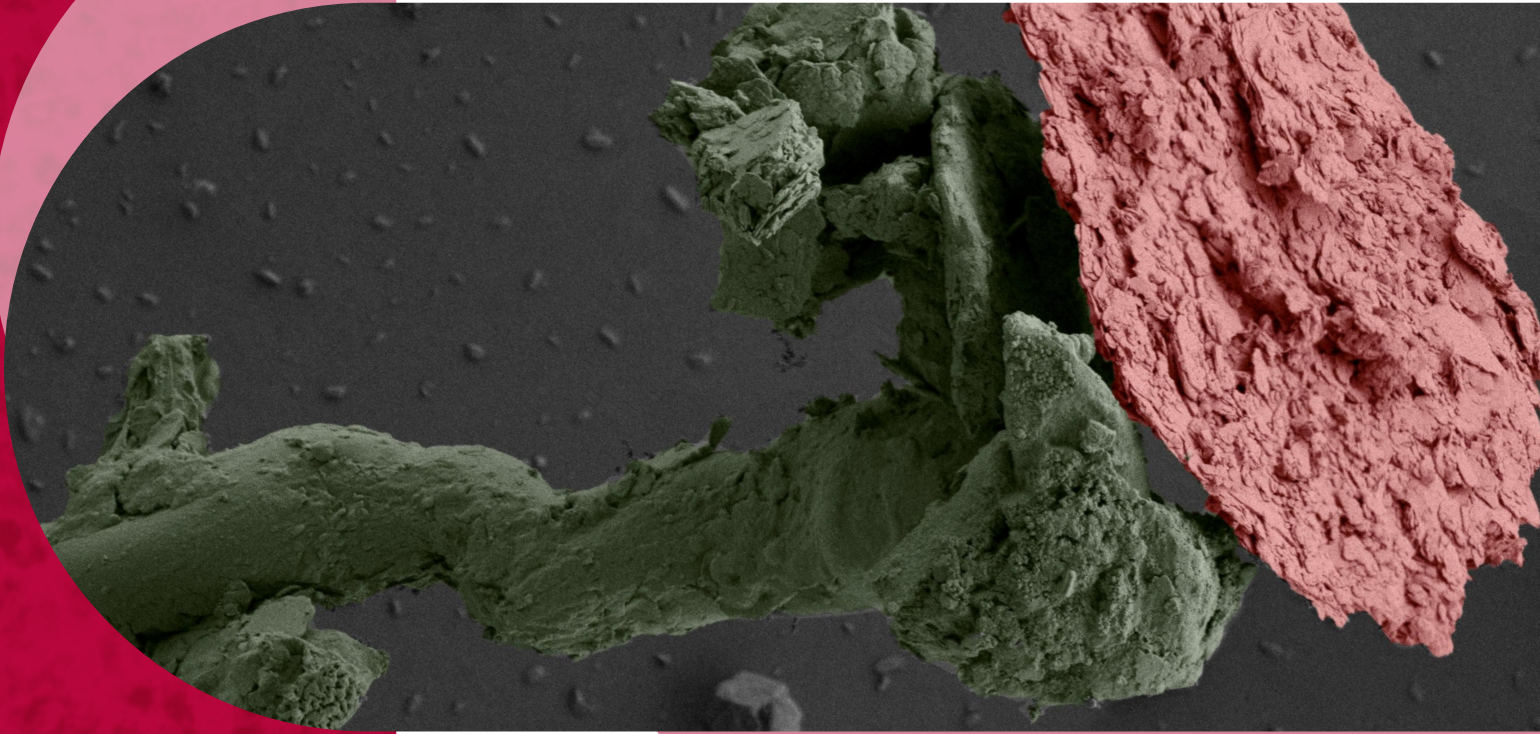


Our Investment in the Future of AAAR



ENDOWMENT FUND ANNUAL REPORT 2021



**American Association
for Aerosol Research**

MISSION

Dear Colleagues,

The mission of the American Association for Aerosol Research Endowment Fund is to assist in advancing aerosol science and technology by providing stable, long-term financial support for the Association's programs. The goal is to establish and increase in net worth a set of funds that will provide significant financial support to aid in achieving AAAR's strategic objectives. The Endowment Fund is intended to complement AAAR's revenue from dues and other sources. This mission is enabled by the generous contributions of fellow colleagues, their friends and families, and aerosol instrumentation companies and currently realized by funding awards, plenary lectures and a strategic project developed by the Vice-President Elect.

AAAR endowment funds are invested in a blend of high-quality stocks and bonds following the AAAR investment policy. During 2021, net assets grew from approximately \$660,000 to approximately \$800,000, including contributions to establish a new fund and investment gains as detailed in the table at the end of this report. A total of about \$22,000 was disbursed from the endowment funds to support 2021 AAAR activities, including six AAAR awards, a joint award with the International Society of Aerosols in Medicine, and support for the Friedlander Memorial Plenary Lecture. Further details about the current funds and how they were used can be found in the following pages.

