



GETA NEWSLETTER

Genetic and Environmental Toxicology Society of Northern California

2023 President's Final Note:

Dear GETA members, Happy holidays! We had a tremendously productive year in 2023. Firstly, I would love to express my sincere appreciation for your participation in GETA events. A big thank you to the 2023 GETA board members for their devoted efforts in strengthening and improving GETA throughout the year. (Cont. on Page 2)

2024 President's Welcome:

Happy Holidays GETA Members and Friends!

2023 brought back the excitement of in-person meetings, and we were so excited to welcome you in person for the first in four years for our hybrid GETA Fall Symposium! What a great success it was! We were honored to welcome in-person presentations by three amazing speakers, the panel by experts in the field, the lightening talks by featured students and a poster session. A big *Thank You* to Jennifer for all her hard work and dedications in this past year. I also want to thank all Board Members, and our outgoing Board Members Dorothy and Sabrina, who will be missed greatly. I am excited to welcome the new Board Members Scott Tiscione and Nathalie Pham and congratulate Kim on her new position of President Elect. (Cont. on Page 2)

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2023-2024 Best Abstract Awards Competition Call

- **Qualification:** Students and postdoctoral researchers studying or conducting research in California institutes
- **Deadline:** Submit by March 1, 2024 (midnight, PST) to anna.kalashnikova@cdpr.ca.gov or Jennifer.hsieh@oehha.ca.gov
- **Award:** one Best Student Abstract Award (\$250) and one Best Post-doctoral Abstract Award (\$300)
- **Post-award:** Each awardee will give a 5-minute oral presentation in an upcoming GETA Symposium. The Post-doctoral awardee is automatically nominated for EMGS Emerging Scientist Award at the Environmental Mutagenesis & Genomics Society 55th Annual Meeting during September 7-11, 2024 in Palm Springs, CA (https://emgs-us.org/page/2024_EMGS).

For more details and the requirements for the abstract preparations and submissions, please read the announcement flyer or the updates at getanorcal.org.

🌐 Highlights of 2023 In-Person Fall Symposium 🌐 Environmental Toxicants on Alzheimer's and Parkinson's Disease

- First in-person symposium in four years; first hybrid symposium ever
- ~ 40 In-person attendees plus over 100 online registrations
- **Speakers:** Dr. Caleb Finch, University of Southern California
Dr. Pamela Lein, University of California, Davis
Dr. Samuel Goldman, Univ. of California, San Francisco
- Dr. Gary Miller of Columbia University joined with above speakers in the panel discussions
- Six poster presentations
- Two lightening talks by PhD students: Kevin Thai; Hector Delgadillo
- Casual happy hour at La Cosecha of Cesar Chavez Plaza

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2023 President's Final Note: (Continued...)

Next, I would like to highlight the achievements of GETA in 2023. We successfully hosted two symposia. The spring virtual symposium tackled the hot topic of "Artificial Intelligence Meets Toxicology" and featured two exceptional speakers: Dr. Thomas Hartung from Johns Hopkins University and Dr. Nicole Kleinstreuer from the National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods. The fall symposium marked a historic moment as the first-ever hybrid symposium in GETA's history. We engaged in a stimulating discussion on "the Impact of Environmental Toxicants on Alzheimer's and Parkinson's Disease". The symposium encompassed various elements, including three outstanding keynote presentations, two student lightening talks, poster presentation sections, a panel discussion, and a GETA-hosted post-symposium social event. Both symposia were resounding successes - receiving overwhelmingly positive feedback from both in-person and online attendees. Moreover, we expanded our active membership from ~250 to over 400 in 2023. Bravo!

Looking ahead, I am delighted to formally welcome Anna Kalashnikova as your 2024 GETA president. Anna is a great scientist known for her dedication and hard work. I have no doubt that she will lead the GETA towards another successful year! I hope we'll continue to uphold GETA's mission of promoting toxicological knowledge and fostering communication in the fields of environmental and genetic toxicology. I firmly believe that our collective efforts have contributed significantly in advancing our community's understanding of innovative toxicological research and in applying scientific knowledge to safeguard us all.

Please connect with GETA on **LinkedIn** (<https://www.linkedin.com/company/getanorcal/>) or view the 2023 symposium's presentations at getanorcal.org.

