you've made so far?

During HOMEChem, my research group focused mainly on measuring aerosol size distributions, black and brown carbon concentrations, as well as airborne metals. In terms of indoor aerosol concentrations and associated human exposure, we found that a relatively small combustion source, such as a gas-powered stove, can be a powerful generator of sub-10 nm aerosols. On the other hand, the food itself can generate aerosols up to 10 microns in diameter, including both black and brown carbon depending on the type of cooking activity.

Although the results found by my group were interesting to me, the most powerful aspect of HOMEChem is the comprehensive dataset *continued*

President's Message | 1

38th Annual Meeting Reflections 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities that it generated, including measurements from over 20 research groups ranging from trace gases to aerosol composition. This dataset will become freely available to the science community, who I hope will use it to help further puzzle out the chemistry of indoor environments and associated human exposure. We already have a dozen published papers that use data from HOMEChem and we are certain that the next wave of publications will become increasingly collaborative and thought-provoking.

4. What challenges were completely unexpected as you began and grew your own research group?

My postdoc assistantship gave me some experience with the administrative/service and group/lab management tasks involved in running my own research group, so although many people encounter problems with those aspects of the faculty job, I felt ready to tackle them. What really dazed me was the entire graduate student recruitment process. It felt like matchmaking, where you are trying to find the best student for your group and the student is trying to find the best fit for their graduate experience, and in the end of the day, each student will only select one position for their work. But we need to make multiple offers because we don't know who will accept. I was very nervous about the number of offers I made, in fear that I would end up with too many or too few students at the end of the recruitment period. I decided to keep my research group relatively small until we all have more experience and I'm more confident in my ability to attract funding. Now, I'm extremely happy with the wonderful group members that have chosen to work with me.

5. Are there new research directions that you see as particularly important or interesting?

I am biased by my own interests in indoor aerosols and aerosol exposure. I think that there are still many unknowns to be explored when it comes to aerosol exposure in general. We spend so much of our time indoors, but ambient PM concentrations have been clearly associated with health outcomes. How much do outdoor air pollutants transform once transported indoors, where the 'actual' exposure is likely to take place? Or is the relatively short-term exposure to ambient air pollutants outdoors the main driver of those health outcomes? Do indoor sources in locations that do not burn solid fuels indoors influence health too? I'm sure the answer is yes, but we need more research to explain by how much.

Another aerosol-related issue that is not really in my field of expertise, but is likely to be important indoors and has been a hot topic of discussion is obviously disease transmission. I hope that the evidence of airborne transmission of COVID and the associated science will illuminate the path for research into other virus and non-virus diseases for years to come. In my view, there is ample opportunity for interdisciplinary collaboration between epidemiologists and aerosol scientists that can lead to tangible benefits to society in general. •

President's Message | 1

38th Annual Meeting Reflections 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities

In Case You Missed It

By Kerry E. Kelly

As the world continues to struggle with the COVID-19 pandemic, aerosol researchers are making substantial contributions to understanding its transmission, effectiveness of control measures and underlying risk factors. This issue highlights some key contributions.

What is the risk of COVID-19 transmission on airplanes?

A study from the International Transport Association (IATA), an airline trade association, reported that only 44 cases of COVID-19 have been linked to a flight (out of 1.2 billion passengers traveling during the study period). However, several researchers found that this IATA report overstated the safety of airline travel. IATA report only included cases that were reported in the literature and were linked to air travel, and it is nearly impossible to determine where sick passengers picked up the virus. Experts say there is reason to be optimistic, but the low number of COVID cases linked to air travel is not definitive evidence that flying is safe. Based on limited data, the use of masks and leaving the middle row empty both appear to be protective although more rigorous studies are needed.