2021 was an exciting year for the Endowment Committee. First, we established a new account to support the Susanne V. Hering Award. This new award honors Susanne Hering for her technological innovations and her efforts in developing AAAR. It was presented for the first time at the 2021 Annual Conference. Second, with support from the AS&T Editorial Office, Early Career Committee, and Virtual, Inc., the Endowment Committee created the AS&T Lecture Series. This new initiative has helped to highlight our Journal and the amazing research happening in our community. The monthly lectures are regularly being attended by approximately 60 to over 100 AAAR Members with another 300-400 watching the posted recordings on-line. We cannot thank enough the presenters who have taken the time to provide these excellent lectures and the AAAR Student Chapters for the tremendous job they have done serving as hosts.

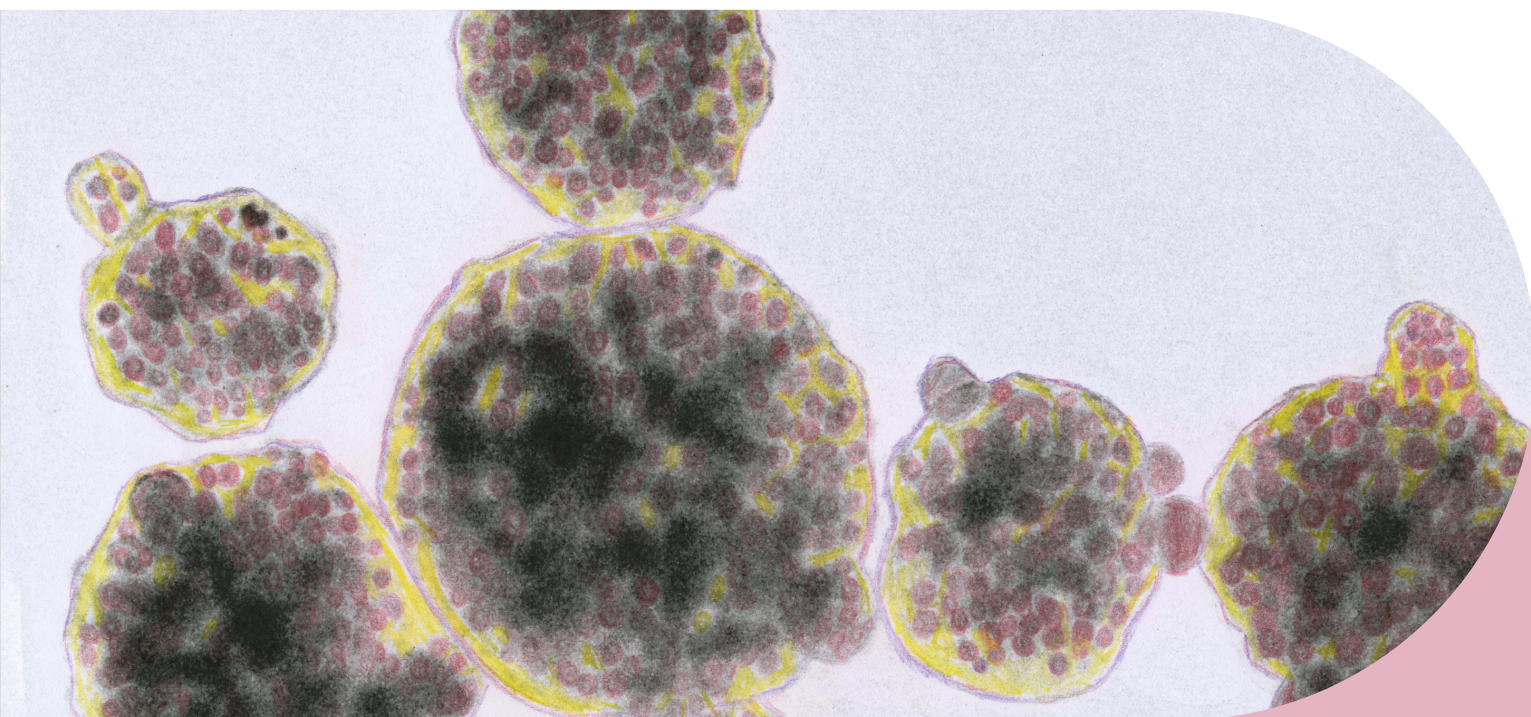
On behalf of the entire Endowment Committee, thank you for your contributions!

