

Queensland Brain Institute

**SUSTech-UQ Centre for Neuroscience and Neural Engineering (CNNE)**

**Joint Scientific Symposium**

**8 – 9 July 2024**

**Queensland Brain Institute (QBI) Auditorium**

**Day 1 | Monday, 8 July**

9:00am - 9:10am      **Professor Shengtao Hou (SUSTech)**  
Welcome

**Gene Regulation**

Chair:

9:10am - 9:40am      **Steven Zuryn (QBI)**  
Epigenetic control of mitochondrial functions

9:40am - 10:10am    **Wei Chen (SUSTech)**  
Systems biology of post-transcriptional gene regulation: from systems to biology

10:10am - 10:30am   **Eugenia Ferreiro (QBI)**  
L1 retrotransposon activity during dopaminergic neurodegeneration

10:30am - 11:00am   Morning tea on the QBI terrace

**Biology of Behaviour**

Chair:

11:00am - 11:20am    **Longzhen Cheng (SUSTech)**  
Central control of opioid-induced mechanical hypersensitivity and tolerance

11:20am - 11:40am    **Noorya Ahmed (QBI)**  
Exploring sexual dimorphism in serotonergic circuitry underlying specific anxiety-related behaviour

11:40am - 12:00pm    **Jun Ju (SUSTech)**  
Overexpression of CD47 contributes to microglia-mediated phagocytosis deficit and autism-like behaviours in 16p11.2 deletion mice

12:00pm - 12:10pm    **Mason Musgrove (QBI)**  
Vaults as trafficking granules in fear learning

12:10pm - 12:20pm    **Kuankuan Xin (QBI)**  
The attractor-models for neuro-behaviour dynamic during ageing in *C. elegans*

12:20pm - 1:20pm      Lunch on the QBI terrace

**Stroke**

Chair:

1:20pm - 1:40pm      **Shengtao Hou (SUSTech)**  
Deep brain stimulation for stroke brain protection

- 1:40pm - 2.00pm**      **Tara Walker (QBI)**  
Selenium mediates exercise-induced adult neurogenesis and reverses learning deficits introduced by ageing and stroke
- 2:00pm - 2:20pm**      **Fangyi Chen (SUSTech)**  
An integrated gait analysis system and its application to evaluation of stroke and PD models
- 2:20pm - 2:40pm**      **Shuai Zhang (SUSTech)**  
Inhibition of EphA4 reduces vasogenic edema after experimental stroke in mice by protecting the blood-brain barrier integrity
- 2:40pm - 3:10pm**      Afternoon tea on the QBI Terrace

### Development and Ageing

Chair:

- 3:10pm - 3:30pm**      **Fred Meunier (QBI)**  
Exploring nanoscale biomolecular condensates at the synapse
- 3:30pm - 3:50pm**      **Yuhui Hu (SUSTech)**  
Single-cell spatiotemporal approaches for mechanistic investigation in development and disease therapy
- 3:50pm - 4:10pm**      **Annalisa Paolino (SBMS)**  
Subtle changes in developmental timing can shape brain morphology and connectivity during mammalian evolution
- 4:10pm - 4:20pm**      **Zhenyu Zhang (QBI)**  
Blocking ferroptotic cell death of neural precursor cells increases neurogenesis and improves cognition in ageing
- 4:20pm - 4:30pm**      **Shanley Longfield (QBI)**  
Synapsin 2a tetramerisation selectively controls the nanoscale clustering of reserve synaptic vesicles at the hippocampal presynapse
- 4:30pm - 6:30pm**      BBQ on the QBI Terrace

## Day 2 | Tuesday, 9 July

### Building Circuits

Chair:

- 9:30am - 9:50am**      **Kun Song (SUSTech)**  
Thermoregulatory mechanism orchestrated by central nervous system in mammals
- 9:50am - 10:10am**      **Clarissa Whitmire (QBI)**  
The neural representation of temperature
- 10:10am - 10:30am**      **Fernanda Ribeiro (EECS)**  
Retinotopic mapping of human visual cortex with geometric deep learning
- 10:30am - 10:50am**      **Kai Feng (QBI)**  
A central steering mechanism in Drosophila
- 10:50am - 11:20am**      Morning tea on the QBI Terrace

## Neurodegeneration

Chair:

11:20am - 11:40am

**Adekunle Bademosi (QBI)**

Identifying early molecular drivers of neurodegeneration

11:40am - 12:00pm

**Pankaj Sah (QBI)**

The role of the pedunculo pontine nucleus in gait and movement

12:00pm - 12:20pm

**Lizzie Coulson (SBMS)**

Advances in imaging prodromal Alzheimer's disease and how it is assisting new treatment regimes

12:20pm - 12:30pm

**Pankaj Sah (QBI)**

Closing remarks

## Key

**EECS** - School of Electrical Engineering and Computer Science, The University of Queensland

**QBI** - Queensland Brain Institute, The University of Queensland

**SBMS** - School of Biomedical Science, The University of Queensland

**SUSTech** - Southern University of Science and Technology