Read more in the media:

https://www.washingtonpost.com/travel/2020/10/23/ safe-flights-plane-covid/

https://www.usatoday.com/story/travel/ airline-news/2020/10/27/safe-to-fly-during-covid-19pandemic-reports-differ/6041206002

https://www.wsj.com/articles/all-your-coronavirustravel-questions-answered-11582980999

Read more in the literature:

D.O. Freedman, A. Wilder-Smith, In-flight transmission of SARS-CoV-2: a review of the attack rates and available data on the efficacy of face masks, Journal of Travel Medicine, September 25, 2020 https://doi.org/10.1093/jtm/taaa178

Barnett, K. Fleming, Covid-19 risk among airline passengers: should the middle seat stay empty? medRxiv https://www.medrxiv.org/content/10.1101/2020.07.02.20143826v4

continued

President's Message | 1

38th Annual Meeting Reflections 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities

Emerging research shows the relationship between COVID-19 and air quality

Since spring, when preliminary studies found an association between elevated levels of particulate matter (PM) pollution and COVID-19, we have seen more effort devoted to understanding these associations. Additional studies are showing an increased risk of COVID-19 infection and mortality associated with elevated air pollution, including PM10 and PM2.5, ozone, and hazardous air pollutants.

Read more in the media:

https://www.tribuneindia.com/news/health/us-study-linksair-pollution-to-increased-covid-19-mortality%C2%A 0indian-experts-say-causal-link-not-established-166905

https://www.news-medical.net/news/20201103/ Study-estimates-the-proportion-of-COVID-19-deaths-dueto-air-pollution.aspx

https://www.news-medical.net/news/20201025/Air-pollutionincreases-SARS-CoV-2-transmission.aspx

Read more in the literature:

Y. Zhu, J. Xie, F. Huang, L. Cao Association between short-term exposure to air pollution and COVID-19 infection: Evidence from China, Science of The Total Environment, 727, 20 July 2020, 138704 https://doi.org/10.1016/j.scitotenv.2020.138704

Y. Ogen, Assessing nitrogen dioxide (NO2) levels as a contributing factor to coronavirus (COVID-19) fatality, Science of The Total Environment, 726, 15 July 2020, 138605.

https://doi.org/10.1016/j.scitotenv.2020.138605

M. Petroni et al. Hazardous air pollutant exposure as a contributing factor to COVID-19 mortality in the United States, Environmental Research Letters, 15, 19, September 2020

https://iopscience.iop.org/article/10.1088/1748-9326/abaf86

X. Wu, R.C. Nethery, M.B. Sabath, D. Braun, F. Dominici, Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis. Science Advances, 6, 5, November 2020.

https://doi.org/10.1126/sciadv.abd4049

Keep an eye out for aerosol researchers who are helping translate COVID-19 science to the broader community

Several established aerosol researchers are actively helping to communicate COVID-19 science through their twitter feed:

@linseymarr @ShellyMBoulder @jljcolorado @j_g_allen @Don_Milton

COVID-19 AND TSI

We know you have questions. TSI has answers.

+ TSI COVID-19 Q&A

+ TSI and Virus Aerosol Research
+ TSI and Indoor Air Quality
+ TSI and Ambient Monitoring

+ TSI and Filtration Applications

particle@tsi.com +1-800-680-1220 +1-651-490-2860



President's Message | 1

38th Annual Meeting Reflections | 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners | 13

2020 Art Competition Winners | 14

Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities

2020 Poster Winners

NAME	POSTER TITLE		
Zilin Zhou	Gas-phase Hydrogen Peroxide from Multiphase Ozonolysis of Unsaturated Lipids		
Jinlai Wei	Simulation of the Impact of Particle Phase State on SOA Formation from the Photooxidation of Isoprene and Beta-pinene Cocktail in the Presence of Electrolytic Salts		
Joshua Moss	Detailed Comparisons of Results from Comprehensive Chamber Studies and Explicit Chemical Mechanisms		
Brian Hwang	Environmentally Persistent Free Radicals and Reactive Oxygen Species Measurements in the Size-Segregated Ambient Particles Collected at the Highway and Urban Site		
Thuong Cao	Microorganism in Atmospheric Water and how the Drive Formaldehyde Transformation they Drive Formaldehyde		
Isaac Flores Espinoza	Agent Based Simulations of Human Interactions in Mixed Use Academic Buildings		
Ashley Bittner	Performance Characterization of Low-cost Sensor Observation in Near-Source Environment in Rural Malawi		
Haebum Lee	Comparison of characteristics of new particle formation (NPF) in the Arctic (NY-Alesund, Norway) and Urban (Gwangju, Korea) Environments		
Raphael Mayorga	Formation of Secondary Organic Aerosol from Nitrate Radical Oxidation of Phenolic Vocs: Implications for Nitration Mechanisms and Brown Carbon Formation		
Craig Sheldon	Frequency-Dependent Humidity Response in Ultraviscous and Gel Particles		
Munkhzaya Boldbaatar	Deep Learning for Prediction of Multiphase Isoprene Oxidation Products		
Colleen Marciel Rosales	Indoor Mopping with a Terpene-based Cleaner in the Presence of Ozone Initiates the Rapid Formation of Peroxy Radicals, Volatile Oxidation Products, and Secondary Organic Aerosols		
Kathryn Van Valkinburgh	Assessing Potential Airborne Virus Transmission in University Classrooms		
Ogochukwu Enekwiz	Tracking the Evolution in Soot Aggregate Optical Properties Concurrently with its Morphology		
Jonathan Liu	Statistical Analysis and Geospatial Exposure Model of Air Pollution Derived from Brake and Tire Wear		

