16th HFSP Awardees Meeting

Matrix Biopolis, Singapore, 10 - 13 July 2016

Practical Information

Meeting venue
The meeting will be held on level 4 of the Matrix building, located at the **Biopolis**, 30 Biopolis Way, Singapore.

The venue is a short walk from the Park Avenue Rochester hotel. The Buona Vista train station and bus stop are within walking distance of the Matrix building and Park Avenue Rochester hotel. To park at the Matrix Building, please use carpark entrance A and park in the public carpark on basement level 3. The orange zone is the closest parking zone to the Matrix building. Follow the signs "To Matrix Lift Lobby" and take Lift D to level 1 lobby. In the lobby, please take another set of lifts to level 4. Note that smoking is not allowed in most indoor locations in Singapore.

To connect to WIFI, please check with the secretariat at the registration desk for the log-in and password.

Hotel
Park Avenue Rochester, 31 Rochester Drive, Singapore 138637, Tel: (65) 6808 8600
The hotel is a seven-minute walk from the Matrix building. To get to the Park Avenue Rochester hotel from the airport take the MRT train (East-West line) to Buona Vista MRT station. A taxi to the hotel from the airport should cost approximately S$25-$30 and take 45 minutes, depending on traffic.

Registration
On Sunday, July 10, registration will take place from 12:00 – 16:00 in the lobby of the Park Avenue Rochester hotel.

The registration desk is located in the foyer on level 4 of the Matrix building. It will be open from 7:45 – 17:30 on Monday and from 8:00 – 17:30 on Tuesday and Wednesday.

Plenary lectures and oral sessions
The scientific sessions will take place in the Breakthrough & Discovery theatrettes on level 4 of the Matrix building. A technical assistant is available to assist speakers with loading their presentation slides. An LCD projector connected to a computer which supports Windows and Macintosh is available in the auditorium. You can also connect your own Mac or PC to the projector. If you have a Mac you should bring an adaptor to connect to the projector.

Poster sessions
The poster sessions will take place in the foyer on level 4 of the Matrix building. The poster board dimensions are 1 m x 2.5 m (w x h). Posters will be on display for the entire meeting and should be installed on the morning of Monday, July 11 during the coffee or lunch break. Please refer to the poster listing for the day of presentation. There will be no printing service available at the conference venue. It is highly recommended that you print your poster in advance.

Lunch and coffee breaks
Lunch and coffee breaks will take place in the foyer on level 4 of the Matrix building. There will be an opportunity to meet the HFSPO Council of Scientists and Review Committee Chairs over lunch on Tuesday, July 12. This is an occasion to discuss the challenges in your career with the Council and to help them in their role of advising on the HFSP scientific programmes. There will be tables reserved for the Council members and RC Chairs and you are welcome to join them on a first-come-first-served basis.

Social programme
For the welcome reception on Sunday, July 10, please refer to the different pick up times at the Park Avenue Rochester hotel on the following pages. For the social programme on Monday, July 11 and Wednesday, July 13, kindly meet in level 1 lobby of the Matrix building after the conference. There will be coaches to transport you to the dinner venues and back to the Park Avenue Rochester hotel.

Photography
Many awardees show unpublished data. You should not take photographs of slides with data during oral presentations or of posters without permission from the authors.

Social media
We encourage you to write about the meeting on your blog, on Facebook or on Twitter. If you use Twitter, please include the tag #HFSPmtg in your tweets. However, since awardees often show unpublished data, you should not broadcast results without permission from the authors.

