



Alzheimer's and Cognition Center

UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**

“Healthy Brain Aging Starts Here”

September 2021

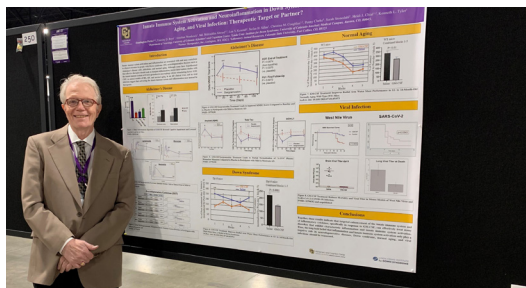
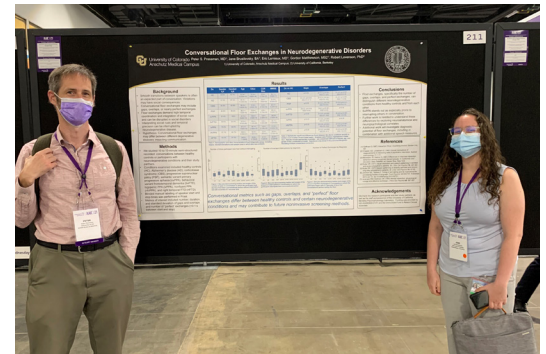
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CUACC in the Summertime

In addition to conducting research and clinical care, members of the CU Alzheimer's and Cognition Center were busy engaging in community activities during the summer! CUACC members had many exciting opportunities to interact with the community and with other researchers in the field at various events over the last three months.

For example, in July, the Alzheimer's Association International Conference (AAIC) was held in Denver! This event happens every year, and it is a wonderful opportunity for researchers to come together to share the latest discoveries in the field. Local community members are also welcome and invited to attend the event, which was held at the convention center downtown. The CUACC was able to have a presence at the event by sponsoring an exhibition booth where attendees could meet with staff members to learn about all of the different types of research projects that are being conducted at our Center, to hear about the services we provide, and to discuss potential opportunities for collaboration in the future.

Members of the CUACC also presented four posters at the AAIC event, including three that were presented in person. These posters provided updates on research projects happening at the Center. For example, Dr. Potter presented a poster focused on Innate Immune System Activation and Neuroinflammation in Down Syndrome, Neurodegeneration, Aging, and Viral Infection. Other



presenters included Dr. Md. Mahiuddin Ahmed and Dr. Athena Wang, Dr. Noah Johnson, and Dr. Peter Pressman with Modern Human Anatomy Master's student, Jane Brusilovsky.

The CU Alzheimer's and Center team also attended the Alzheimer's Association Walk to End Alzheimer's in Denver. Faculty and staff attended the walk both in-person and virtually, and we also had team members available to answer questions about research and clinical trial participation at the in-person event. Finally, Dr. Peter Pressman and Dr. Brianne Bettcher gave virtual community presentations this summer. Dr. Pressman joined a panel of experts to talk about Advances in Alzheimer's Disease and Related Dementias, and Dr. Bettcher presented on Healthy Brain Aging.

Whether virtual or in-person, the CUACC is always excited to interact with our community in any way that we can. If you are interested in hosting a community presentation or an event with our Center or with one of our experts, please contact us at CUAlz@cuanschutz.edu or call 303-742-7670!

CUACC MEMBERS AT AAIC: IN PHOTOGRAPHS

From Top to Bottom: Dr. Mahi Ahmed and Dr. Athena Wang; Dr. Peter Pressman and Jane Brusilovsky; Dr. Huntington Potter; Erika Dallmann and Natalie Lopez-Esqueibel.



Investigator Spotlight: Dr. Md. Mahiuddin Ahmed



Md. Mahiuddin Ahmed, PhD, is a Faculty Senior Research Instructor in the Department of Neurology. He is a member of both the University of Colorado Alzheimer's and Cognition Center (CUACC) and the Linda Crnic Institute for Down Syndrome on the University of Colorado Anschutz Medical Campus (CU-AMC).

Dr. Ahmed is originally from Bangladesh where he obtained his Bachelor of Science, Honors (BSc Honors) and Master of Science (MSc) degrees from the Department of Biochemistry and Molecular Biology at the University of Dhaka. During his MSc training, Dr. Ahmed started taking classes in neuroscience and brain biochemistry and he became increasingly interested in neurobiology research.

Dr. Ahmed received a very prestigious Japanese Government Academic Scholarship called "MONBUSHO," which allowed him to pursue his PhD in Neurobiology at Yokohama City University. For his dissertation, Dr. Ahmed investigated the effects of memantine, a drug that is commonly used to treat Alzheimer's disease (AD) symptoms, at a molecular level in key brain regions in a rat model of AD.

Working in Alzheimer's research for his PhD program allowed Dr. Ahmed to learn more about AD and its profound effects on patients and their caregivers. He was especially impacted when he learned that people living with dementia may not be able to recognize their family members, which can be especially devastating.

