

Happy New Year!  
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# Happy New Year to all in the Appel institute!



Not only have we begun the new calendar year, but for many, this time of year is also important because of the Lunar New Year.

Based on the second new moon after the winter solstice, this year it falls on January 31st with the new year beginning on February 1st. This year is celebrated as the year of the Tiger.

While it's unclear exactly how it began, one common Chinese legend told is that there was once a monster called "Nian" that would wreak havoc in villages every spring. Upon realizing Nian was afraid of the color red and loud noises, villages would light firecrackers and hang red decorations to scare it away.

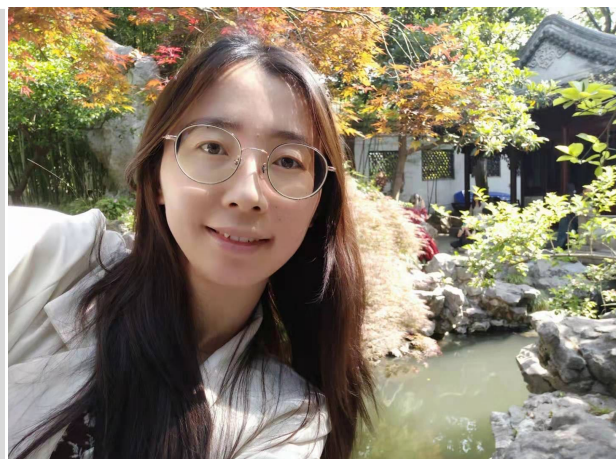
Although many associate the Lunar New Year with China, other countries have long-standing traditions including Korea, Vietnam, Singapore, and Mongolia as well as the Asian diaspora. It is largely a secular holiday, although there are many Buddhist, Confucianism, and Taoist traditions tied to the Lunar New Year. The Lunar New Year is a welcome time for families to reunite, and red envelopes, dragon dances, and large feasts with families are a common sight

by Eileen Torres  
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# Welcome Siyu!

**Siyu Wang** is a new technician in Sinha/Gan lab. She received her Master's degree in Medicinal Chemistry at Zhejiang University in March, 2017. Her major work was designing, synthesis, and biological evaluation of natural product EGCG derivatives and deuterated analogs of Ticagrelor. With her research experience, she became increasingly interested in biology and chemistry and excited to continue research here. Outside of the lab, Siyu can most likely be found exploring new places in the city, running, or cooking.



**Siyu Wang, M.Sc.**  
Research Technician  
Gan/Sinha Lab

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# Welcome Jazmin!

**Hi Appel!** My name is Jazmin Alarcon. I was born in Santiago, Chile. I graduated as a Bachelor of Science with major in chemistry from Universidad de Chile (2013). I got CONICYT grants for a doctoral scholarship under the supervision of Dr. Renato Contreras and Dr. Paola Campodonico in kinetics and reaction mechanisms using Ionic liquids as reaction media. In 2018, I led a FONDECYT postdoctoral project in medicinal chemistry in Alzheimer's disease under Dr. Hernan Pessoa's direction. I worked as a scientific researcher in Universidad de Talca with Dr. Guillermo Schmeda in natural products chemistry (2021). Currently, I am working in the Sinha laboratory to design, synthesize, and evaluate small molecules as c-GAS inhibitors. When I'm not in the lab, I love to travel, taste gastronomy from different countries, discover new places, and meet new people.



**Jazmin Alarcon, PhD**

Postdoc

Gan/Sinha Lab

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# Welcome Anjali!

**Hi Appel!** My name is Anjali and I am a new Postdoc in the Gan/Sinha's Laboratory. I was awarded a Ph.D. Degree in Zoology from Jiwaji University (JU), Gwalior, India, in October 2020. My doctoral research focused on cognitive and neurochemical consequences of microwave radiation (MWR) in in-vitro and in vivo models. This has acquainted me with in vitro culture, histopathological and immunohistochemical techniques, as well as various behavioral/cognitive tests. I am also well trained in various microscopy techniques such as fluorescence, confocal, and electron microscopy.

After that I was working on a project as a postdoctoral fellow in Prof. Shukla's lab at JU on the inflammatory response of MWR contributing to the structural and functional impact on the rat brain, where I was working on the expression of microglia and astrocytes and myelin proteins contributing to the structural and functional impact on the brain. Apart from this I have received a Young Scientist Research grant funded by the Indian Council of Medical Research, India in 2020.

Having a background in cellular and molecular neurobiology I am much interested in the compounds targeting disease-modifying pathways for the treatment of neurodegenerative disease. With this, I became increasingly interested in investigating of therapeutic molecules prove their potential in the neurological disease treatments, and came to the Sinha's lab collaborated to Professor Gan's lab and excited to continue this work in the context of the Alzheimer's Disease. Outside of the lab, I like cooking, watching movies, and exploring new places in NYC!