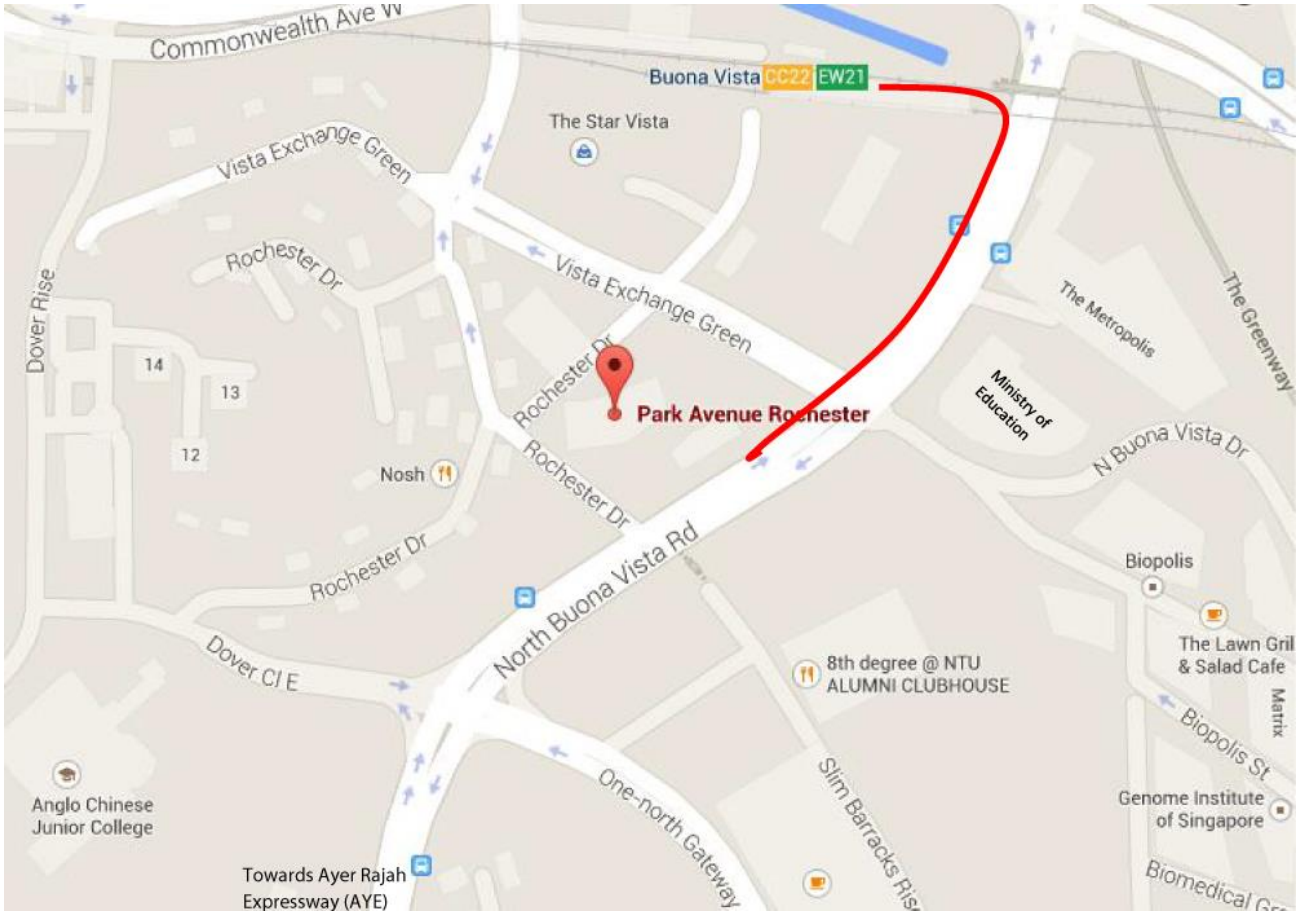
How to get to Matrix @ Biopolis
30 Biopolis Street, Singapore 138671

By public transport
Take the Mass Rapid Transit (MRT) via the East-West Line (green line) to EW21 Buona Vista MRT station. Once you exit from the station, walk towards the Ministry of Education (MOE). Take the road that goes up the hill and follow the map.

Bus services along North Buona Vista Road: 91, 92, 95, 74, 191, 198, 200

By taxi / car
Take the road that goes to the Ministry of Education (MOE) building off the Buona Vista Road. There you will see a fork on the road, take the road on the right that goes up the hill towards the centre of Biopolis. Exit at the Matrix building.

How to get to Park Avenue Rochester hotel
31 Rochester Drive, Singapore 138637



By public transport

1. Take the Mass Rapid Transit (MRT) via the East-West Line (green line) to EW21 Buona Vista MRT station.
2. Once you exit from the station, walk towards Buona Vista Road and pass by the Ministry of Education (MOE) headquarters.
3. Park Avenue Rochester is located diagonally opposite the Ministry of Education (MOE) headquarters.

By taxi / car

1. From your destination, take the Ayer Rajah Expressway (AYE) and exit from North Buona Vista Road.
2. After passing by Fairfield Methodist School, Anglo Chinese Junior College and Dover Close East, turn left into Rochester Drive.
3. Immediately make a right turn into the hotel lobby drive through or car park.

Evening Social Programme

Sunday 10 July

12:00-16:00	**Registration** *Lobby of Park Avenue Rochester hotel*

16:00-18:00	**Bumboat river cruise**
16:15	Buses depart from the Park Avenue Rochester hotel at 16:15 *Delegates should assemble in the lobby of the hotel at 16:00*
17:10-18:00	Bumboat cruise on the Singapore River
18:15	Buses depart from Merlion Park Jetty for the National Gallery

18:30-21:00	**Welcome reception – National Gallery Singapore** *Hosted by the National Research Foundation (NRF)*
18:00	An additional bus departs from the Park Avenue Rochester hotel for the National Gallery *For participants not on the bumboat river cruise*
18:45	Welcome by Prof. Teck Seng Low, Chief Executive Officer, NRF
18:55	Welcome by Prof. Warwick Anderson, Secretary General, HFSPO
19:00	Cocktail reception
21:00	Buses depart for Park Avenue Rochester hotel

Monday 11 July

18:30-21:00	**Reception hosted by the National University of Singapore (NUS)** **University Town Auditorium**
18:30	Buses depart from Matrix Biopolis *Delegates should assemble in the lobby on level 1 of the Matrix building at 18:25*
19:10	Welcome and introduction to NUS *Prof. Ho Teck Hua, Deputy President, Research and Technology, National University of Singapore*
19:25	Overview of research activities at NUS *Prof. Peter Little, Director, Life Sciences Institute, National University of Singapore*
19:45	Dinner

21:00	Buses depart for Park Avenue Rochester hotel

Tuesday 12 July

No social programme events are planned on Tuesday evening following the scientific sessions. Delegates are free to sightsee and to discover the local restaurants.