Through his PhD research, he developed strong connections to the AD research field, which led him to pursue a research career focused on AD and other neurodegenerative diseases.

In 2008, Dr. Ahmed received a postdoctoral fellowship to join Dr. Katherine Gardiner's laboratory in the Department of Pediatrics at CU-AMC, where his research focus shifted to Down syndrome (DS) and its connections to AD. In 2016, he joined Dr. Potter's lab, where he has continued to pursue his research interests in both AD and DS.

His current research is focused on understanding the neurobiological pathways and processes that are perturbed in AD and DS. Specially, he is investigating the effects of granulocyte-macrophage colony-stimulating factor (GM-CSF) treatment in a mouse model of DS where he showed improvements in learning, memory, and brain pathology. He is currently evaluating the ability of GM-CSF to prevent/reverse AD pathology in the brain and retina as well as in learning and memory in a rat model of AD. GM-CSF (also called Leukine®/sargramostim) is

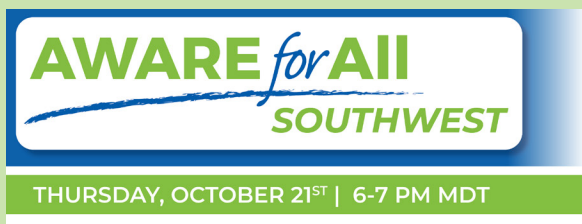
the drug that is currently being investigated in clinical trials at the CUACC as a potential treatment for people with mild-to-moderate AD.

The CUACC was recently awarded a prestigious INCLUDE grant from the NIH to carry out a trial investigating the potential ability of GM-CSF/Leukine to improve cognition in people with DS before they develop AD. It was Dr. Ahmed's research in mice that laid the foundation for this NIH-funded clinical trial.

Dr. Ahmed greatly enjoys engaging in laboratory research at the bench, and he is grateful for the opportunity to use his expertise in behavioral science, molecular biology, biochemistry, and cellular biology to address key questions about the molecular mechanisms underlying neurological disorders, including AD and DS.

Outside of the laboratory, Dr. Ahmed enjoys spending free time with his wife and two children. He is also an avid sports fan and especially enjoys watching soccer, cricket and American football. If you would like to learn more about Dr. Ahmed and his research, please visit <https://bit.ly/Md-Ahmed>.

Upcoming Community Event - AWARE for All Southwest



The CUACC will be a virtual exhibitor at the AWARE for All Southwest event this October! This event is designed to spread awareness about clinical trials, and will have a panel on October 21st from 6-7 pm MDT that features both healthcare professionals and clinical trial participants to answer any questions attendees have about clinical trials.

The event will also feature a virtual exhibit with health and wellness organizations from the Southwest, which will include our Center and others from the University of Colorado. If you or someone you know would like to register for this event, please visit <https://bit.ly/CUACC-AWARE>.



Ins and Outs: Institutional Review Board



All research in the United States involving human subjects must be conducted under the watch of an institutional review board (IRB). The IRB provides oversight and guidelines about how to conduct research in which people are involved, and it assures the protection of rights and the welfare of all participants.

The need for an IRB is a result of previous unethical research studies that were conducted on humans in Nazi Germany and here in the United States, such as the Tuskegee Syphilis study. Studies such as these showed the need for a governing board that would place the

needs and rights of research participants above those of the research scientists, to ensure that participants are treated ethically and safely.

The IRB is made up of at least five people of varying backgrounds, including someone who is not a scientist, to ensure that the study can be understood by someone not involved in research every day, because most participants are not researchers.

The IRB focuses mainly on criteria to ensure that risks of the study are minimized, that participant selection is fair, that the study provides all information

needed for participants to make an informed decision to be a part of the study, and that participant privacy and confidentiality are protected.

Before a study can begin enrolling participants, the IRB must approve the study's protocol and informed consent form, all study materials that will be given to the participants, and the study's recruitment documents. The IRB must also approve any modifications made throughout the study, and it can put a stop to a research study at any time if it feels the study is not being ethical or protecting the welfare of the participants.

Overall, the IRB and other similar boards are focused on protecting the human subjects. If a research participant feels they are not being treated ethically, if they have any questions regarding the study they are participating in, or if they just want to provide feedback, they are always welcome to contact the IRB to voice their concerns.

At the end of the day, all research studies with human participants, such as those conducted at the CU Alzheimer's and Cognition Center, must obtain IRB approval in order to start enrolling participants.

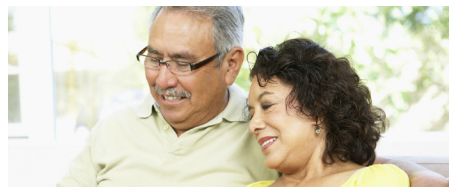
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Interested in a Research Study?

Contact Neurology Research Partners at 303-724-4644 or fill out a research inquiry form at www.cumemoryresearch.org to learn more!

Give to Research

If you are interested in making a donation to the CU Alzheimer's and Cognition Center, please contact Carrie Radant Flynn at 303-724-9146.