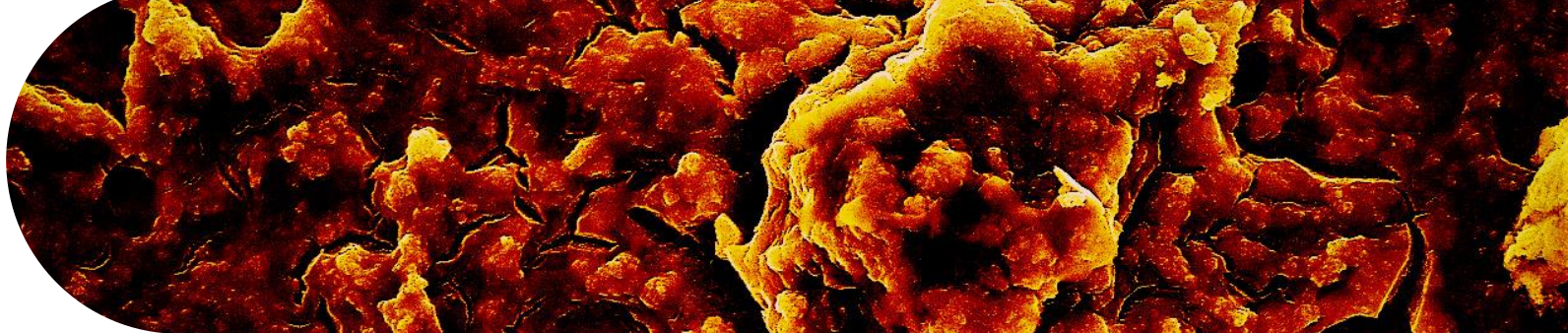
Sincerely,



Amy P. Sullivan

Endowment Committee Chair





CURRENT ENDOWMENT FUNDS AND 2021 ACTIVITIES

The AAAR Endowment Funds are comprised of sub-funds that are either True Endowment Funds or Quasi Endowment Funds. True Endowment Funds are established by a donor-restricted gift. The original value of gifts contributed to True Endowment Funds cannot be spent. The income and appreciation earned by True Endowment Funds provide a permanent source of expendable revenue in perpetuity for the purposes specified by the donor and agreed to by AAAR. Quasi Endowment Funds are created by donor gifts or by AAAR Board designation, and are treated the same as True Endowment Funds except that the original contributions can be spent in accord with the purpose of the fund and may have a finite lifetime. The AAAR Endowment Funds currently have five True Endowment Funds and six Quasi Endowment Funds.

TRUE ENDOWMENT FUNDS

Sheldon K. Friedlander Memorial Fund for Promoting Aerosols as an Enabling Discipline

This fund was established in 2009 by the family of Sheldon Friedlander with a \$50,000 donation. Friends and colleagues contributed additional funds. The goal of the fund is to provide for activities related to promoting aerosols as an enabling discipline, such as supporting plenary lectures and special symposia at the annual conference.

The 2021 Friedlander Lecture entitled “*Electronic Cigarette: The Knowns, Known Unknowns, and Unknown Unknowns*” was presented by **Yifang Zhu** from the University of California, Los Angeles.

The Endowment Committee, with support from the AS&T Editorial Office and Early Career Committee, also launched in 2021 the AS&T Paper Lecture Series. This new initiative, being supported by the Friedlander Memorial Fund, aims to highlight the research in our community, tie our Journal to other AAAR activities, and

provide an opportunity to bring us all together outside of the Annual Conference. Each month the Editors of AS&T selected a high impact journal article to be presented by its author. For each lecture one of AAAR's Student Chapters serves as host. Eight lectures were held in 2021 and are available to view at <https://www.aaar.org/meetings-events/aaar-lecture-series/>.

Fissan-Pui-TSI Award Fund

This fund was established in 2005 with a \$75,000 donation from TSI Incorporated, which provided the award amount in 2006 and \$65,000 to support future awards. The Award is granted by the International Aerosol Research Assembly (IARA) to recognize international collaboration in the field of aerosol science and technology between researchers/engineers residing on at least two different continents. The award is presented every four years at the International Aerosol Conference.

The Fissan-Pui-TSI Award was not awarded in 2021.



It was rewarding and encouraging to know that my Ph.D. research was appreciated by those who have inspired me. In addition to my excellent advisor, Dr. Rajan Chakrabarty, and my colleagues and mentors at Washington University in St. Louis, AAAR has supported my scientific and professional growth over the years. It's a great community for a budding scientist to learn about many major challenges of our times and various approaches for addressing them. Receiving an honor from this organization was very meaningful to me.

Apoorva Pandey

2021 Friedlander Dissertation Award



I am highly honored to receive the 2021 Benjamin Y.H. Liu Award, and very thankful to AAAR for recognizing my contributions to the aerosol instrumentation and experimental techniques. AAAR has been my intellectual home for more than 20 years, and the aerosol research will be my life career.