Wednesday 13 July

18:45-22:00	**Farewell reception hosted by Nanyang Technology University** *A barbecue dinner will be served at the NTU NEC Clubhouse*
18:45	Buses depart from Matrix Biopolis *Delegates should assemble in the lobby on level 1 of the Matrix building at 18:40*
19:30	Dinner and networking
22:00	Buses depart for Park Avenue Rochester hotel

Programme

Monday 11 July

8:45-9:00 **Opening remarks and welcome address**
*Mr. Lim Chuan Poh, Chairman, Agency for Science, Technology and Research (A*STAR)*
Prof. Warwick Anderson, Secretary General, HFSPO

9:00-9:15 **Nakasone Award ceremony**
Introduction by Prof. Nobutaka Hirokawa, President of HFSPO

9:15-10:15 **HFSP Nakasone Lecture**

The transformative genome engineering technology CRISPR-Cas9: lessons learned from bacteria
Prof. Emmanuelle Charpentier, Max Planck Institute for Infection Biology, Berlin, Germany

CRISPR biology and the future of genome engineering
Prof. Jennifer Doudna, University of California, Berkeley, USA

10:15-10:45 ***Coffee break***

Oral Session 1 (Chair: Allan Herbison)

10:45-11:05 **Functional defects in neurons depleted of cohesin or its regulator Nipbl shed light on the neurological phenotypes associated with CdLS**
Calderon, L., Carroll, T., Irvine, E., Whilding, C., Tossell, K., Withers, D., Ungless, M., Fischer, A., Merkenschlager, M.

11:05-11:25 **Texture detection and *Drosophila* feeding behaviour**
Sánchez-Alcañiz, J.A., Lucarelli, G., Benton, R.

11:25-11:45 **Physical determinants of amyloid aggregation: traversing scales using computer simulations**
Saric, A., Buell, A.K., Meisl, G., Michaels, T.C., Linse, S., Knowles, T.P.J., Frenkel, D.

11:45-12:05 **Flows of fluids within individuals' networks and the behaviors of slime molds and fungi**
Pringle, A., Alim, K., Andrew, N., Brenner, M., Heaton, L., Jones, N., Fricker, M., Marbach, S.

12:05-13:20 ***Lunch (Matrix level 4 foyer)***

Oral Session 2 (Chair: Daniela Rhodes)

13:20-13:40 **Environmental conditions switch alternative micro RNA biogenesis pathways**
Achkar, N.P., Ré, D.A., Karlsson, P., Quintana, J., ***Manavella, P.A.***

13:40-14:00 **How animals detect and survive proteasome disruption**
Lehrbach, N.J., Ruvkun, G.

14:00-14:20 **Evolutionary genomics of sacred Ibis mummies from Egyptian catacombs**
Lambert, D.M., Wasef, S., Subramanian, S., Huynen, L., Millar, C.D., Curtis, C., El-Marghani, S., Holland, B., McComish, B., Ikram, S., Willerslev, E.

Poster Talks 1 (Chair: Peter Koopman)

14:20-14:23 **Monofunctionalized quantum dots loaded DNA nanocages as tools to explore clathrin-independent endocytosis and biomedical applications**
Bhatia, D., Arumugam, S., Wunder, C., Chambon, V., Dubertret, B., Krishnan, Y., Johannes, L.

14:23-14:26 **Co-transcriptional ribosome assembly in real-time**
Duss, O., Sperling, E., O'Leary, S.E., Lamichhane, R., Millar, D.P., Puglisi, J.D., Williamson, J.R.

14:26-14:29 **Measuring antigenicity by quantifying T-Cell activation and proliferation**
Erez, A., Vogel, R., Altan-Bonnet, G.

14:29-14:32 **Revealing how Adenovirus particles dock and deliver viral DNA at the nuclear pore complex**
Flatt, J.W., Medalia, O.M., Greber, U.F.

14:32-14:35 **Fundamental principles of brain protein turnover**
Fornasiero, E.F., Mandad, S., Wildhagen, H., Bonn, S., Urlaub, H., Rizzoli, S.O.

14:35-14:38 **To cluster or not to cluster: new insight into the segregation mechanism of high-copy bacterial plasmids using quantitative localization microscopy**
Wang, Y., Penkul, P., Milstein, J.N.

14:38-14:41 **Oligodendrocyte heterogeneity in the mouse juvenile and adult central nervous system**
Marques, S., ***Zeisel, A.***, Codeluppi, S., van Bruggen, D., Mendanha Falcão, A., Xiao, L., Li, H., Häring, M., Hochgerner, H., Romanov, R.A., Gyllborg, D., Muñoz Manchado, A., La Manno, G., Lönnerberg, P., Floriddia, E.M., Rezayee, F., Ernfors, P., Arenas, E., Hjerling-Leffler, J., Harkany, T., Richardson, W.D., Linnarsson, S., Castelo-Branco, G.

14:41-14:44 **Neuroscience of knowledge: neural representations of concepts and their role in perception and memory**
Diamond, M.E., ***Freiwald, W.A.***, Quian Quiroga, R., Sompolinsky, H., Zoccolan, D.

14:44-14:47 **Identification of kinases that control size and dissolution of membrane-less organelles**
Berchtold, D., Pelkmans, L.

15:00-17:15 **Poster Session 1 (with refreshments)**
Matrix level 4 foyer

Invited Lecture (Chair: Warwick Anderson)

17:15-18:15	**Mechanobiology** *Prof. Michael Sheetz, Director Mechanobiology Institute, Singapore*
18:30-21:00	**Dinner reception** *Hosted by the National University of Singapore (NUS) at the UTown Auditorium*

Please refer to the Evening Social Programme section on page 6 for bus departure times and more information on the evening's activities.

