

2021 Cleveland Alzheimer's Disease Research Center Research Education component (REC) and Translational Therapeutic Core (TTC) Retreat on August 19, 2021

On August 19, 2021, Xiongwei Zhu (REC director) and Andrew Pieper (TTC Director) hosted a retreat at the CWRU University Squire Valleevue Farm. Nearly 50 people attended this event, which provided a safe and welcome occasion for collegial interaction and discussion. For many attendees it was the first in-person event they had attended since early 2020 and many commented on how this event was a refreshing change.

To kick off the event, participants in the CWRU Neurodegenerative Disease T32 Training grant presented their current work. The retreat began with energetic and enthusiastic talks from two new faculty trainers, Aaron Burberry and Alexis Woo. Dr. Burberry discussed neural inflammatory triggers in ALS and his study of environmental and systemic roles in the development of ALS. Dr. Woo highlighted her multi-targeted approach to study beta-arrestins in Alzheimer disease and other neurodegenerative disorders. We extend a hearty welcome to them both.

This was followed by presentations from the PhD or MD/PhD students Preethy Sridharan, Aaron Talsma, Geneva Laforce, Raza Haider, Ben Dumm, and Erin Cohn who were supported by Neurodegenerative Disease T32 Training grant. This grant provides research support for outstanding graduate students, and each of our students demonstrated great passion for their research. Their topics are detailed in the attached agenda. They also shared reflection on how the mentored neurodegenerative clinical experience supported by the T32 training grant impact their education and research. The mentored clinical experience was thoroughly enjoyed by each participant who was able to complete it. Those waiting for these opportunities to again be available, are looking forward to this experience.

These speakers were followed by presentations from the Program Participants of the CADRC Research Education Component. The REC supported 5 junior faculty members to assist them in developing their research program to either reach a major research goal and/or career development goal. Jagan Pillai was recently promoted and Ignazio Cali was awarded a K99/R00 grant during the first round of REC awards and graduated from REC after two years of support. Congratulations to them both. In addition, Wenzhang Wang, Karin Mente, and Catherine Koeing have made significant progress that has produced multiple publications, and will continue to be supported by the REC for another year. Their specific research topics are outlined in the agenda attached below.

Andrew Pieper introduced the CADRC Translational Therapeutic Core. We then heard from the researcher currently supported by the TTC, Min-kyoo Shin. He has been working to expand his work associating acetylated tau with traumatic brain injury.

The keynote speaker, Dr. Xiang-dong Fu, from the University of California San Diego, completed the day's events with an engaging and interactive talk entitled, "Making New Neurons to Treat Neurodegenerative Diseases". He elegantly presented how his team discovered a cascade for the conversion of astrocytes into new neurons. While his focus is targeting new therapeutics for Parkinson disease, this avenue provides potential for treating other neurodegenerative diseases.

Thank you to all the administrative staff of the CADRC, T32 training grant and the Dept of Pathology for their tremendous help in putting this event together.

Combined Retreat of Neurodegeneration T32 and the Research Education Component (REC) and Translational Therapeutic Core (TTC) of Cleveland Alzheimer's disease Research Center (CADRC)

Thursday, August 19, 2021

**University Squire Valleevue Farm
The November Meeting Center (formerly the Sheep Barn)
37125 Fairmount Boulevard
Hunting Valley, OH 44022**

<https://students.case.edu/farm/about/location.html>

8:30 am Registration and Continental Breakfast		
9-9:10 am	Welcome and Opening Remarks	Xiongwei Zhu, PhD Director, NIH T32 Training in Neurodegenerative Diseases, NS077888 Director, NIH CADRC REC
T32 New Trainer Presentation		
9:10-9:40 am	Aaron Burberry, PhD, Assistant Professor, Department of Pathology, CWRU	Neural inflammatory triggers in ALS
9:40-10:10 am	Alexa Woo, PhD. Assistant Professor, Department of Pathology, CWRU	Targeting beta-arrestins to arrest Alzheimer's disease (AD) and AD-related dementia
10:10-10:20 am	Coffee BREAK	
T32 Trainee Presentations and Feedback on Individual Mentored Clinical Rotations		
10:20-10:30 am	Preethy Sridharan, Y5 trainee	Role of mitochondrial fission in progressive neurodegeneration and memory deficit after traumatic brain injury Research Mentor: Andrew Pieper, MD Clinical Mentor: James Leverenz, MD
10:30-10:40 am	Aaron Talsma Y6 Trainee	Macrophages and peripheral nerve regeneration Research Mentor: Richard Zigmond, PhD Clinical Mentor: Nancy Bass, MD
10:40-10:50 am	Geneva Laforce Y6, Y7 Trainee	Understanding the role of CLP1 in mammalian mRNA transcription and neurodegeneration Research Mentor: Ashleigh Schaffer, PhD Clinical Mentor: Nancy Bass, MD
10:50-11:00 am	Raza Haider Y6 Trainee	Phosphorylation as a site specific modulator of TDP-43 LLPS. Research Mentor: Wiltold Surewicz, PhD Clinical Mentor: Alan Lerner, MD
11:00-11:10 am	Ben Dumm Y7 Trainee	The role of membrane interactions in TDP-43 proteinopathies Research Mentor: Wiltold Surewicz, PhD Clinical Mentor:
11:10-11:20 am	Erin Cohn Y7 Trainee	Pathological mechanotransduction by oligodendrocytes after traumatic brain injury Research Mentor: Paul Tesar, PhD Clinical Mentor:
11:20-11:30 am	Coffee Break	
Cleveland Alzheimer Disease Research Center Research Education Component (REC) Participants Presentations		
11:30-11:45 am	Jagan Pillai	Developing a clinical and research framework for evaluating inflammation pathway dysregulation in Alzheimer's disease
11:45-12:00 pm	Catherin Konig	Attitudes about research participation among individuals with Down syndrome and their caregivers
12:00-12:15 pm	Wenzhang Wang	APOE4 mediated abnormal mitochondria-endolysosomal contacts in Alzheimer's disease
12:15-12:30 pm	Ignazio Cali	Investigating the conformational features of Amyloid- β and tau in a CTE patient with Alzheimer's disease
12:30-1:20 pm	Lunch Break	

Cleveland Alzheimer Disease Research Center Translational Therapeutic Core (TTC)-Supported Research		
1:20-1:30 pm	Andrew Pieper, Director, CADRC TTC	Introduction of TTC
1:30-2:00 pm	Min-Kyoo Shin	Discovery of a new mechanistic link between TBI and AD
Invited Speaker		
2:00-3:00 pm	Dr. Xiang-dong Fu	Making New Neurons to Treat Neurodegenerative Diseases
3:00 pm	Discussion/Wrap-Up	Xiongwei Zhu, PhD
3:00 pm	Brief Discussion	T32 Steering Committee, REC/TTC directors and Invited Speaker