Intercampus Symposium on Aging and Neurodegeneration

- Tuesday, October 26th -

6:45am  
Bus departure from NYC campus

11:30am  
Registration opens and box lunch provided for traveling guests from WCM

12:30pm  
Welcome and Introductions: Gary Koretzky, Fenghua Hu, & Sylvia Lee

Keynote and Sessions 1-4 - Open to the entire campus via live stream - Public sessions Zoom link  
Biotech G10

12:50-1:20pm  
Keynote lecture by Li Gan: Converging pathways in tauopathy

Session 1 – Innovative approaches in aging and Neurodegeneration | Chaired by Adam Orr

1:20-1:30pm*  
Chris Schaffer: Causes of consequences of cerebral blood disruptions in Alzheimer’s disease

1:30-1:40pm*  
Yi Wang: MRI for noninvasive imaging of aging and neurodegeneration: structural, functional and Cornell-invented techniques

1:40-1:50pm  
Noah Dephoure: Identifying alterations in autophagic targets in neurodegenerative disease.

1:50-2:00pm  
Bangyan Liu, Gan Lab grad student: Replicative microglial senescence and its potential role in age-associated neuronal dysfunction

2:00-2:10pm  
Jan Krumsiek: Alzheimer’s disease- a metabolomics perspective

2:10-2:20pm  
Lisbeth Evered: Perioperative neurocognitive disorders and neurodegenerative diseases: are they the same thing

2:20-2:35pm  
Chris Xu: Imaging deeper, wider, and faster: watch the brain in action with multiphoton microscopy

2:35-2:50pm  
Ben Cosgrove: Single-cell transcriptomic analysis of mouse and human skeletal muscle aging

2:50-3:00pm  
Flash talks (see end of program for speaker information)

3:00-3:30pm  
- Break -

Session 2 – Comparative Biology of aging and Neurodegeneration | Chaired by Noah Dephoure

3:30-3:45pm  
David Deitcher: Cell-type vulnerability in a Drosophila neurodegeneration model

3:45-4:00pm  
Jesse Goldberg: Cortical control of lingual kinematics

*Virtual presentation
4:00-4:10pm  Matthew Zipple, Reeve and Sheehan labs postdoc: Within- and between- generation effects of early maternal loss on offspring survival in non-human primates

4:10-4:20pm  Chloe Lopez-Lee, Gan Lab grad student: Sex chromosomes modulate sex-specific response to acute neuroinflammation

4:20-4:30pm  Sylvia Lee: Chromatin regulation in aging and neurodegeneration in C. elegans

4:30-4:45pm  Chun Han: The role of phosphatidylserine exposure in neurodegeneration

4:45-5:00pm  Jessica Tyler: Using yeast replicative aging to determine the drivers of aging and longevity

5:00-5:10pm  Tuancheng Feng, Hu Lab Postdoc: TMEM106B regulates cerebellar degeneration during aging

5:10-5:30pm  Flash talks (see back of program for speaker information)

5:30-7:00pm  Poster Session & Reception – Poster session Zoom link

7:00pm  Bus departure to hotel

- Wednesday, October 27th -

8:15am  Guest departure from hotel

Public sessions Zoom link  Biotech G10

Session 3 – Cellular mechanisms of aging and neurodegeneration | Chaired by Ben Cosgrove

9:00 -9:15am*  Frederick Maxfield: Degradation of amyloid by microglia

9:15-9:30am*  Anna Orr: Roles of astrocytes in synaptic and cognitive impairments linked to dementia

9:30-9:45am*  Jacqueline Burre: Synucleins in aging and neurodegeneration

9:45-10:00am*  Manu Sharma: Lysosomal exocytosis releases pathogenic α-synuclein species from neurons

10:00-10:15am  Fenghua Hu: Progranulin functions in microglia to regulate myelination

10:15-10:25am*  Martin Graef: System-wide profiling of cellular ageing

10:25-10:35am  Daniel Berry: Age-dependent Pdgfrb signaling drives adipocyte progenitor dysfunction to alter the beige adipogenic niche

10:35-10:45am  Amaresh Chaturbedi, Lee Lab postdoc: Germline regulation of aging in C. elegans

10:45-11:15am  - Break -
Session 4 – Molecular Basis of aging and neurodegeneration | Chaired by Wenjie Luo

11:15-11:30am  **David Eliezer**: Novel tau oligomers and post-translational modifications in Alzheimer’s disease

11:30-11:40am  **Felicity Emerson, Lee Lab grad student**: A conserved histone deacetylase mediates the longevity of two chromatin factor mutants in C. elegans

11:40-11:50am  **Gia Maisuradze**: Elucidating mechanisms of amyloid fibril formation by coarse-grained molecular dynamics

11:50-12:00pm  **Virginia Gao, Burre Lab postdoc**: Biochemical changes in alpha-synuclein in the central and enteric nervous system in Parkinson’s disease