Tuesday 12 July

Oral Session 3 (Chair: Paul De Koninck)

9:00-9:20 **Bioorthogonal construction of artificial lipid membranes**
Brea, R.J., Cole, C.M., Rudd, A.K., Devaraj, N.K.

9:20-9:40 **A machine-learning approach enables the accurate identification of adult stem cells in single-cell RNA-seq data**
Schwalie, P.C., Deplancke, B.

9:40-10:00 **Plasticity of social representation in the medial amygdala of behaving mice**
Li, Y., Mathis, A., Grewe, B.F., Schnitzer, M.J., Murthy, V.N., Dulac, C.

10:00-10:20 **Multimodal sensing in the natural environment**
Moss, C.F., Hallam, J., Page, R., Surlykke, A., Yovel, Y.

10.20-10:50 ***Coffee break***

Oral Session 4 (Chair: Yunje Cho)

10:50-11:10 **Mechanical properties of tiled composites – lessons from shark skeletons**
Seidel, R., Jayasankar, A., Luger, A., Knoetel, D., Schotte, M., Blumer, M., Li, L., Hosny, A., Baum, D., Weaver, J., ***Dean, M.N.***

11:10-11:30 **ESCRT III and Lamin A/C promote nuclear envelope reassembly and survival of cells migrating through confined environments**
Raab, M.D., Gentili, M., de Belly, H., Thiam, H.R., Vargas, P., Lennon, A.M., Manel, N., Piel, M.

11:30-11:50 **mtDNA replication and repair: a modern take**
Phillips, A.F., Millet, A., Tigano, M., Dubois, S., Crimmins, H., Brunet, E., ***Sfeir, A.***

11:50-12:10 **A mechanical cue orients cell division to establish the *C. elegans* dorsal-ventral axis**
***Sugioka,* K.**, Kimura, A., Bowerman, B.

12:10-13:20 ***Lunch (Matrix level 4 foyer)***
With the opportunity to meet the HFSPO Council of Scientists and Review Committee Chairs

Oral Session 5 (Chair: Apurva Sarin)

13:20-13:40 **New photonic tools to unravel the mysteries of biomechanics**
Gather, M.C., Scarcelli, G., Franze, K.

13:40-14:00 **Design of multi-component two dimensional protein arrays as novel molecular materials**
Ben-Sasson, A.J., Bale, J.B., Gonen, S., King, N.P., Sheffler, W., Gonen, T., Baker, D.

14:00-14:20 **Her brain, his behavior: dimorphic neuronal connectivity and behavior are established by sex-specific synapse pruning during development**
Oren-Suissa, M., Bayer, E.A., Hobert, O.

14:20-14:40 **The death execution mechanism of lipid peroxidation: elucidation of the ferroptosome**
Kagan, V.E., Klein-Seetharaman, J., Conrad, M.

14:40-15:00 **Surface sensing, motility appendages, and hydrodynamics in early bacterial biofilms**
Golestanian, R., Maier, B., O'Toole, G.A., ***Wong, G.C.L.***

Poster Talks 2 (Chair: Michael Purugganan)

15:00-15:03 **The grim world of the phytoplasma-infected 'Zombie' plant**
Hogenhout, S.A., Zwolińska, A., Immink, R.G.H., Groves, R., Maree, A.

15:03-15:06 **Outer distal appendage protein Ankrd26 regulates ciliary membrane trafficking without affecting assembly of the primary cilium**
Kanie, T., Jackson, P.K.

15:06-15:09 **DNA puppeteered calipers: structural analysis of single biomacromolecules**
Krieg, E., Ward, A., Johnson-Buck, A., Wong, W.P., Shih, W.M.

15:09-15:12 **Cell-free transcription-translation in a microfluidic chip: from gene circuits to self-organization and self-reproduction**
Maeda, Y.T., Ziane, I., Ott, A., Libchaber, A., Noireaux, V.

15:12-15:15 **Human magnetoreception - an EEG approach**
Wang, C.X., ***Matani, A.***, Shimojo, S., Wu, D-A., Hilburn, I.A., Mizuhara, Y., Matsuda, K., Fuse, Y., Hotta, A., Green, M.Y., Cousté, C.P., Abrahams, J.N.H., Bernstein, S.E., Kirschvink, J.L.

15:15-15:18 **Multi-step microRNA control of pancreatic neuroendocrine tumors metastatic cascade**
Michael, I.P., Hanahan, D.

15:18-15:21 **Robust Turing patterns without differential diffusivity**
Marcon, L., Diego, X., Sharpe, J., ***Müller, P.***

15:21-15:24 **Odor-background segregation and source localization using fast olfactory processing**
Szyszka, P., ***Nowotny, T.,*** Smith, B.H., Kanzaki, R.

15:24-15:27 **Reflective crystals in crayfish eyes enable vision**
Palmer, B.A., Sagi, A., Aflaloe, E., Brumfeld, V., Weiner, S., Addadi, L.

15:30-17:00 **Poster Session 2 (with refreshments)**
Matrix Level 4 foyer

Wednesday 13 July

Oral Session 6 (Chair: Gabrielle Belz)

9:00-9:20 **An atlas of human conditional phospho-regulation**
Ochoa, D., Jonikas, M., Santos, S., ***Beltrao, P.***

9:20-9:40 **Fission yeast as a paradigm to study centrosome evolution and biogenesis**
Ito, D., Duarte, P., Carvalho-Santos, Z., Ferreira, M.G., Bettencourt-Dias, M.

