



15th HFSP Awardees Meeting

Salk Institute for Biological Studies

La Jolla - USA

Practical Information

Meeting venue

The meeting will be held at the Salk Institute for Biological Studies located at 10010 N Torrey Pines Rd, La Jolla.

The Estancia La Jolla and the accommodation at UCSD are located across the road from the venue. The Sheraton is two miles from the Salk Institute and it is possible to walk there through the UCSD campus. There is parking space available in the West overflow gravel lot which is about five minutes' walk from the Institute (see campus map on page 7).

In recognition of the hazards caused by tobacco, the Institute is a tobacco-free environment. Use of tobacco products in any form and use of unregulated nicotine products (e.g., "e-cigarettes") is prohibited on all Salk Institute property, facilities, grounds, vehicles, parking lots and structures owned or leased by the Institute.

Plenary lectures and oral sessions

The scientific sessions will take place in the Conrad T. Prebys Auditorium. A technician is available to assist speakers with the preparation of their presentations.

Poster sessions

The poster sessions will take place in the Fritz B. Burns Reception Center (foyer). The poster board dimensions are 1.2 x 1.2m.

Breakfast, lunch and coffee breaks

Breakfast and lunch will be served in the Fritz B. Burns Reception Center (foyer) on Monday, Tuesday and Wednesday. There will be an opportunity on Tuesday to meet the HFSP Council of Scientists and Review Committee Chairs over lunch. This is an occasion to discuss the challenges you have faced in your career with the Council and to help them in their role of advising on the HFSP scientific programs. A number of tables will be reserved for the Council members and RC Chairs and you are welcome to join them on a first come, first served basis.

Coffee breaks will take place in the foyer.

Evening social programme

Sunday, July 12th at 19:30

Welcome Reception, Garden Courtyard of the Estancia La Jolla hotel

Monday, July 13th at 18:00 – 22:00

Dinner Reception at the Birch Aquarium at Scripps

Shuttle buses to transport participants to the aquarium will leave the Salk Institute at 17:50.

Wednesday, July 15th at 18:15

Farewell Reception, Salk Institute for Biological Studies

Internet

Free wireless internet is available in the Salk Institute foyer. The network name is "Public" and can be accessed with the password "connectnow". Please note that you should bring your own computer if you wish to access internet during the meeting.

Monday 13th July

8:00-8:45	Breakfast (Salk Institute foyer)
8:45-9:00	Opening remarks and welcome address <i>Prof. William Brody, President of the Salk Institute for Biological Studies</i> <i>Dr. Sally Rockey, Deputy Director for Extramural Research, NIH</i> <i>Prof. Nobutaka Hirokawa, President of HFSP</i>
9:00-10:00	Nakasone Award ceremony and HFSP Nakasone Lecture <i>Introduction by Prof. Nobutaka Hirokawa</i> Life redesigned: the emergence of synthetic biology <i>James Collins, Wyss Institute, Harvard University, Cambridge, USA</i>
10:00-10:30	Coffee
Oral Session 1 (Chair: Paul De Koninck)	
10:30-10:50	Stochastic stem cell dynamics at the single-cell level <i>Singer, Z.S., Yong, J., Hormoz, S., Tischler, J., Hackett, J.A., Altinok, A., Surani, M.A., Cai, L., Elowitz, M.B.</i>
10:50-11:10	Determining the rules for self-organised adaptive biological networks <i>Fricker, M.D., Heaton, L.L.M., Jones, N.S., Brenner, M., Pringle, A.</i>
11:10-11:30	Spatiotemporal remodeling of membrane nanoplateforms under mechanical forces <i>Lidke, D., Mayor, S., Cambi, A., Garcia-Parajo, M.F.</i>
11:30-11:50	Whole-brain activity mapping of freely swimming zebrafish in an open source brain atlas <i>Randlett, O., Naumann, E.A., Portugues, R., Wee, C., Schoppik, D., Engert, F., Schier, A.F.</i>
11:50-12:30	Meet the staff of HFSP
12:30-13:30	Lunch (Salk Institute foyer)
Poster Talks 1 (Chair: Daniel Kiehart)	
13:30-13:33	An extracellular RNA interference pathway as a mechanism of parasite-host communication <i>Buck, A.H., Maity, T., Chow, F., Moises, C., Koutsovoulos, G., Blaxter, M., Abreu-Goodger, C., Claycomb, J.</i>
13:33-13:36	Nuclear pore components regulate gene expression in human cells <i>Ibarra, A., Benner, C., Hetzer, M.</i>
13:36-13:39	CTLA-4: an inhibitory immune receptor that promotes balanced antibody responses <i>Sweet, R.A., Chand, R., Hayes, L., Choo, S., Cook, M.C.</i>
13:39-13:42	Three-dimensional characterization of junctional membrane complexes and channel assembly in cardiac muscle using super-resolution correlated light and electron microscopy <i>Hoshijima, M., Soeller, C., Takeshima, H.</i>
13:42-13:45	Fluorescent chemosensors for monitoring the activity of methylguanine DNA methyltransferase <i>Beharry, A.A., Kool, E.T.</i>