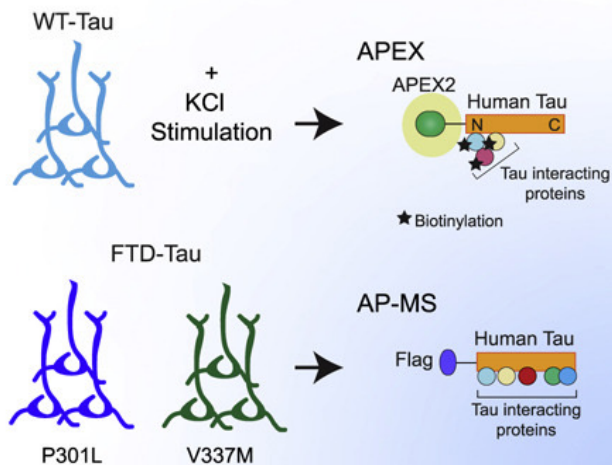
**Anjali Sharma, PhD**  
Postdoc  
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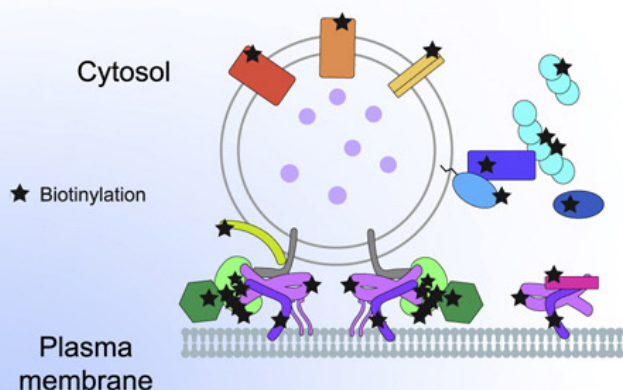
# Publications- Gan lab

## Mapping Dementia-Linked Protein Interactions Yields Potential New Treatment Targets

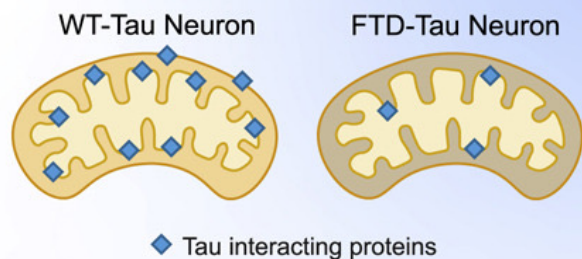
Human iPSC-derived neuron Tau interactome platform



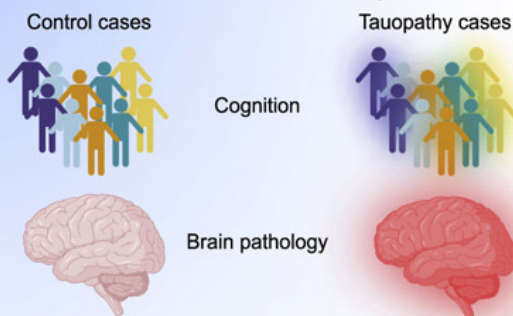
Activity-dependent binding of Tau to synaptic vesicle proteins during Tau secretion



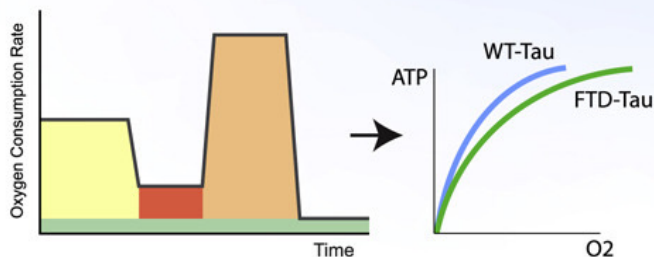
FTD mutations reduce Tau interaction with mitochondrial proteins



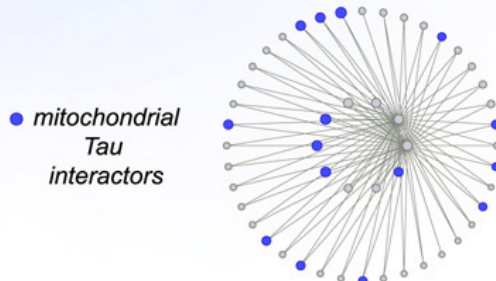
Tau interacting proteins downregulated in human tauopathy