9:40-10:00 **Distinct signature in liver and gut clock revealed by a ketogenic diet**
Tognini, P., Murakami, M., Liu, Y., Eckel-Mahan, K.L., Newman, J., Verdin, E., Baldi, P., Sassone-Corsi, P.

10:00-10:20 **Bacteria use rules of thumb to make complex decisions**
Towbin, B.D., Korem, Y., Bren, A., Doron, S., Sorek, R., Alon, U.

10:20-10:40 **Speech perception: a new perspective from efficient neural coding**
Gervain, J., ***Geffen, M.N.***

10:40-11:10 ***Coffee break***

11:10-12:00 **Open session: meet the staff of HFSPO**

12:00-13:10 ***Lunch (Matrix level 4 foyer)***

Oral Session 7 (Chair: Tadashi Uemura)

13:10-13:30 **Phytoplankton population diversifies migration strategies via rapid polymorphism in response to turbulent cues**
Sengupta, A., Carrara, F., Stocker, R.

13:30-13:50 **From stochastic cell behavior to reproducible organs: reactive oxygen species and mechanical signals coordinate morphogenesis in *Arabidopsis***
Dumond, M., Hervieux, N., Hong, L., Tsugawa, S., Kierzkowski, D., Kiss, A., Reinhardt, H., Routier, A.-L., Sapala, A., Zhu, M., ***Boudaoud, A.***, Hamant, O., Komatsuzaki, T., Li, C.-B., Roeder, A.H.K., Smith, R.S.

13:50-14:10 **Actin filaments as active mechanosensors**
Harris, A.R., Jreij, P., Fletcher, D.A.

14:10-14:30 **Evolutionary innovation in bacterial signal processing networks**
Pinney, J.W., ***Durand, D.***, Laub, M.T.

Poster Talks 3 (Chair: Philip Avner)

14:30-14:33 **Single-cell optical control with a digital multi-mirror device**
Seo, D.K., Tran, M.T., Kohl, M.M., Kwag, J.H., ***Richards, B.A.***

14:33-14:36 **Identification of a uniquely activated microglia phenotype associated with somatosensory grey matter neurodegeneration and clinical ataxia**
Rubino, S.J., Mayo, L., Lanser, A., Madi, A., Singha, P., Rezende, R.M., Kuhn, C., Butovsky, O., Lassmann, H., Weiner, H.L.

14:36-14:39 **Delineating the interactions between the intestinal mucosal barrier and gut microbiota in metabolic diseases**
Schröder, B.O., Bäckhed, F.

14:39-14:42 **Dynamic instability of microtubule minus ends**
Podolski, M., Rahman, A., ***Zanic, M.***

14:42-14:45 **Investigation of a sensory interface relaying information from cerebrospinal fluid to motor circuits**
Desban, L., Böhm, U., Djenoune, L., Fidelin, K., Hubbard, J., Prendergast, A., Sternberg, J., Brosse, L., England, S., Banerjee, S., Delmas, P., Lewis, K., Bardet, P-L., ***Wyart, C.***

14:45-14:48 **Functional morphology of joints**
Venkadesan, M., Sharma, N., Mandre, S.

14:48-14:51 **Building and probing morphogenetic clock in plant cells**
Wabnik, K., Tsimring, L.S., Estelle, M.

14:51-14:54 **Inorganic voltage nanosensors**
Park, K., Kuo, Y., Shvadchak, V., Ingargiola, A., Dai, X., Hsiung, L., Kim, W., Zhou, Z.H., Zou, P., Levine, A.J., Deutsch, Z., Oron, D., Li, J., ***Weiss, S.***

14:54-14:57 **Imaging microtubule dynamics in the early mouse embryo**
Zenker, J., Bissiere, S., Silva, J.C., Plachta, N.

15:00-17:30 **Poster Session 3 (with refreshments)**
Matrix Level 4 foyer

Invited Lecture (Chair: Warwick Anderson)

17:30-18:30 **Singapore science**
His Excellency Vivian Balakrishnan, Minister for Foreign Affairs, Singapore

18:45-22:00 **Farewell reception hosted by the Nanyang Technological University (NTU)**
A barbecue dinner will be served at the NTU NEC Clubhouse

Please refer to the Evening Social Programme section on page 6 for bus departure times and more information on the evening's activities.

List of Posters

Posters will be presented either on Monday, Tuesday or Wednesday. The day of presentation is indicated for each poster in the list below. The posters are listed in alphabetical order by presenting author (in bold italics), except where more than one member of a grant team has prepared a poster, in which case these are listed together.

