



20 YEARS 2009
IN PURSUIT OF EXCELLENCE
1989

Ninth HFSP Awardees Meeting and 20th Anniversary Celebration

Tokyo, Japan, 1-4 June 2009

Program

Monday 1 June

- 13:30-13:50 Keynote lecture 1, Masao ITO
13:50-14:10 Keynote lecture 2, Torsten WIESEL
14:15-15:45 Panel discussion, "Frontiers - where next?"
Moderator : Akira Ozeki (Asahi Shimbun)
Discussants: Akito Arima (President, HFSP)
Kathie Olsen (NSF USA)
Gluco Tocchini-Valentini (CNR, Italy)
K. Vijayraghavan (NCBS, India)
Ernst-Ludwig Winnacker (ERC, Brussels)
- 15:45-16:00 Coffee Break
16:00-17:00 20th Anniversary ceremony
Akito Arima
Yasuhiro Nakasone
Minister of Education, Culture, Sports, Science and Technology, Japan
Minister of Economy, Trade and Industry
- 17:00-18:00 **Plenary Lecture (Chair: Torsten Wiesel)**
Aquaporin Water Channels: from Atomic Structure to Malaria
Peter Agre
Johns Hopkins University
- 18:15-20:00 Reception

Tuesday 2 June

9:00-9:10 **Opening remarks (Torsten Wiesel)**

Oral Session 1 (Chair: Gabrielle Boulianne)

9:10-9:30 **How developmental systems cope with evolutionary novel changes**
Stern, S., Soen, Y.

9:30-9:50 **The mother's signature in the genome lasts into adulthood; the impact of early life social experience on the DNA methylation pattern.**
Szyf, M., Meaney, M.J.P., Turecki, G., Hallet, M., Hertzman, C., Power, C., Suderman, M., Hallett, M., Borghol, N., Provencal, N., McGowan, P., Suomi, S. J., Tremblay, R.

9:50-10:10 **Coherent but overlapping expression of microRNAs and their targets during vertebrate development**
Shkumatava, A., Stark, A., Sive, H., Bartel, D.P.

10:10-10:30 **Structural dynamics properties of hemoglobin following photodissociation of oxygen: comparison with carbon monoxide**
Ishikawa, H., Mizutani, Y.

10:30-10:50 **Multi-dimensional visualization and optical remote control of heart function in live zebrafish**
Huisken, J., Arrenberg, A., Scherz P.J., Baier, H., Stainier, D.Y.R.

10:50-11:20 *Coffee*

Oral Session 2 (Chair: Cecilia Clementi)

11:20-11:40 **Fixing broken enzymes with photons: a new tool for characterizing enzymatic activity**
Hill, M.P., Carroll, E.C., Toney, M.D., Larsen, D.S.

11:40-12:00 **Interkinetic nuclear migration in the zebrafish retina: Actomyosin contraction is the prime mover**
Norden, C., Young, S., Link, B., Harris, W.

12:00-12:20 **How we come to experience that we own our body**
Ehrsson, H.

12:20-12:40 **Synaptic palmitoylation of PSD-95 mediates AMPA receptor homeostasis: Development of a bioprobe to track endogenous palmitoylated PSD-95**
Fukata, M., Dimitrov, A., Noritake, J., Fukata, Y., Perez, F.

12:40-15:30 *Lunch and Poster Session I*

Coffee

- 15:30-17:00 **Chalkboard sessions:**
- 1. Neuroscience - from molecules to cognition (Moderators: Rae Silver, Dora Angelaki)**
 - 2. Cell biology: surfaces, trafficking and division (Moderators: Paul Gleeson, Gabrielle Boulianne)**
 - 3. Stem cells and development (Moderators: Paul Lasko, K. VijayRaghavan)**
 - 4. Genes, genomes and epigenomes (Moderators: Young-Joon Kim, Cheng-Ming Chiang, Jerzy Paszkowski)**

19.00-21:30 *Dinner (Tokyo Bay cruise)*

Wednesday 3 June

Oral Session 3 (Chair: Maria Sanchez-Vives)

- 9:00-9:20 **How do clathrin coated vesicles shed their coat? Watching chaperones catalyze the uncoating reaction one coat at a time**
Böcking, T., Kirchhausen, T.
- 9:20-9:40 **Identifying non-coding RNAs involved in ES cell maintenance**
Lee, N., Zhang, Y.
- 9:40-10:00 **Single molecule approach to stringent response in individual living bacterial cells**
English, B. P.
- 10:00-10:20 **From molecule to cell shape - multiscale control of plant cell growth**
Geitmann, A., Dumais, J., Cresti, M., Cai, G., Mahadevan, L.