President's Message | 1 38th Annual Meeting Reflections | 3 38th Annual Meeting Awards & Honors | 5 AS&T Article Highlight | 6 Aerosol Scientist Spotlight: Marina Vance, PhD | 7 In Case You Missed It | 10 2020 Poster Winners | 13 2020 Art Competition Winners | 14 Organizational Members | 15

Quick Links:

AAAR Website Career Opportunities

2020 Art Competition Winners

NAME	AWARD	PLACE	ART TITLE
Chamari Mampage	Static Art	1st	Particulate Puppy
Elizabeth Stone			
Elizabeth Lin	Video	1st	Indoor Air Pollution
Jeremy Koelmel			
Nicholas Nastasi	Static Art	2nd	How to Gruyere
Ashleih Bope			Own Fungi
Karen Dannemiller			
Arantza Eiguren-Fernandez	Video	2nd	VIVA(S) La Vida!
Sherlyn Wee			
Kiran Mital			
Sripriya Nannu Shankar			
Chang-Yu Wu			
Chamari Mampage	Static Art	3rd	Love is in the Air
Dagen Hughes			
Lillian Jones			
Elizabeth Stone			
Ziying Lei	Static Art	4th	Dropping Acidic
Yuzhi Chen			Aerosol from the Sky
Yue Zhang			
Jason Surratt			
Andrew Ault			
Pat Keady	Static Art	5th	Crown of Thorns
Jan Johnson			
Sripriya Nannu Shankar	Static Art	5th	Aerosol Particles
Arantza Eiguren-Fernandez			as Trifoliate Droplets
Chang-Yu Wu			

President's Message | 1

38th Annual Meeting Reflections | 3

38th Annual Meeting Awards & Honors | 5

AS&T Article Highlight | 6

Aerosol Scientist Spotlight: Marina Vance, PhD | 7

In Case You Missed It | 10

2020 Poster Winners | 13

2020 Art Award Winners | 14

Organizational Members | 15

Quick Links: AAAR Website Career Opportunities



viruses...bacteria...fungal spores...toxins...allergens

Recommended by leading aerosol scientists for detecting viable SARS-CoV-2 virus

•Study airborne disease transmission •Survey indoor environments •Test for mitigation effectiveness

Patented Condensation Growth Capture



Visit our website aerosoldevices.com



Spot Sampler™





companies that support us as

AERODYNE RESEARCH, Inc.











Electrical mobility is a drag **High Resolution** Or more specifically, it is a measurement of a ELPI®+ particle's drag force. Aerodynamic diameter measurements tell you more about your aerosol Widest Size Range: 0.006 - 10µm and how it will behave. We believe it is the better particle size measurement choice. Fastest Speed: Up to 10Hz Take a look at the Dekati® High Resolution ELPI®+ today: Great Resolution: https://www.dekati.com/products/high-resolution-elpi/ Up to 500 channels Dam Good Looks Now available with high capacity sintered collection plates which allow extended operation - up to 6 months uninterrupted in ambient! Excellence in Particle Measurements Dekati Ltd. Kangasala, Finland > sales@dekati.fi > www.dekati.fi



American Association for Aerosol Research (AAAR)

11130 Sunrise Valley Drive | Suite 350 Reston, VA 20191 USA

T: 703.437.4377 OR 800.485.3106 | E: info@aaar.org | www.aaar.org

Organizational Members AAAR would like to thank the