12:00-12:15am  **Gary Gibson**: Succinylation links abnormal metabolism to APP and tau in Alzheimer’s Disease

12:15-12:30pm  **Adam Orr**: Site-specific mitochondrial ROS influence neuroinflammation and pathology in models of dementia

12:30-12:45pm*  **David Simon**: Balancing Pro-Survival and Pro-Degenerative Cues to Promote Axon Survival

12:45-1:00pm  **Frank Schroeder**: Metabolic dark matter as a key determinant of longevity

1:00-2:00pm  - Lunch –

2:00-3:00pm  **Session 5: Concurrent Working Groups**

**WG1 (Weill 321): Imaging tools for in vivo studies (Moderators: Lee Cohen-Gould, Chris Shaffer#, Rebecca Williams, Chris Xu)**: Provide brief overviews of inter-campus imaging facilities and services; Identify the specific biological questions that can be addressed using innovative imaging tools; Identify the inter-campus strengths that will advance both technical and biological pursuits.  [WG1 Zoom link]

**WG2 (Biotech G01): Proteomic and Metabolomic strategies (Moderators: Noah Dephoure#, Frank Schroeder, Guoan Zhang, Sheng Zhang)**: Provide brief overviews of inter-campus proteomic & metabolomic facilities and services; Identify the specific biological questions that can be addressed using innovative proteomic and metabolomic strategies; Identify the intercampus strengths that will advance both technical and biological pursuits.  [WG2 Zoom link]*Optional facility tour at 3:00pm for in-person participants.
WG3 (Weill 421): **Genomic and Single Cell approaches** *(Moderators: Ben Cosgrove*, Jen Grenier, William Lai, Jessica Tyler)*: Provide brief overviews of inter-campus genomics facilities and services, and case-study examples of their use; Identify the specific biological questions that can be addressed using innovative genomic, epigenomic, and single cell strategies; Identify the inter-campus strengths that will advance both technical and biological pursuits. [WG3 Zoom link](#)

WG4 (Weill 221): *(Trainees are the target audience!)* **Training considerations: Translating basic research into clinical and therapeutic relevance** *(Panelists: Li Gan, Mony de Leon, Gary Gibson; Hening Lin. Moderators: Amaresh Charturbedi, Hsin-Yun (Rachel) Chang, Mariela Nunez Santos)*: Wondering what training paths can prepare you to translate basic research into clinical and therapeutic relevance? Join us to discuss! [WG4 Zoom link](#)

3:00-3:30pm  -  Break -

**Session 6: Working Group Reports**

3:30- 4:30pm  Presentations & Recommendations from individual Working Groups

4:30-4:40pm  Summary, Concluding Remarks, and Next Steps (Co-Chairs)

4:40pm  Meeting adjourned

5:00pm  Bus departure. Boxed meals provided for traveling guests only
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<th>FLASH TALK PRESENTERS</th>
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<tr>
<td>Jillian Breault</td>
<td>Sevier Lab Grad Student</td>
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<td>Celeste Parra Bravo</td>
<td>Gan Lab Grad Student</td>
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<td>Lukasz Kowalik</td>
<td>CTL Senior Licensing Officer</td>
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<tr>
<td>Gillian Carling†</td>
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<td>Lia Chen†</td>
<td>Affect and Cognition Lab Grad Student</td>
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<td>Mariela Nunez Santos†</td>
<td>Hu Lab Grad Student</td>
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<td>Weilun Pang†</td>
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<td>Tanya Jain</td>
<td>Li Lab Grad Student</td>
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<td>Ananya Jambhale</td>
<td>Deitcher Lab Undergraduate</td>
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<td>Lauren Walter</td>
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<td>Ying Xue Xie</td>
<td>Sharma Lab Grad Student</td>
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- Don’t judge a book by its cover: a chaperone nucleotide exchange factor (Sil1) with additional activities
- A CRISPRi Genome-Wide Screen in 4R-tau Neurons to Identify Molecular Mechanisms that Drive Tau Aggregation
- Innovation is not a dirty word
- Trem2-APOE Pathway in Alzheimer’s Disease: R47H exerts differential effects on the APOE3 and APOE4 background in a tauopathy model
- Differentiated Effects of Normal Aging on Cortical Networks of Executive Functioning
- Investigating the Interaction between CD68 and Progranulin: Implications for Neurodegenerative Diseases
- Investigating the role of ALS/FTLD gene C9orf72 in inflammation
- Innate Immunity Protein IFITM3 is Involved in Alzheimer’s Disease-Associated Microglial Response
- Multi-dimensional characterization of spongiform neurodegeneration in Drosophila Na+/K+ ATPase alpha subunit mutant
- Single-cell transcriptomic analyses to study age-related changes in skeletal muscle regeneration
- Lysosomal Exocytosis Releases Pathogenic α-Synuclein Species from Neurons

*Virtual presentation