Yongle Pan
2021 Liu Award

Presidents Fund

This fund was started in 2016 with a generous donation from David Ensor and additional contributions from past AAAR Presidents. The Board of Directors then voted to contribute matching funds to bring the Presidents Fund up to the amount of a True Endowment. An official account was set-up in early 2019. The donors decided that the Vice-President Elect would use the income from this fund to help support an activity they would like to help establish during their presidency to further support the mission of AAAR. The Vice-President Elect presents their ideas during the Long-Range Planning Committee Meeting held each year at the Annual Conference.

AS&T Outstanding Publication Award Fund

The AS&T Outstanding Publication Award was established in 2015 and is presented annually to recognize a paper published in Aerosol Science and Technology (AS&T) that has had a significant impact on the field. Part of this award is provided by Taylor and Francis, who publishes AS&T, and part by AAAR. This fund was created in late 2018 to provide AAAR's portion of the award with a generous donation from Peter McMurry and additional contributions from other previous and current AS&T Editors. The Board of Directors then voted to contribute matching funds to bring the AS&T Outstanding Publications Award Fund up

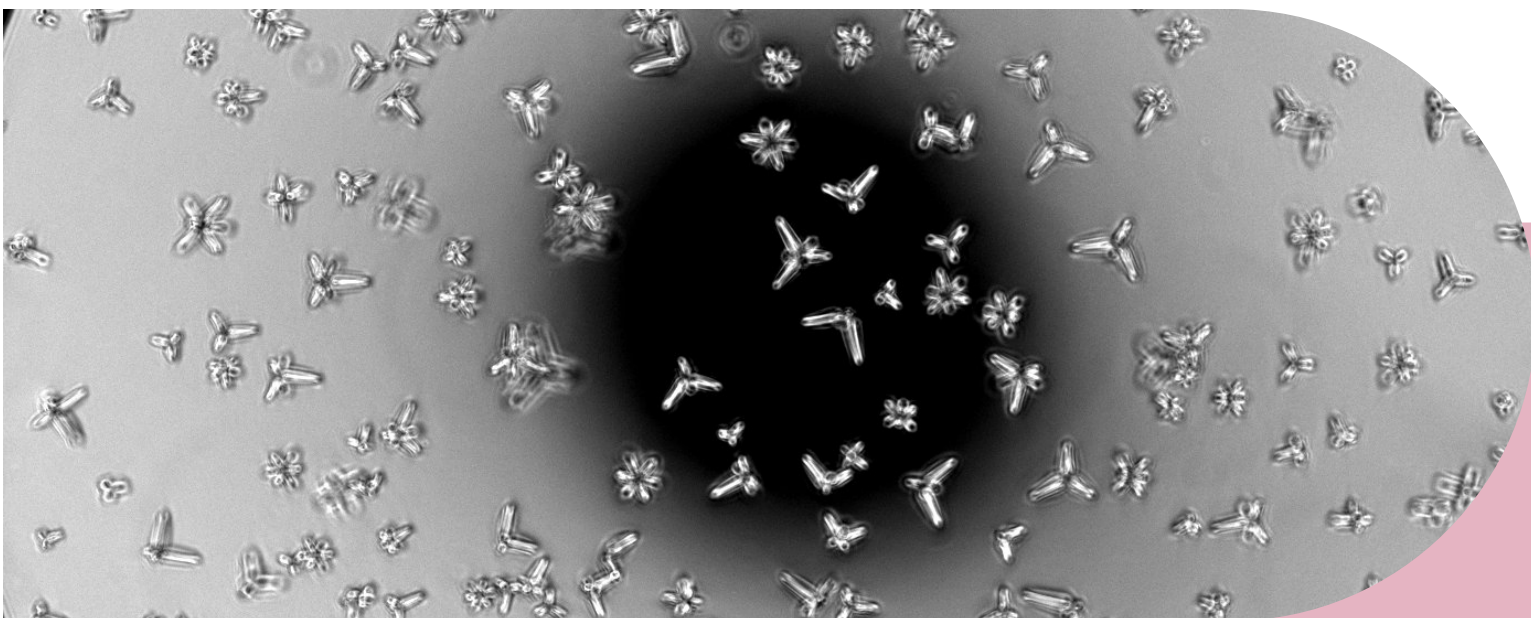
to the amount of a True Endowment. An official account was set-up in early 2019.

In 2021 the AS&T Outstanding Publication Award was presented to **M. Eileen Birch** and **Robert A. Cary** for their 1996 paper entitled "*Elemental Carbon-Based Method for Monitoring Occupational Exposures to Particulate Diesel Exhaust*".

