

Working with Big Data



Stefan Leutgeb, UCSD

Memory Circuit Dysfunction in Alzheimer's Disease

Neuronal networks and mechanisms of long-term memory storage at the systems level; the use of methodologies to record from up to 100 neurons at a time, and test how their activity is coordinated before, during, and long after learning.

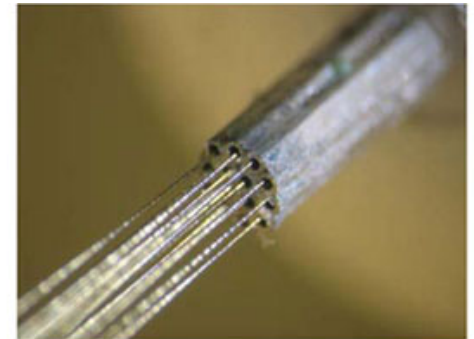


Fig. 1. Bundles of wire electrodes are used to simultaneously record from large populations of cells and the computations of neuronal networks during memory formation.

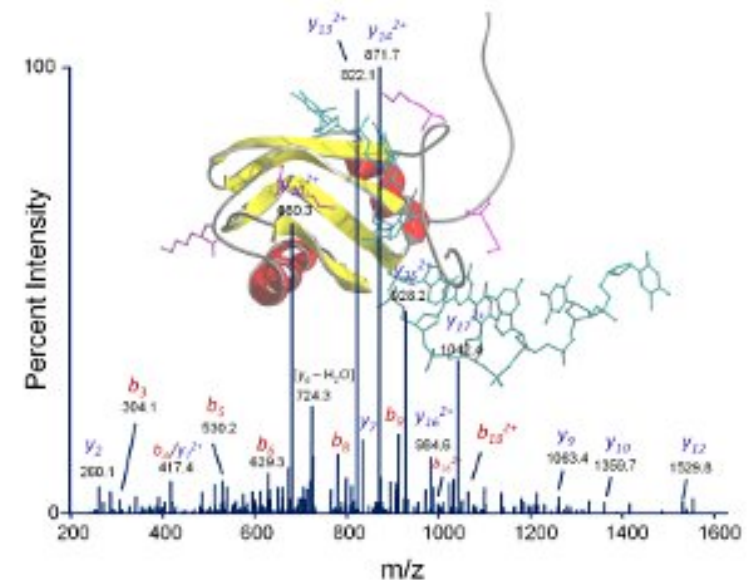
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Nick Seyfried, Emory

Early Changes in the Brain Proteome Associated with Alzheimer's Disease Risk

Unbiased proteomics methods for biomarker discovery in preclinical AD; high throughput quantitative analysis of proteins from complex biological samples



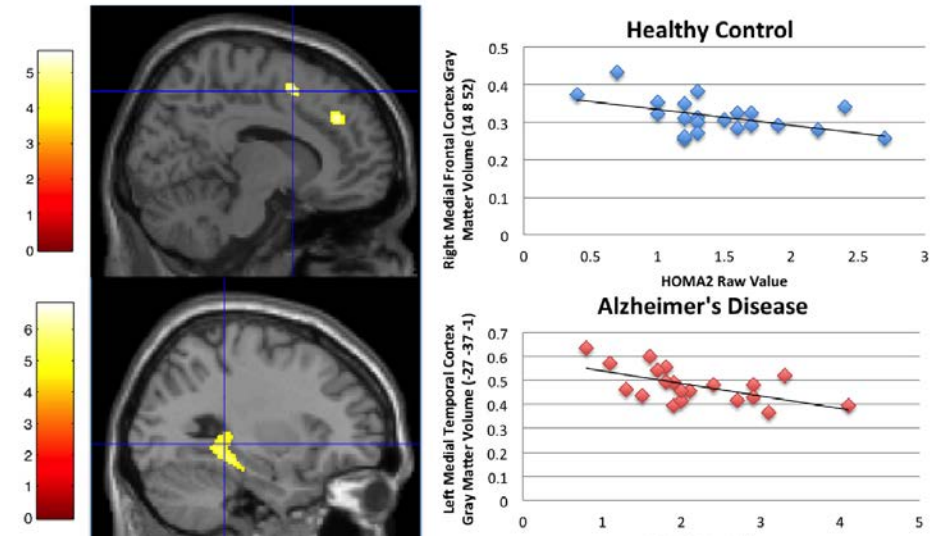
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Robyn Honea, Univ Kansas

Integrating Brain Imaging and Genetics to Uncover Risk for Alzheimer's disease

“Imaging Genetics”:
integrating neuroimaging
and genetics to study AD
risk factors such as
metabolic dysfunction,
obesity, and mitochondrial
genetic variation.



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Joel Dudley, MSSM

Integrating the Digital Universe of Information for Data-Driven Drug Repurposing and Precision Medicine

Using systems based approaches and biomedical informatics to identify novel therapeutic and diagnostic approaches to human disease