10:20-10:50 *Coffee*

Oral Session 4 (Chair: Bror Alstermark)

10:50-11:10 **Protein synthesis-dependent synaptic potentiation: a multidisciplinary analysis of the 'synaptic tagging and capture' theory**
Morris, R.G.M., Bito, H., Bonhoeffer, T., Van Rossum, M.

11:10-11:30 **Simpson's paradox in a synthetic microbial system**
Rivoire, O., Chuang, J.S., Leibler, S.

11:30-11:50 **The role of saccadic suppression in perceptual stability**
Watson, T.L., Krekelberg, B.

11:50-12:10 **Toward the computational design of protein-based inhibitors of natural protein targets**
Fleishman, S.J., Hu, W., Korotkov, K., Hol, W.G.J., Baker, D

12:10-12:30 **Hybrid modular design - a new strategy for constructing bioinspired solar energy conversion systems**
Noy, D., Grzyb, J., Cohen Ofri, I., Tennyson, J., Margalit, I.

12:30-15:30 *Lunch and Poster Session II*

15:30-16.30 **Special workshop: Deciphering signalling and gene networks**
Panelists: Judy Armitage (Oxford), Leah Keshet (Vancouver), Friedrich Simmel (Garching)

16:30-18:00 **Open discussion on HFSP and the HFSP Journal**

Thursday 4 June

Oral Session 5 (Chair: Frederick MacKintosh)

9:00-9:20 **RNA Recognition during microRNA Processing in *Arabidopsis***
Bologna, N.G., Mateos, J., Bresso, E.G., Rasia, R., Bousbouvier, J., Palatnik, J.F.

9:20-9:40 **Membrane topology and mechanisms of the voltage-gated proton channel**
Okamura, Y., Nørholm, M., Kurokawa, T., Sakata, S., Takagi, M., Fujiwara, Y., von Heijne, G., Doyle, D., Dixon, J.E.

9:40-10:00 **Structure determination of RNA polymerase II complexes**
Azubel, M., Kornberg, R.D.

10:00-10:20 **Towards a molecular understanding of the *Drosophila* centrosome**
Dobbelaere, J., Raff, J.

10:20-10:40 **Modeling of a systemic signaling pathway in *Arabidopsis thaliana***
Kuiper, M., Sugajska, E., Hollunder, J., Vercruyssen, S., Niehl, A., Kovalchuk, I., Peck, S., Heinlein, M.

10:40-11:10 *Coffee*

Oral Session 6 (Chair: Kwang-Hyun Cho)

11:10-11:30 **Structural basis for the coordinated processive movement of kinesin: integrating structural, functional and theoretical studies**
Kikkawa, M., Makino, T., Mori, T., Tomishige, M., Czovek, A., Szollosi, G.J., Derenyi, I.

11:30-11:50 **Neural representation of 3D shape and 2D surface reflectance information in faces**
Jiang, F., Dricot, L., Caharel, S., Blanz, V., Goebel, R., Rossion, B.

11:50-12:10 **Transcription at the level of a single endogenous gene**
Lionnet, T., Chao, J.A., Shav-Tal, Y., Darzacq, X., Singer, R.H.

12:10-12:30 **Controlling motion and synthesis of molecular structures with a synthetic transcriptional oscillator**
Friedrichs, E., Franco, E., Jungmann, R., Murray, R., Kim, J., Winfree, E., Simmel, F.C.

12:30-15:30 *Lunch and Poster Session III*

Oral Session 7 (Chair: Gautam Desiraju)

15:30-15:50 **Insights into DNase catalysis from a simple physical model**
Dorfman, K.D., Linak, M.C., Kenward, M.

15:50-16:10 **Changes in retinal axon laterality affect eye-specific refinement but not afferent targeting**
Rebsam, A., Petros, T.J., Bhansali, P., Mason, C.A.

16:10-16:30 **The roles of *erbB4* signaling in DNA repair.**
Hanz, S., Sardi, S.P., Koirala, S., Corfas, G.

- 16:30-16:50 **Stochastic and deterministic flagellar dynamics provide a mechanism for eukaryotic swimming reorientation**
Tuval, I., Polin, M., Drescher, K., Goldstein, R.
- 17:00-18:00 **Plenary Lecture (Chair: Torsten Wiesel)**
"How experience shapes the brain"
Takao Hensch
Harvard University, USA and RIKEN, Japan
- 18:30-20.30 *Farewell dinner – Gakushi-Kaikan*