Susanne V. Hering Award Fund

The newest True Endowment fund was established in 2021 to honor Susanne V. Hering, Founder and President of Aerosol Dynamics, Inc. as well as a previous AAAR President, Conference Chair, Board Member, Plenary Speaker, Tutorial Speaker, and Benjamin Y.H. Liu Award Winner. This new award recognizes outstanding contributions to aerosol science by a scientist whose work has had a significant impact on public health, the built environment, or the global ecosystem. Donations by colleagues, friends, and aerosol technology companies were matched by the Board to create this True Endowment. An official account was set-up in June 2021.

The 2021 Susanne V. Hering Award was awarded to Linsey Marr at Virginia Tech.



QUASI ENDOWMENT FUNDS

Sheldon K. Friedlander Dissertation Award Fund

Revenue from this fund supports the monetary prize for the Sheldon K. Friedlander Award which recognizes an outstanding dissertation by an individual who has recently earned a doctoral degree. The dissertation can be in any discipline in the physical, biomedical, or engineering sciences but must be in the field of aerosol science and technology. The award memorializes Sheldon K. Friedlander for his leadership as a researcher, teacher, and pioneer in aerosol science. One of AAAR's founders, Friedlander is a past recipient of the distinguished Fuchs Memorial Award. He directed graduate students at Columbia University, the Johns Hopkins University, the California Institute of Technology, and the University of California for more than 50 years.

The 2021 Sheldon K. Friedlander Dissertation Award was presented to **Apoorva Pandey** for her dissertation work at Washington University in St. Louis.

Thomas T. Mercer Joint Prize Fund

Sponsored by AAAR and the International Society for Aerosols in Medicine (ISAM), the Thomas T. Mercer Joint Prize recognizes excellence in the areas of pharmaceutical aerosols and inhalable materials. The award honors the legacy of Thomas T. Mercer, an outstanding researcher and author whose work encompassed aerosol physics and chemistry as well as inhalation toxicology, industrial hygiene, and health physics. The award is funded by contributions from the Mercer Family Foundation, as well as contributions from ISAM and revenue from this fund.

The 2021 Thomas T. Mercer Joint Prize was presented to **Robert Phalen** from the University of California, Irvine.

David Sinclair Award Fund

Revenue from this fund supports the David Sinclair Award which recognizes sustained excellence in aerosol research and technology by an established scientist still active in their career. The individual's research must have a lasting impact in aerosol science. The award memorializes David Sinclair, one of aerosol science's great innovators, known for his knowledge, ingenuity and energy.

The 2021 David Sinclair Award was presented to **Peter Buseck** at Arizona State University.

Kenneth T. Whitby Award Fund

This fund supports the Kenneth T. Whitby Award which recognizes outstanding technical contributions to aerosol science and technology by a young scientist. The purpose of the award is to encourage continued work in the field. The award memorializes Kenneth T. Whitby, known for his contributions to aerosol measurement, the study of aerosol properties and behavior, and the nature of atmospheric aerosols.

The 2021 Kenneth T. Whitby Award was presented to **Jason Surratt** at the University of North Carolina at Chapel Hill.

Benjamin Y. H. Liu Award Fund

This fund supports the Benjamin Y. H. Liu Award which recognizes outstanding contributions to aerosol instrumentation and experimental techniques that have significantly advanced the science and technology of aerosols. The award honors Benjamin Liu for his leadership in the aerosol community and his own seminal contributions to aerosol science through instrumentation and experimental research.

The 2021 Benjamin Y. H. Liu Award was awarded to **Yongle Pan** at the U.S. Army Research Laboratory.

Fuchs Memorial Award Fund

The Fuchs Memorial Award is the premier international prize in aerosol science and is sponsored by AAAR, the Gesellschaft für Aerosolforschung (GAeF) and the Japan Association of Aerosol Science and Technology (JAAST). This fund supports AAAR's contribution to the award. Presented every four years at the International Aerosol Conference, the award memorializes Nikolai Albertovich Fuchs, the great Russian scientist who is regarded by many as the "father of aerosol science." The award recognizes outstanding worldwide contributions to the field of aerosol research.

The Fuchs Memorial Award was not awarded in 2021.



I feel very honored to receive the 2021 David Sinclair Award and its recognition of the fundamental information obtained from atmospheric aerosol particles when studied on an individual particle basis. Transmission electron microscopy has revealed the complexity of such particles and implications for their origin, evolution, and climate impact. I thank the AAAR, my students, and postdocs who made this award possible.

ENDOWMENT COMMITTEE

The Endowment Committee oversees the management of the AAAR Endowment Funds and provides leadership for AAAR's philanthropy-based, long-term fundraising activities. The Committee is responsible for developing, reviewing, revising and implementing policies for fundraising, and making recommendations to the Board for the use of the funds to support AAAR's programs. The Committee develops philanthropy-based fundraising goals, spearheads fundraising activities and educates AAAR members as to the value of philanthropic giving to AAAR's Endowment Funds.