1. **Linking TCR signaling strength/duration to T cell fate in the thymus**
   Ariotti, S., Van Dis, E.S., Margolis, S.R., Robey, E.A.
   (Monday)

2. **Developmental regulation of prefrontal cortex-amygdala synaptic connectivity**
   Arruda-Carvalho, M., Wu, W.C., Clem, R.L.
   (Tuesday)

3. **Profiling hippocampal neurons involved in the control of feeding**
   Azevedo, E.P., Friedman, J.M.
   (Wednesday)

4. **Identification of kinases that control size and dissolution of membrane-less organelles**
   Berchtold, D., Pelkmans, L.
   (Monday)

5. **Monofunctionalized quantum dot loaded DNA nanocages as tools to explore clathrin-independent endocytosis and biomedical applications**
   Bhatia, D., Arumugam, S., Wunder, C., Chambon, V., Dubertret, B., Krishnan, Y., Johannes, L.
   (Monday)

6. **Investigating the biogenesis of tRNA fragments in the male reproductive system**
   Boskovic, A., Song, L., Sharma, U., Rando, O.J.
   (Tuesday)

7. **Investigating the roles of Arp2/3 during neuronal polarisation**
   Coles, C.H., Dupraz, S., Stern, S., Schmidt, S., Arnold, H.H., Bradke, F.
   (Monday)

8. **Dynamic loop formation along the bacterial genome**
   Dame, R.T., Henneman, B.
   (Tuesday)

9. **Cellular and biophysical mechanisms of virus-vector interactions mediating disease transmission**
   Drucker, M., Ducousso, M., Berthelot, E., Ng, J.C.K., Zhou, J.S., Butt, H.-J., Koynov, K., Schönecker, C.
   (Wednesday)

10. **Co-transcriptional ribosome assembly in real-time**
    Duss, O., Sperling, E., O'Leary, S.E., Lamichhane, R., Millar, D.P., Puglisi, J.D., Williamson, J.R.
    (Monday)

11. **Measuring antigenicity by quantifying T-Cell activation and proliferation**
    Erez, A., Vogel, R., Altan-Bonnet, G.
    (Monday)

12. **Revealing how Adenovirus particles dock and deliver viral DNA at the nuclear pore complex**
Flatt, J.W., Medalia, O.M., Greber, U.F.
(Monday)

13. **Fundamental principles of brain protein turnover**
Fornasiero, E.F., Mandad, S., Wildhagen, H., Bonn, S., Urlaub, H., Rizzoli, S.O.
(Monday)

14. **Illuminating the function of inhibitory microcircuits in the zebrafish homologue of olfactory cortex**
Frank, T., Friedrich, R.W.
(Tuesday)

15. **Neuroscience of knowledge: neural representations of concepts and their role in perception and memory**
Diamond, M.E., ***Freiwald, W.A.***, Quian Quiroga, R., Sompolinsky, H., Zoccolan, D.
(Monday)

16. **The role of iron-sulphur clusters in DNA helicases**
Simon, A., Lutz, R., Wild, S., ***Gari, K.***
(Tuesday)

17. **Understanding the consequences of hybridization on biological scaling and mitosis in *Xenopus***
Gibeaux, R., Heald, R.
(Tuesday)

18. **Neural stem cell maintenance by the primary cilium**
Gopalakrishnan, J.
(Wednesday)

19. **Molecular basis for CPAP-tubulin interaction in controlling centriolar and ciliary length**
Zheng, X.D., Ramani, A., Gopalakrishnan, J., ***Li, H.***
(Wednesday)

20. **Pattern formation in the entorhinal grid system**
Hägglund, M., Moser, M.B., Moser, E.I.
(Tuesday)

21. **Optical erasure of memory**
Goto, A., Matsuda, T., Nagai, T., ***Hayashi, Y.***
(Tuesday)

22. **Cellular and synaptic basis of altered hippocampal rhythmogenesis upon chronic extinction of the neuronal KCC2 transporter**
Goutierre, M., François, E., Gomez-Dominguez, D., de la Prida, L.M., ***Poncer, J.C.***
(Tuesday)

23. **Studying the native kinetochore architecture and its role in chromosome segregation using cross-linking and mass spectrometry**
Fischböck, J., Ghodgaonkar, M., Bußlehner, P., Zimniak, T., Singh, S., ***Herzog, F.***
(Monday)

24. **Deterministic progenitor behavior and unitary production of neurons in the neocortex**
Gao, P., Postiglione, M.P., Krieger, T.G., Hernandez, L., Wang, C., Han, Z., Streicher, C., Papusheva, E., Insolera, R., Chugh, K., Kodish, O., Huang, K., Simons, B.D., Luo, L., ***Hippenmeyer, S.***, Shi, S.H.
(Wednesday)

25. **High-throughput elucidation of Wnt-dependent transcription factor binding grammar**
Szczesnik, T., Sherwood, R.I., ***Ho, J.W.K.***
(Monday)

26. **The grim world of the phytoplasma-infected 'Zombie' plant**
Hogenhout, S.A., Zwolińska, A., Immink, R.G.H., Groves, R., Maree, A.
(Tuesday)

27. **Identifying the neuronal basis of social motivation**
Hörnberg, H.K., Hatstatt-Burklé, L., Scheiffele, P.
(Wednesday)

28. **Correlative microscopy explores cellular nano membrane junctions for cyclic cardiac regulation**
Hoshijima, M., Soeller, C., Takeshima, H.
(Monday)

29. **Identification of novel functional partners of G protein coupled receptors from living cells with sub-minute temporal resolution**
Huttenhain, R., Lobingier, B., von Zastrow, M., Krogan, N.J.
(Tuesday)

30. **The emergence of a dermal cell net during feather development**
Inaba, M., Okamura, Y., Chuong, C-M.
(Wednesday)

31. **An evolutionary arms race between KRAB zinc finger genes ZNF91/ZNF93 and SVA/L1 retrotransposons**
Jacobs, F.M.J., Greenberg, D., Nguyen, N., Haeussler, M., Ewing, A.D., Katzman, S., Paten, B., Salama, S.R., Haussler, D.
(Monday)