- 13:45-13:48 **A secretory kinase complex regulates extracellular protein phosphorylation**
Cui, J., Xiao, J., Tagliabracci, V.S., Wen, J., Rahdar, M., Dixon, J.E.
- 13:48-13:51 **Comprehensive identification of rhythmic protein synthesis in mouse liver**
Janich, P., Arpat, B., Gatfield, D.
- 13:51-13:54 **Epigenetic reprogramming of the circadian clock by a low carbohydrate ketogenic diet**
Tognini, P., Murakami, M., Liu, Y., Eckel-Mahan, K., Newmann, J., Verdin, E., Baldi, P., Sassone-Corsi, P.
- 13:54-13:57 **The birth and death of the chloroplast**
Bock, R., Schöttler, M., Adam, Z., Reich, Z.
- 14:00-16:40 **Poster Session 1 (with refreshments)**
Salk Institute foyer
- Invited Lecture (Chair: Salvatore Oliviero)**
- 16:40-17:40 **Optical control of neurotransmitter receptors**
Ehud Isacoff, University of California, Berkeley, USA

18:00-22:00 **Dinner Reception at the Birch Aquarium at Scripps** (*Buses depart at 17:50*)

Tuesday 14th July

8:00-9:00 **Breakfast (Salk Institute foyer)**

Oral Session 2 (Chair: Daniela Rhodes)

- 9:00-9:20 **Plant membrane receptor kinases require co-receptor proteins to orchestrate growth and development**
Santiago, J., Bojar, D., Hohmann, U., Martinez, J., *Hothorn, M.*
- 9:20-9:40 **Membrane decoys as anti-viral nanomedicine**
Ziblat, R., Zhu, X., Yang, P., Aizenberg, J., Weitz, D.A.
- 9:40-10:00 **Arginine codons are major drivers of coding sequence evolution**
Novoa, E.M., Jaillon, O., Jungreis, I., Kellis, M.
- 10:00-10:20 **Building embryos from stem cells: models of early embryonic fate decisions**
Andrews, P.W., Gokhale, P.J., Biga, V., Allison, T., Mason, J.E., Coca, D.C., Pera, M.
- 10:20-10:40 **Integration of visual and tactile signals in behaving rats**
Nikbakht, N., Tafreshiha, A., Quian Quiroga, R., Zoccolan, D., Diamond, M.E.

10.40-11:00 **Coffee**

Oral Session 3 (Chair: Adriano Aguzzi)