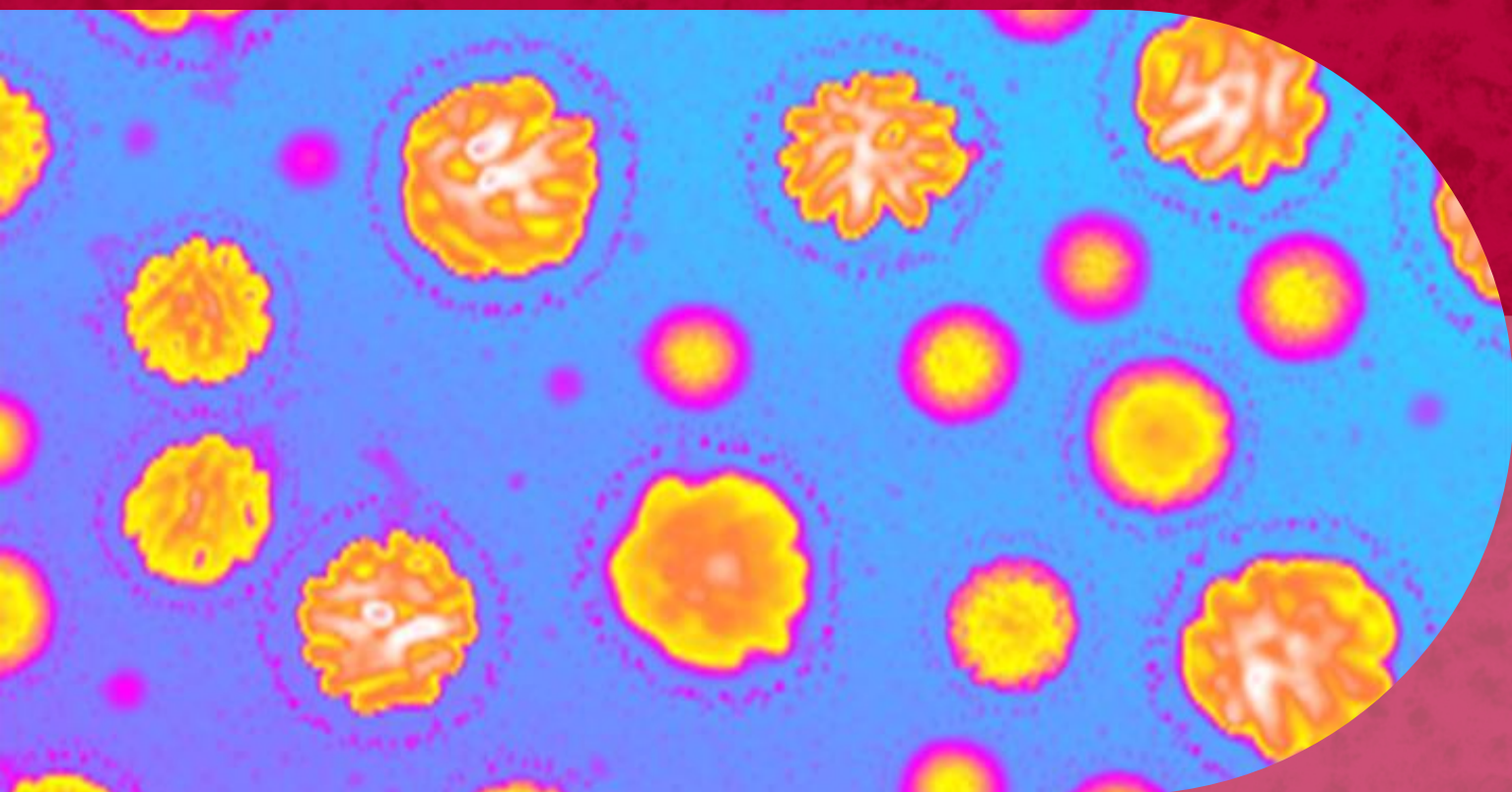
MEMBERS OF THE ENDOWMENT COMMITTEE

Tyler Beck	2018–2021
Susanne Hering	2018–2021
Jim Smith	2018–2021
Amy Sullivan (Chair)	2018–2022
Anthony Wexler	2019–2022
Andrea Ferro	2020–2021
Jay Turner	2020–2023
Sergey Nizkorodov	2021–2022
Sonia Kreidenweis	2021–2024
Suzanne Paulson	2021–2024



It is a huge honor to receive the inaugural Susanne Hering award. She is a role model, especially for women, in aerosol science. She was a co-author on one of my first papers, which was about polycyclic aromatic hydrocarbons in vehicle exhaust collected in the Caldecott Tunnel. Twenty years later, she contributed to one of the biggest advances in aerosol instrumentation for the pandemic: the water-based condensation growth tube sampler that can collect sub-micron particles gently and deposit them into culture medium. This enabled researchers to confirm that aerosolized viruses are infectious, which had been a big sticking point in the debate over the importance of airborne transmission of Covid-19. It is an especially meaningful honor to be recognized by the organization that I consider to be my scientific "home." I hope this award inspires others to allow their curiosity to get the best of them and to use aerosol science to pursue questions that have a direct impact on our health and well-being.