32. **Commensal helminth alter host immune system and the gut microbiota in a rat model**
Jirků Pomajbíková, K., Jirků, M., Sak, B., Grigore, K., Parfrey, L.W.
(Tuesday)

33. **Telomere-to-telomere chromosome assemblies and identification of structural variations in *Arabidopsis thaliana* ecotypes**
Jupe, F., Bemm, F., Michael, T., Zander, M., Weigel, D., Ecker, J.
(Monday)

34. **Outer distal appendage protein Ankrd26 regulates ciliary membrane trafficking without affecting assembly of the primary cilium**
Kanie, T., Jackson, P.K.
(Tuesday)

35. **Neural circuits underlying parental behavior**
Kohl, J., Dulac, C.
(Monday)

36. **Role of PV^+ and SST^+ interneuron mediated inhibition in sensory processing**
Barreiros, I.V., Richards, B.A., Kwag, J.H., ***Kohl, M.M.***
(Wednesday)

37. **Investigation of synaptic and network mechanisms underlying reliable propagation of neural codes in feedforward neural network model**
Jang, H.J., Richards, B.A., Kohl, M.M., ***Kwag, J.H.***
(Wednesday)

38. **Single-cell optical control with a digital multi-mirror device**
Seo, D.K., Tran, M.T., Kohl, M.M., Kwag, J.H., ***Richards, B.A.***
(Wednesday)

39. **The biochemical basis of budding yeast cell size control**
Kõivomägi, M., Turner, J.J., Schmoller, K., Skotheim, J.M.
(Monday)

40. **Molecular basis of neuronal diversity in the *Drosophila* optic lobes**
Konstantinides, N., Powers, A.N., Satija, R., Desplan, C.
(Tuesday)

41. **DNA puppeteered calipers: structural analysis of single biomacromolecules**
Krieg, E., Ward, A., Johnson-Buck, A., Wong, W.P., Shih, W.M.
(Tuesday)

42. **Live cell RNA imaging tool based on programmable RNA guided proteins**
Lapinaite, A., Doudna, J.A., Cate, J.H.D.
(Wednesday)

43. **Probing bacterial free energy states under external stresses**
Lo, C.J., Pilizota, T., Bai, F.
(Monday)

44. **Dissection of the mechanisms restricting specific retinal progenitor cells to the production of cones and horizontal cells**
Lonfat, N., Cepko, C.L.
(Wednesday)

45. **Cell-free transcription-translation in a microfluidic chip: from gene circuits to self-organization and self-reproduction**
Maeda, Y.T., Ziane, I., Ott, A., Libchaber, A., Noireaux, V.
(Tuesday)

46. **Role of transverse curvature in determining the elastic stiffness of fish fin**
Mandre, S., Nguyen, K., Yu, N., Bandi, M., Venkadesan, M.
(Wednesday)

47. **Functional morphology of joints**
Venkadesan, M., Sharma, N., Mandre, S.
(Wednesday)

48. **Total synthesis and biological evaluation of Callyspongiolide and its derivatives**
Manoni, F., Harran, P.G.
(Monday)

49. **Human magnetoreception - an EEG approach (I)**
Wang, C.X., ***Matani, A.***, Shimojo, S., Wu, D-A., Hilburn, I.A., Mizuhara, Y., Matsuda, K., Fuse, Y., Hotta, A., Green, M.Y., Cousté, C.P., Abrahams, J.N.H., Bernstein, S.E., Kirschvink, J.L.
(Tuesday)

50. **Human magnetoreception - an EEG approach (II)**
Matani, A., Mizuhara, Y., Matsuda, K., Fuse, Y., Hotta, A., Wang, C.X., Shimojo, S., Wu, D-A., Hilburn, I.A., Kirschvink, J.L.
(Tuesday)

51. **Modeling RNA metabolism and dysfunction in neurons derived from patient fibroblasts to elucidate the molecular and cellular basis of ALS pathogenesis**
Melamed, Z., Lagier-Tourenne, C., Cleveland, D.W.
(Wednesday)

52. **Fimbrin phosphorylation by metaphase Cdk1 regulates actin cable dynamics in budding yeast**
Miao, Y., Han, X., Zheng, L., Ying, X., Mu, Y., Yates, J.R. III, Drubin, D.G.
(Monday)

53. **Multi-step microRNA control of pancreatic neuroendocrine tumors metastatic cascade**
Michael, I.P., Hanahan, D.
(Tuesday)

54. **Single-cell analysis of a developmental transition**
Miermont, A., Chubb, J.
(Wednesday)

55. **Roles of Semaphorin/Plexin signaling in synapse map formation in *C. elegans***
Mizumoto, K., Chen, K.X.
(Monday)

56. **Dissecting the role of iRhoms in protein quality control in the *Drosophila* nervous system**
Muliyil, S., Levet, C., Freeman, M.
(Wednesday)

57. **Robust Turing patterns without differential diffusivity**
Marcon, L., Diego, X., Sharpe, J., ***Müller, P.***
(Tuesday)

58. **Odor-background segregation and source localization using fast olfactory processing**
Szyszka, P., ***Nowotny, T.,*** Smith, B.H., Kanzaki, R.
(Tuesday)