FTD mutations impair bioenergetics



Mitochondrial Tau interactors downregulated

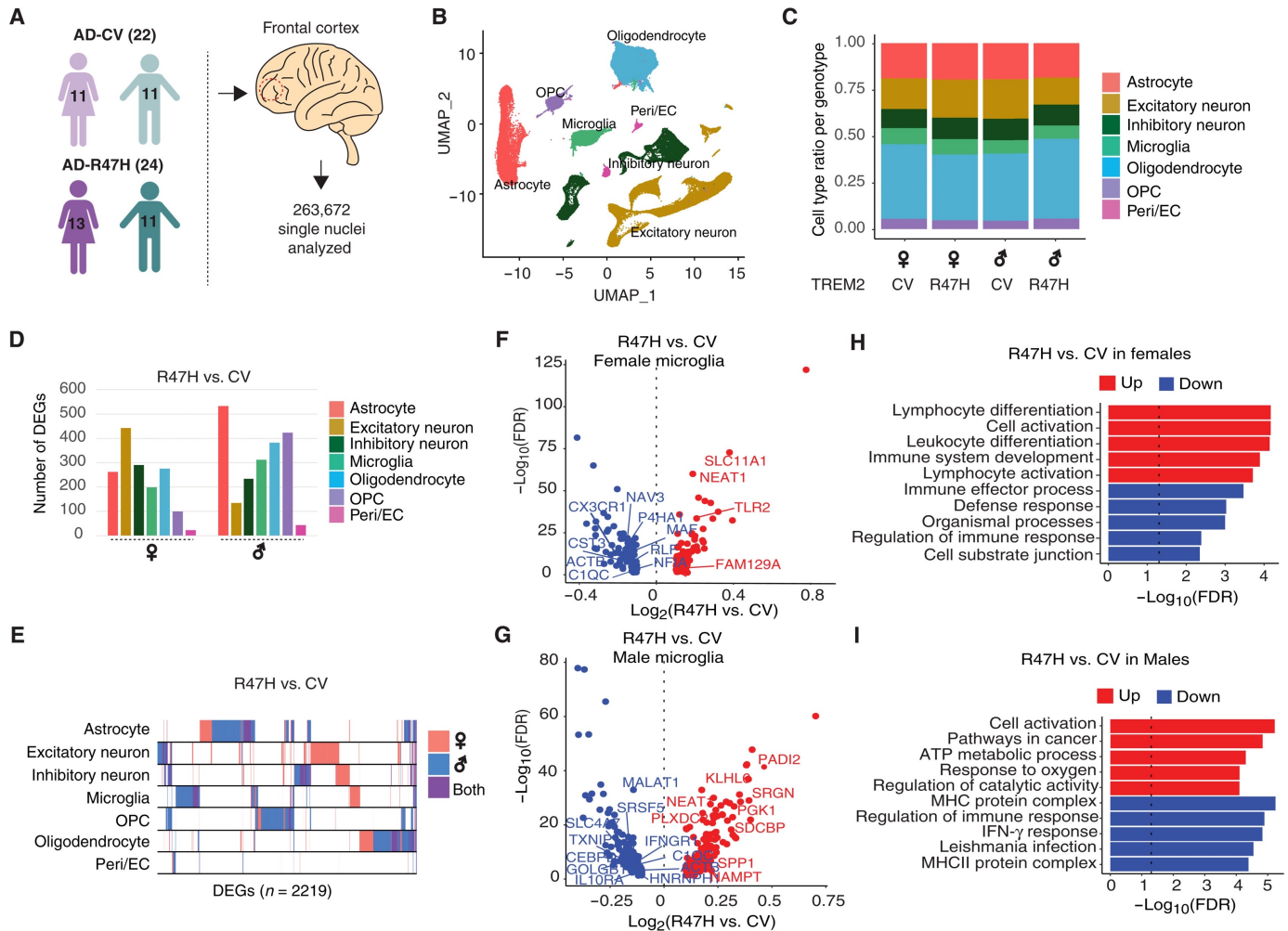


We're excited to share our latest research out in CellPress NOW! Using APEX and AP-MS proteomics, we mapped Tau interactomes that were modified by neuronal activity and FTD mutations in hiPSC-derived neurons.

[https://www.cell.com/cell/fulltext/S0092-8674\(21\)01563-4](https://www.cell.com/cell/fulltext/S0092-8674(21)01563-4)

# Publications- Gan lab

Our recent study in Science Translational Medicine identifies a TREM2 R47H-specific microglial subpopulation in human AD brain and tauopathy mice, reminiscent of DAM and AKT hyperactivation which can be rescued by pharmacological AKT inhibition.



Read in full here:

<https://www.science.org/doi/10.1126/scitranslmed.abe3947>

# Participate!

Get inspired and send us your work!

Contact Billy for details [guc9014@med.cornell.edu](mailto:guc9014@med.cornell.edu)