- 11:00-11:20 **Phase organization of clock neurons and its implications for mood disorders**
Forger, D.B., Myung, J., Belle, M.D.C., Cochran, A., DeWoskin, D., Joshi, A., Stinchcombe, A., Walch, O.J., Takumi, T., Piggins, H.
- 11:20-11:40 **Neural mechanisms for novelty processing**
Esquivelzeta-Rabell, J., Mutlu, K., Noutel, J., Haesler, S.
- 11:40-12:00 **The level of competition influences the relative fitness of pre-formed aggregates during *Pseudomonas aeruginosa* biofilm development**
Kragh, K.N., Hutchison, J.B., Melaugh, G., Rodesney, C., Roberts, A.E.L., Irie, Y., Jensen, P. Ø., Diggle, S.P., Allen, R.J., Gordon, V.D., Bjarnsholt, T.
- 12:00-12:20 **Single cell lineage tracing to understand hematopoietic development and differentiation**
Schumacher, T.N., Cohen, A., Hodgkin, P.D., Duffy, K.R., Naik, S., Perie, L., Weber, T., Wait, E., Mankowski, W., Winter, M., Kan, A.
- 12:20-12:40 **The mystery of firefly bioluminescence revealed?**
Naumov, P., Hintermann, L., Sliwa, M., Didier, P., Maltsev, O.V., Rebarz, M., Ghose, A., Ruckebusch, C., Nath, N.K., Kukovec, B-M.

12:40 – 13:45 **Lunch (Salk Institute foyer)**
With the opportunity to meet the HFSP Council of Scientists and Review Committee Chairs.

Invited Lecture (Chair: Guntram Bauer)

- 13:45-14:30 **An editor's perspective on scientific publishing**
Laura Zahn, Senior Editor, Science magazine, San Diego, USA

Oral Session 4 (Chair: Apurva Sarin)

- 14:30-14:50 **Spatial control of canopy shade-induced flowering**
Willige, B.C., Chory, J.
- 14:50-15:10 **The cuticle modulates ultraviolet reflectance of avian eggshells**
Shawkey, M.D., Fecheyr-Lippens, D., Igic, B., D'Alba, L., Hanley, D., Verdes, D., Holford, M., Waterhouse, G.I.N., Grim, T., Hauber, M.E.
- 15:10-15:30 **Measuring molecular dynamics in the living brain**
Laviv, T., Yasuda, R.

Poster Talks 2 (Chair: Hermann Gaub)

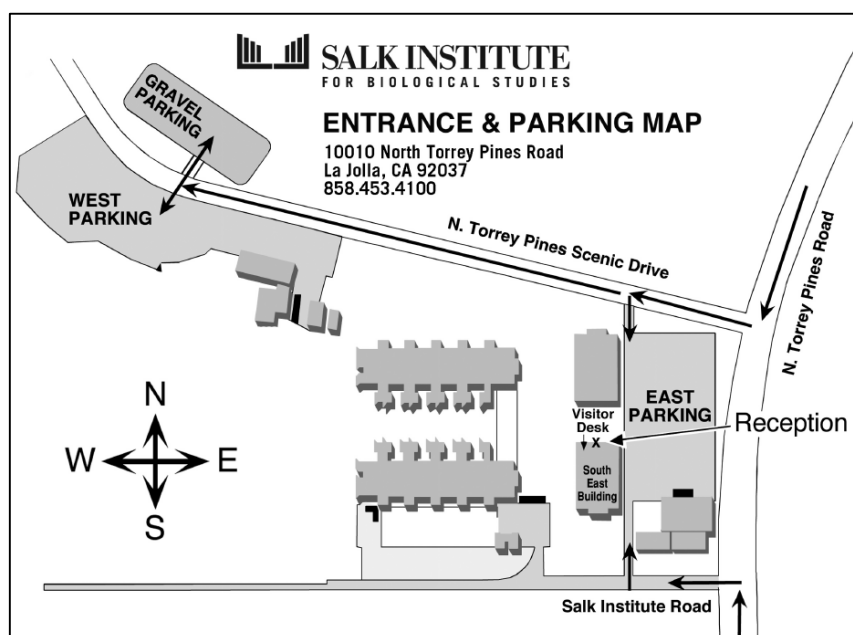
- 15:30-15:33 **DNA-Origami capsules as immune modulators**
Bastings, M.M.C., Shih, W.M.
- 15:33-15:36 **NIR light mediated optogenetics via upconversion nanoparticles**
Han, G., Xiang, Y., Xue, T.
- 15:36-15:39 **Sensory integration and transformation of olfactory and visually guided behaviors in insects**
Riffell, J.A., Vinauger, C., Lahondere, C., Chittka, L., Giurfa, M.
- 15:39-15:42 **Cell migration in highly confined environments breaks the nuclear envelope**
Raab, M.D., de Belly, H., Thiam, H.R., Vargas, P., Gentili, M., King, M., Manel, N., Lennon, A.M., Piel, M.
- 15:42-15:45 **Visualizing human transcription with nucleotide resolution by native elongating transcript sequencing**
Mayer, A., di Iulio, J., Maleri, S., Eser, U., Vierstra, J., Reynolds, A., Sandstrom, R., Stamatoyannopoulos, J.A., Churchman, L.S.
- 15:45-15:48 **Neural circuits for understanding peer's social interactions**
Sliwa, J., Freiwald, W.A.
- 15:48-15:51 **Survival of the weakest: less fit virus is stabilized in the face of drug during robust HIV infection**
Jackson, L., Young, A., Boule, M., Zanini, F., Neher, R., Lustig, G., Sigal, A.
- 15:51-15:54 **Ferroptosis: greasing-up regulated, non-apoptotic form of cell death**
Angeli, J.P.F., Kagan, V.E., Conrad, M.
- 15:54-15:57 **Sensors and modulators of autophagy networks in vivo**
Sidhu, S.S., Dikic, I., Sander, C., Komatsu, M., Teyra, J.
- 16:00-18:00 **Poster Session 2 (with refreshments)**
Salk Institute foyer