59. **Accurate prediction of co-translational folding in living cells and the physical origins of critical codon positions**
O'Brien, E., Bukau, B., Kramer, G., Friedrich, U., Sharma, A., Nissley, D., Ahmed, N.
(Monday)

60. **Reflective crystals in crayfish eyes enable vision**
Palmer, B.A., Sagi, A., Aflaloe, E., Brumfeld, V., Weiner, S., Addadi, L.
(Tuesday)

61. **Morphological comparison of monkey, chimpanzee and human medial frontal cortex**
Petrides, M.P., Amiez, C., Procyk, E., Hopkins,W.
(Wednesday)

62. **DYRK3 kinase mediated regulation of RNA granule dis-assembly/re-assembly during mitosis**
Rai, A.K., Pelkmans, L.
(Monday)

63. **Identification of a uniquely activated microglia phenotype associated with somatosensory grey matter neurodegeneration and clinical ataxia**
Rubino, S.J., Mayo, L., Lanser, A., Madi, A., Singha, P., Rezende, R.M., Kuhn, C., Butovsky, O., Lassmann, H., Weiner, H.L.
(Wednesday)

64. **DNA damage response mediated replication-stasis maintains stem cell quiescence**
Salvi, J.S., Rando, T.A.
(Monday)

65. **Multi-step Th17 differentiation in response to segmented filamentous bacteria in the mouse intestine**
Sano, T., Yang, Y., Diehl, G., Chen, A., Kaplan, D., Littman, D.R.
(Tuesday)

66. **A novel comprehensive strategy to characterize protein post-translational modifications**
Sanvisens Delgado, N., Toczyski, D.
(Wednesday)

67. **A scalable design for neuronal recordings *in vivo* using readout integrated circuits and cast microwire bundles**
Kollo, M., Racz, R., Wray, W., Hanna, M., Kiskin, N., Angle, M., Melosh, N., ***Schaefer, A.T.***
(Tuesday)

68. **Delineating the interactions between the intestinal mucosal barrier and gut microbiota in metabolic diseases**
Schröder, B.O., Bäckhed, F.
(Wednesday)

69. **Role of actin in genome stability**
Shimada, K., Gerhold, C.B., van Loon, B., Yamazaki, S., Gubeli, R., Bertoldo, D., Sobol, M., Hozak, P., Harata, M., Heinis, C., Gasser, S.M.
(Monday)

70. **Microfluidic cell sorter-aided directed evolution of box C/D snoRNP to site-specifically introduce N6-methyladenosine**
Terasaka, N., Hilvert, D.
(Tuesday)

71. **The functional organization of cortical networks**
Trenholm, S., Wertz, A., Roska, B.
(Wednesday)

72. **Unravelling the mechanics of a molecular chaperone**
Tych, K.M., Jahn, M., Rief, M.
(Monday)

73. **Single-molecule studies of ribosome assembly: coupling transcription and assembly**
Ueda, T., Aoyama, R., Amikura, K., Bercy, M., Bizebard, T., Bockelmann, U., Biebricher, A., Wuite, G.J.L., Peterman, E.J.G., Nikolay, R., Hilal, T., Bo, Q., Nierhaus, K.H.
(Tuesday)

74. **Building and probing morphogenetic clock in plant cells**
Wabnik, K., Tsimring, L.S., Estelle, M.
(Wednesday)

75. **To cluster or not to cluster: new insight into the segregation mechanism of high-copy bacterial plasmids using quantitative localization microscopy**
Wang, Y., Penkul, P., Milstein, J.N.
(Monday)

76. **Inorganic voltage nanosensors**
Park, K., Kuo, Y., Shvadchak, V., Ingargiola, A., Dai, X., Hsiung, L., Kim, W., Zhou, Z.H., Zou, P., Levine, A.J., Deutsch, Z., Oron, D., Li, J., ***Weiss, S.***
(Wednesday)

77. **Investigating the mechanism of meiotic crossover patterning**
White, M.A., Nadarajan, S., Colaiácovo, M.P., Kleckner, N.
(Tuesday)

78. Investigation of a sensory interface relaying information from cerebrospinal fluid to motor circuits
Desban, L., Böhm, U., Djenoune, L., Fidelin, K., Hubbard, J., Prendergast, A., Sternberg, J., Brosse, L., England, S., Banerjee, S., Delmas, P., Lewis, K., Bardet, P-L., ***Wyart, C.***
(Wednesday)

79. The role of Hippo/Yap signaling in intestinal regeneration and tumorigenesis
Xiol, J., Camargo, F.
(Monday)

80. Dynamic instability of microtubule minus ends
Podolski, M., Rahman, A., ***Zanic, M.***
(Wednesday)

81. Oligodendrocyte heterogeneity in the mouse juvenile and adult central nervous system
Marques, S., ***Zeisel, A.***, Codeluppi, S., van Bruggen, D., Mendanha Falcão, A., Xiao, L., Li, H., Häring, M., Hochgerner, H., Romanov, R.A., Gyllborg, D., Muñoz Manchado, A., La Manno, G., Lönnerberg, P., Floriddia, E.M., Rezayee, F., Ernfors, P., Arenas, E., Hjerling-Leffler, J., Harkany, T., Richardson, W.D., Linnarsson, S., Castelo-Branco, G.
(Monday)

82. Imaging microtubule dynamics in the early mouse embryo
Zenker, J., Bissiere, S., Silva, J.C., Plachta, N.
(Wednesday)

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