Jennifer Hsieh, 2023 President

2024 President's Welcome: (Continued...)

As the 2024 GETA President, my goal is to continue expanding our GETA network through collaborations with Government, Universities, and the Industry. My main aim is to attract new members and new scientists by bringing cutting-edge and engaging symposia. I hope to continue a hybrid format for upcoming meetings and would love to hear from YOU. By doing so, we can learn how to best support YOU. We welcome suggestions on **Symposium subjects and Speakers**. Please keep an eye out for surveys from us this year and thank you in advance for your participation. In the meantime, if you have any ideas for what you would like to see from us, feel free to contact me directly at anna.kalashnikova@cdpr.ca.gov.

All my best,

Anna Kalashnikova, 2024 President

Support GETA

Join the Board as:
Student Rep
Post-doc Rep

Make donations at
<https://geta.wedid.it/>

Become a member at
https://getanorcal.org/membership_services.html

Jobs for Environmental Scientists and Toxicologists

Finishing up your postdoc or PhD and looking for a secure job on areas with opportunity for telework? Apply to the open positions and join State Scientists workforce!

Search <https://www.calcareers.ca.gov/CalHRPublic/Landing/NewToStateService.aspx> using key words "environmental" or "toxicologist".

<https://oehha.ca.gov/public-information/jobs-oehha>



For photos and presentation highlights for 2023 Fall Symposium please go to page 3. More can be found at <https://getanorcal.org/photos.html> and https://getanorcal.org/past_meetings.html

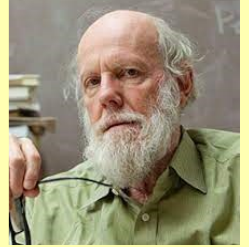
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Highlights about 2023 Fall Symposium

Dr. Finch and his presentation:

Pollution and Life-styles affects aging process

Dr. Caleb Finch has been a distinguished University Professor of University of Southern California. Since 1969, he has published more than 500 articles and book chapters in the field of neurobiology of aging and is the editor of 20 books on aging and dementia. He is among the first to emphasize importance of environmental factors in aging.



Important messages from his talk are that internal and external environmental influences affect our health and aging. Examples of environmental influences include diet, air pollution or smoking, infection, obesity, social stress, and endogenous influences including cells, biomes, fat deposit, blood-lymph, hypertension, and nutrients. Air pollution lowers learning, logical memory and executive functions, and accelerates Alzheimer's disease development. There is a linear correlation between improved air quality and reduced dementia risks based on a longitudinal cohort study in older women. More astonishingly, prenatal air pollution exposure have life-long effects on increased risks of dementia and other neurological problems.

Ambient Traffic-Related Air Pollution on Alzheimer's Disease



Dr. Pamela Lein chairs Molecular Biosciences in the School of Veterinary Medicine at the University of California, Davis. She is the Counter ACT Director & Project 1 Lead. She introduced her recent research findings funded by NIH.

Using wildtype and transgenic Alzheimer's disease (AD) rats, her lab tested if traffic-related air pollution (TRAP) on AD development is connected with age, sex and genetic factors. They introduced real world TRAP real-time into the lab to see the effects on rats. More reflective particles were observed in hippocampus in TRAP exposed wildtype and AD rats compared with their corresponding control rats exposed to filtered air (FA) at all ages. Fewer reflective particles in the brain regions along the olfactory pathway suggested that material-uptakes through nostrils were not the main factor. TRAP exposure accelerated and exacerbated AD development, and increased the CD68⁺ positive subpopulation among microglial cells (CD68/IBA1). Female AD rats exhibited pathological features earlier than the males under TRAP exposure. In wildtype rats, higher rates of neuron loss were detected at 15-month in both males and females, and males had higher incidence of memory deficits and accumulations of pTau in the TRAP group than the control.

Gene-Environment Interaction in Parkinson's Disease

Dr. Samuel Goldman is an MD and has an MPH degree in Environmental Health Science. He has dedicated his work on Parkinson's disease (PD) for 30 years. He described PD pathology and insights of gene-environment interaction in PD development.



PD is characterized as the loss of pigmented dopaminergic neurons in the brain region of *substantia nigra pars compacta*. Impaired mitochondrial function is a well recognized feature of PD. Impaired α -synuclein protein, autophagy, and lysosomal function, and oxidative stress and inflammation are critical factors for PD development.

Global PD burden were increased from 2.6 millions in 1990 to 6.3 millions in 2015. PD incidences increased rapidly in people over 65 years of age with only 4% under the age of 50. The latter has a higher connection with genetic factors. Males have higher incidences than females, and whites higher than blacks. Cohort studies in twins showed that environment is the major contributor for PD. Examples of environmental chemicals having large impact on PD included paraquat, rotenone, trichloroethylene (TCE), and PCBs.

