

A Revolution in Fluorescence Imaging: Tsien Lab Past, Present, and Future

February 17, 2009

Price Center East Ballroom

8:15-8:45 Check-in and Continental Breakfast

9:00 -9:05 Varda Levram–Ellisman *Opening*

9:05-9:15 Palmer Taylor *Introduction*

Designing the Next Generation of Genetically Encoded Sensors

Chair: Michael Lin

9:15-9:30 Roger Heim *FRET for Compound Screening at Aurora/Vertex*

9:30-9:45 Amy Palmer *Designing and Using Genetically Encoded Sensors: Lessons I Learned from Roger*

9:45-10:00 Robert Campbell *Beyond Brightness: Colony Screens for Fluorescent Protein Photo Stability and Biosensor FRET Changes*

10:00-10:15 Colette Dooley *GFP Sensors for Reactive Oxygen Species: Tying up Loose Ends and Looking Forward*

10:15-10:30 Peter Wang *Fluorescent Proteins and FRET Biosensors for Visualizing Cell Motility and Mechanotransduction*

10:30-11:00 Coffee Break

Fluorescent Proteins in Neuroscience

Chair: Varda Levram-Ellisman

11:00-11:15 Brian Bacskai *Aberrant Calcium Homeostasis in the Alzheimer Mouse Brain*

11:15-11:30 Andrew Hires *Watching a Mouse Think: Novel Fluorescent Genetically-Encoded Calcium Indicators Applied to In Vivo Brain Imaging*

11:30-11:45 Alice Ting *Imaging Synapse Development with Engineered Fluorophore Ligases*

11:45-12:00 Rex Kerr *3D Calcium Imaging in C. elegans*

Clinical Applications

Chair: Tao Jiang

12:00-12:15 Todd Aguilera *Activatable Cell Penetrating Peptides for Use in Clinical Contrast Agent and Therapeutic Development*

12:15-12:30 Quyen Nguyen *Surgery with Molecular Fluorescence Imaging Guidance*

12:30-1:30 Lunch break

Imaging Probes: The Chemist's View

Chair: Stephen Adams

1:30-1:45 Tito Gonzalez *Voltage-Sensitive FRET Probes & Applications*

1:45-2:00 Paul Negulescu *From Watching Ions to Moving Them*

2:00-2:15 **Timothy Dore** *Roger-Inspired Photochemistry: Releasing Biological Effectors with 2PE*

- 2:15-2:30 Joe Kao *Electron Paramagnetic Resonance Imaging in Living Animals*
- 2:30-2:45 Brent Martin *Chemical Probes for Studying Protein Acylation*
- 2:45-3:00 Jianghong Rao *Non-GFP Based Probes for Imaging of the Hydrolytic Enzyme Activity*
- 3:00-3:30 Coffee break

Cellular Research with and without Fluorescent Probes

Chair: Mike Whitney

- 3:30-3:45 Carsten Schultz *Cell Membrane Repair Visualized by GFP Fusion Proteins*
- 3:45-4:00 David Green *Transcriptomes and Systems Biology: Application to Early Mammalian Embryogenesis*
- 4:00-4:15 Clotilde Randriamampita *Paradoxical Aspects of T cell Activation Revealed with Fluorescent Proteins*
- 4:15-4:30 Wen-Hong Li *Studying Dynamic Cell-Cell Communication In Vivo by Trojan-LAMP*
- 4:30-4:45 Martin Poenie *Aim and Shoot: Two Roles for Dynein in T cell Effector Function*
- 4:45-5:00 Gregor Zlokarnik *From Bla to Blah, Blah in 20 Years*
- 5:00-5:15 Presentation by Jim Sharp, President, Carl Zeiss MicroImaging

Optional remarks by Roger Tsien

7:00-11:00 Private dinner for past and present members of the Tsien Lab at the Faculty Club, Atkinson Pavilion

February 18, 2009

at Leichtag Lecture Hall (107)

- 8:15-8:45 Continental breakfast

Cellular Research with and without Fluorescent Probes

Chair: David Green

- 9:00-9:15 David Zacharias *Fluorescent Proteins, Palmitoylation and Cancer: Two Out of Three Ain't Bad*
- 9:15-9:30 Jin Zhang *Visualization of Cell Signaling Dynamics: A Tale of MAPK*
- 9:30-9:45 Paul Sammak *Nuclear Organization and Movement in Pluripotent Stem Cells Measured by Histone GFP H2B*

Branching Out

Chair: Joan Kanter

- 9:45-10:00 Yong Yao *NIH Toolbox Program*
- 10:00-10:15 Oded Tour *The Tour Engine - A Novel Internal Combustion Engine with the Potential to Boost Efficiency and Cut Emissions*
- 10:15-10:45 Coffee break

Into the Future

Chair: Tito Gonzalez

10:45-11:00 Xiaokun Shu *Visibly and Infrared Fluorescent Proteins: Photophysics and Engineering*

11:00-11:15 Michael Lin *Engineering Fluorescent Proteins for Visualizing Newly Synthesized Proteins and Improving FRET-Based Biosensors*

11:15-11:30 Jeremy Babendure *Training Our Next Generation of Fluorescent Protein Enthusiasts*

Optional remarks by Roger Tsien

Group Photo

Break

4:00-5:00 Roger Tsien Chancellor invitational lecture 2008 Nobel Prize in Chemistry
Price Center Theater Open to the public

Painting Cell Signals with a Palette of Fluorescent Proteins

5:00 Chancellor's Reception at The Loft - Price Center East (by Chancellor invitation only)



We make it visible.



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