Wednesday 15th July

8:00-9:00	Breakfast (Salk Institute foyer)
Oral Session 5 (Chair: Yunje Cho)	
9:00-9:20	Histone level determines the timing of zygotic genome activation in zebrafish Joseph, S.R., Kumar, M., Steinberg-Bains, K., Shevchenko, A., Zaburdaev, V., <i>Vastenhouw, N. L.</i>
9:20-9:40	Sleep is associated with nuclear accumulation of Arc/Arg3.1 in layers II-III of mouse cortex <i>Honjoh, S., de Vivo, L., Okuno, H., Bito, H., Tononi, G., Cirelli, C.</i>
9:40-10:00	Determination of membrane proteins structure from cryo-EM density maps using evolutionary conservation information <i>Gofman, Y., Levitt, M.</i>
10:00-10:20	Morphodynamics of the inner ear - live cochlear explant imaging reveals reorganization processes underlying robust development of the organ of Corti Amir-Zilberstein, L., Hersch, M., Bhonker, Y., Chen, P., Matsuzaki, F., Avraham, K.B., <i>Sprinzak, D.</i>
10:20-10:40	Novel bio-inspired models of internal climate control: lessons from the extended organism <i>Turner, J.S., Mahadevan, L., Soar, R.C., Sane, S., Marais, E.</i>
10:40-11:00	Coffee
Oral Session 6 (Chair: Shin'ichi Ishiwata)	
11:00-11:20	Longitudinal <i>in vivo</i> live imaging of the generation of tumor cell heterogeneity <i>Kitano, M., Fraser, S.E.</i>
11:20-11:40	Fundamental constraints on the abundances of chemotaxis proteins <i>Bitbol, A-F., Wingreen, N.S.</i>
11:40-12:00	Chemical genetics mutants impaired in biotic-to-abiotic interference signaling in <i>Arabidopsis thaliana</i> <i>Park, J., Kim, T-H., Stephan, A., Schwab, R., Weigel, D., Schroeder, J.I.</i>
12:00-12:20	Compressive cortical flow aligns actin filaments to initiate furrowing <i>Reymann, A.C., Staniscia, F., Erzberger, A., Salbreux, G., Grill, S.</i>
12:20-13:40	Lunch (Salk Institute foyer)
Poster Talks 3 (Chair: Vidita Vaidya)	
13:40-13:43	Optimized <i>Plasmodium falciparum</i> hepatocyte infection model facilitates drug and vaccine development Tweedell, R.E., Tao, D., King, J.G., Jost, P.J., Boddey, J.A., <i>Dinglasan, R.R.</i>
13:43-13:46	Construction of a robust and sensitive arginine biosensor through ancestral protein reconstruction Whitfield, J., Herde, M., Janovjak, H., Henneberger, C., <i>Jackson, C.J.</i>
13:46-13:49	Assessing the function of neocortical Layer 1 with genetically-encoded indicators of synaptic activity Broussard, G., Liang, R., Fridman, M., Petreanu, L., <i>Tian, L.</i>

