

Alfred Nobel Symposium Machines, Molecules and Mind

May 25-28, 2011

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PROGRAM

(Preliminary program as of May 16, 2011)

Day 1, Wednesday, May 25, 2011

- 18.00-19.00 Arrival at the Nobel Museum, Old Town, Central Stockholm
- 19.15 Dinner (at the Nobel Museum)
- 21.00 Joint departure to Sånge-Säby for the conference (arrival 22.00)

Day 2, Thursday, May 26, 2011

Session I:

Chair: Bertil Fredholm

- 09.00-09.30 **Thomas Südhof**
How presynaptic terminals release neurotransmitters – a miracle of speed and precision
- 09.40-10.10 **Mu-ming Poo**
Neurotrophins as regulators of axonal growth and synaptic function
- 10.20-10.50 Coffee
- 10.50-11.20 **Robert Lefkowitz**
Seven TM Receptors
- 11.30-12.00 **Gero Miesenböck**
Optogenetics: observing and controlling neural activity with light
- 12.10-13.30 Lunch

Session II

Chair: Gunnar von Heijne

- 13.30-14.00 **Roger Y Tsien**
New molecules to image and manipulate neuronal function
- 14.10-14.40 **Stefan W Hell**
Nanoscopy with focused light
- 14.50-15.20 **Jeff W Lichtman**
Connectomics in the developing nervous system
- 15.30-16.00 Coffee

Session III

Chair: Roger Tsien

- 16.00-16.30 **Thomas Jessell**
Measured Motion: The Neurons and Networks of Spinal Motor Control

16.40-17.10 **Daniel Geschwind**
Transcriptional networks in human brain

17.20-17.50 **Charles Zuker**
Sweet, bitter, sour, salty, and umami: the receptors, cells, and coding logic for mammalian taste

18.00-20.00 Dinner

Session IV

Chair: Hans Jörnvall

20.00-20.30 **Adriano Aguzzi**
Prions and other deadly nanomachines

20.40-21.10 **Susan Lindquist**
Prion switches as molecular memories

21.20-21.50 **Karen H Ashe**
Cellular and molecular mechanisms of memory loss in Alzheimer's disease

Day 3, Friday, May 27

Session V:

Chair: Hans Jörnvall (first lecture), Eric Kandel (rest of the session)

09.00-09.30 **Eric R Kandel**
On the Perpetuation of Memory Storage

09.40-10.10 **John O'Keefe**
Two memory systems in the medial temporal lobes

10.20-10.50 Coffee

10.50-11.20 **Edvard Moser and May-Britt Moser**
Brain circuits for space

11.30-12.00 **Wolf Singer**
Dynamic coordination of distributed processes in the brain

12.10-13.30 Lunch

Session VI

Chair: Astrid Gräslund

13.30-14.00 **Marc-Oliver Gewaltig**
Computational Neuroscience of cortical processing and memory

14.10-14.40 **Miguel A L Nicolelis**
Principles of Neural Ensemble Physiology and How They Can be Used to Liberate the Brain from the Body through Brain-Machine-Interfaces

14.50-15.20 **John Donoghue**
Merging Minds and Machines: Brain Computer Interfaces to Restore Lost Function

15.30-16.00 Coffee

Session VII

Chair: Lars Bergström

16.00-16.30 **Andrew Schwartz**
A new look at motor control

17.20-17.50 **Krishna Shenoy**
Emerging directions for Higher Performance Brain-Machine Interfaces

18.00-20.00 Dinner

Session VIII

Chair: Albert Fert

20.00-20.30 **Albert Fert**
Electrons, spins and emerging directions in spintronics

20.40-21.10 **Karlheinz Meier**
Brain-inspired electronic circuits – a new paradigm for computing

21.20-21.50 **Victor Erokhin**
Organic memristors - synthetic pathways for bio-mimetic information processing

22.00-22.30 **Vincent Derycke**
Function learning with nanoscale memristors

Day 4, Saturday, May 28

Session VIII

Chair: Ingemar Lundström

09.00-09.30 **John J Hopfield**
Collective neural dynamics: from attractor networks to mental exploration

09.40-10.10 **David R Walt**
Lessons from the Olfactory System Applied to Chemical Sensing

10.20-10.50 Coffee

10.50-11.20 **David Julius**
From Peppers to Pit Vipers: Deciphering Molecular Mechanisms of Temperature and Pain Sensation

11.30-12.00 **Christof Koch**
Discovering the neuronal basis of consciousness

12.10-13.15 Lunch

13.15 Joint departure by bus to Stockholm and to Stockholm Arlanda airport

Last updated May 18, 2011

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