Linsey Marr
2021 Hering Award



BUILDING THE FUTURE

The Endowment Committee seeks to engage AAAR members, and their families and friends, in establishing and directing the future of the endowment. The AAAR Board has identified a number of useful activities that could be supported through the return from an endowment fund (listed in the table below). We welcome members' thoughts regarding these activities and any others that could make AAAR more effective in fostering and supporting aerosol science. Named funds to memorialize the legacy of prominent members of the aerosol community are a possibility as well. Please send your ideas to the Committee Chair Amy Sullivan at sullivan@atmos.colostate.edu. If you would like to help initiate any of these potential sub-funds or others of your choice, please let us know and, of course, we would welcome any contributions you wish to make. An on-line donation portal along with a description of all our funds can be found on the AAAR website at <https://www.aaar.org/donations/>. We also welcome donations from donor advised funds or individual retirement accounts and please let us know if you have included AAAR in your estate plans.

IDEAS FOR POTENTIAL NEW ENDOWMENT FUNDS TO SUPPORT AAAR'S MISSION

Concept	Annual spending	Endowed amount*
Student Poster Prizes (To award 10 at \$200 each)	\$ 2,000	\$ 50,000
Early Career Travel Grant (To cover registration, lodging and some travel)	\$ 2,000	\$ 50,000
Early Career Event	\$ 2000	\$ 50,000
Plenary lectures (2 – to cover honorarium, lodging and some travel)	\$ 4,000	\$ 100,000
Student Travel Grants (To award 20 at \$500 each)	\$ 10,000	\$ 250,000

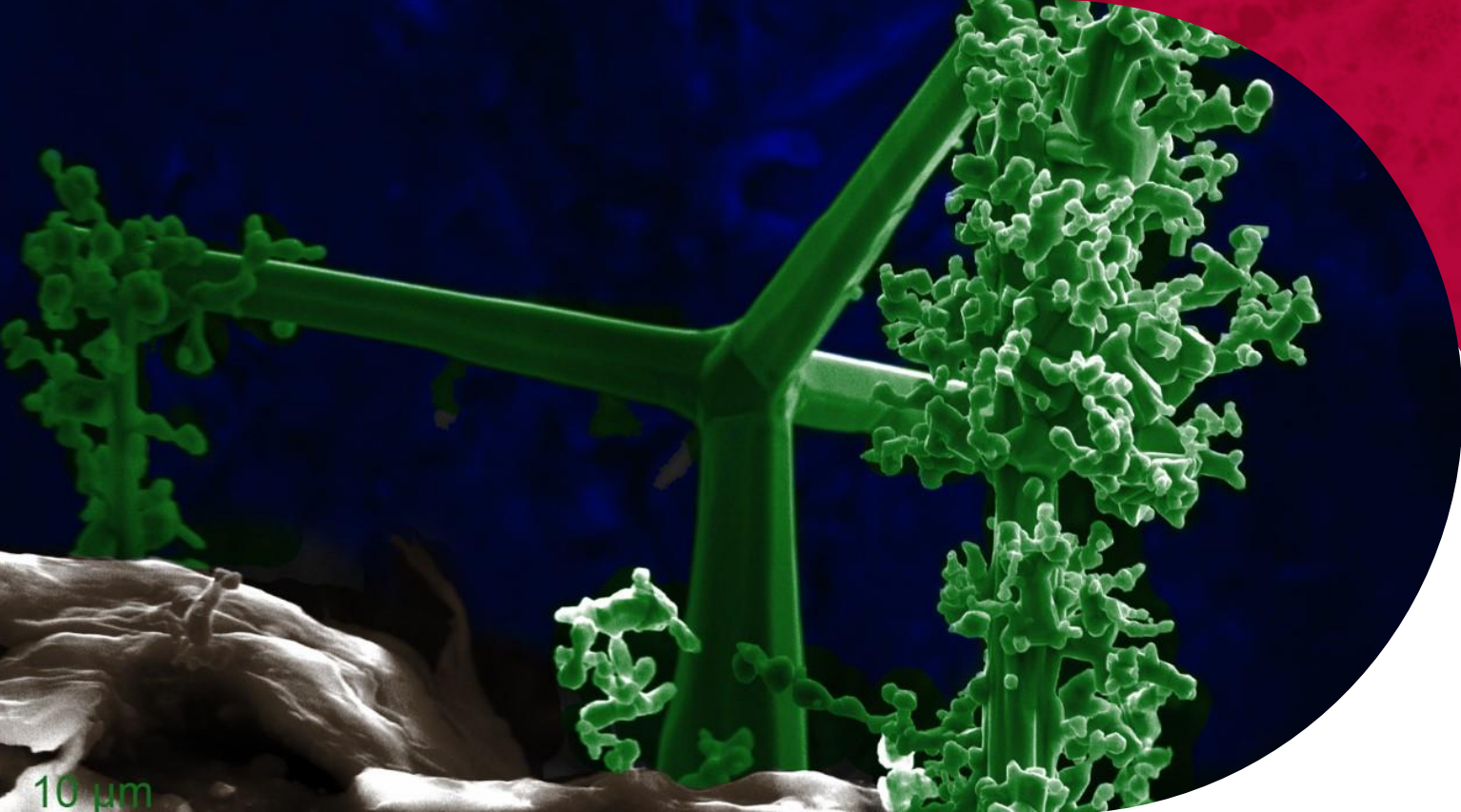
*Endowed amount is based on assuming a 4% average rate of return on investments to support annual spending.



I am sincerely honored and thankful to the AAAR for selecting me for the 2021 Whitby Award. AAAR has been my scientific home and family for ~ 20 years! I am so lucky and grateful to learn and discover new aerosol chemistry with my former and current students, post docs, and colleagues. You all have taught me so much - your amazing talents and hard work has been key to OUR success! .

Jason Surratt
2021 Whitby Award





STATUS OF THE FUNDS IN 2021

AAAR Endowment Funds Financial Summary for 2021						
Name of Endowment Fund	Net Assets Beginning of Year 1/1/2021	Contributions + Matching Funds	Total Disbursed in 2021	Net Return (Gain/Loss + Interest - Fees)	Reconciling for 2018- 2020 Disbursements	Estimated Net Assets End of Year 12/31/2021
True Endowment Funds (Permanently Restricted Corpus, Remainder Temporarily Restricted)						
Friedlander Memorial Fund (\$50,000 Corpus)	\$ 127,841		\$ -2,224	\$ 15,045	\$ -3,643	\$ 137,019
Fissan-Pui-TSI Award Fund (\$65,000 Corpus)	\$ 126,766			\$ 15,818		\$ 142,584
Presidents Fund (\$50,000 Corpus)	\$ 60,117	\$ 300		\$ 7,025		\$ 67,442
AS&T Outstanding Publication Award Fund (\$50,100 Corpus)	\$ 60,227		\$ -2,233	\$ 6,897	\$ -1,062	\$ 63,829
Susanne V. Hering Award Fund (\$50,000 Corpus)		\$ 73,773	\$ -1,572	\$ 2,336		\$ 74,537
Quasi Endowment Funds (Board Designated)						
Friedlander Dissertation Award Fund	\$ 48,622		\$ -1,572	\$ 5,345	\$ -3,113	\$ 49,282
Thomas T. Mercer Joint Prize Fund	\$ 46,607	\$ 9,000	\$ -10,000	\$ 5,531	\$ +6,872	\$ 58,010
David Sinclair Award Fund	\$ 46,399		\$ -1,572	\$ 5,224	\$ -3,113	\$ 46,938
Kenneth T. Whitby Award Fund	\$ 44,817		\$ -1,572	\$ 5,062	\$ -3,113	\$ 45,194
Benjamin Y. H. Liu Award Fund	\$ 50,931		\$ -1,572	\$ 5,886	\$ -3,113	\$ 52,132
Fuchs Memorial Award Fund	\$ 49,784			\$ 6,470	\$ +6,666	\$ 62,920

DONOR ACKNOWLEDGEMENT

We would like to formally thank and recognize these donors for their generous contributions and support of our new Endowment Funds.

Aerodyne Research, Inc.

Aerosol Devices, Inc.

Anthropocene Institute

Arthur Chan

Jeff Collett, Jr.

Donald Dabdub

Ann Dillner

Arantza Eiguren-Fernandez

David Ensor

Andrea Ferro

Rick Flagan

Barbara Finlayson-Pitts

Rob Griffin

Allen Goldstein

Susanne Hering

Gabriel Isaacman-VanWertz

Carol and Walter John

Murray Johnston

Sonia Kreidenweis

Chongai Kuang

Ernie Lewis

Greg Lewis

Linsey Marr

V. Faye McNeill

Peter McMurry

Marit Meyer

Don Milton

Kiran Mital

Dan Murphy

Nga Lee Ng

Patrick O'Shaughnessy

David Pui

Fred Quant

Paul Roberts

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Jim Smith

Chris Sorensen

R. Subramanian

Amy Sullivan

TSI

Barbara Turpin

Jian Wang

Tony Wexler

Leah Williams

C.Y. Wu

Barbara Wyslouzil

Anonymous