- 13:49-13:52 **Development of a toolkit for multicellular synthetic biology in mammalian cells**
Morsut, L., Roybal, K., Lim, W.
- 13:52-13:55 **The importance of apical divisions in pseudostratified neuroepithelia for tissue development and neuronal lamination**
Strzyz, P.J., Lee, H.O., Sidhaye, J., Weber, I.P., Leung, L.C., Norden, C.
- 13:55-13:58 **Stiffness of the human foot and evolution of the transversal arch**
Venkadesan, M., Dias, M.A., Singh, D.K., Bandi, M.M., Mandre, S.
- 13:58-14:01 **The small protein CYREN dictates how and when to repair DNA**
Arnoult, N., Tognetti, M., Sagathelian, A., Karlseder, J.
- 14:01-14:04 **Identification of a general mechanism how kinases localize to membrane-less compartments**
Berchtold, D., Pelkmans, L.
- 14:04-14:07 **Yeast as a ratio sensor: a case study of combinatorial signal integration**
Savir, Y., Escalante-Chong, R., Springer, M.
- 14:10-16:50 **Poster Session 3 (with refreshments)**
Salk Institute foyer
- Invited Lecture (Chair: Salvatore Oliviero)**
- 17:00-18:00 **Plasticity of cancer cells**
Inder Verma, Salk Institute for Biological Studies, La Jolla, USA

18:15 **Farewell Reception at the Salk Institute for Biological Studies**



Poster List

Monday 13th July

1. **Lgn/Gpsm2 regulates hair bundle development in the mammalian inner ear**
Bhonker, Y., Ushakov, K., Amir-Zilberstein, L., Shivatzki, S., Brownstein, Z., Abu-Rayyan, A., Elkan-Miller, T., Myoung Kim, S., Chen, P., Kanaan, M., Matsuzaki, F., Sprinzak, D., *Avraham, K.B.*
2. **Tbc1d19 regulates ciliogenesis and planar cell polarity in vertebrates**
Kim, S.M., Padmashree, R., Esterberg, R., Meador, R., Fritz, A., Gao, N., Avraham, K.B., Sprinzak, D., Matsuzaki, F., *Chen, P.*
3. **Spikes propagation in feedforward neuronal networks**
Barral, J., Reyes, A.D.
4. **Fluorescent chemosensors for monitoring the activity of methylguanine DNA methyltransferase**
Beharry, A.A., Kool, E.T.
5. **Role of cortico-thalamo-cortical projections in visual information processing**
Beltramo, R., Scanziani, M.
6. **Towards symmetry based design of 2D multi-component protein functional materials**
Ben-Sasson, A.J., King, N.P., Bale, J.P., Sheffler, W., Gonen, S., Gonen, T., Baker, D.
7. **Multi-tissue kinetic defines posterior elongation during amniote embryogenesis**
Bénazéraf, B., Beaupeux, M., Tchernookov, M., Wallingford, A., Huss, D., Francois, P., Pourquié, O., Lansford, R.
8. **An evolutionary approach to gain mechanistic insights into the activation triggered subunit exchange in Ca²⁺/CAM dependent kinase**
Bhattacharyya, M., Stratton, M., Going, C., Burkhardt, P., Susa, A., Barros, T., King, N., Williams, E., Kuriyan, J.
9. **CTP synthetase filaments: enzymatic regulation by polymerization**
Barry, R.M., *Bitbol, A-F.*, Lorestani, A., Charles, E.J., Habrian, C.H., Hansen, J.M., Li, H-J., Baldwin, E.P., Wingreen, N.S., Kollman, J.M., Gitai, Z.
10. **Interplay of stochasticity and dynamics in mutating populations**
Bittihn, P., Hasty, J., Tsimring, L.S.
11. **The birth and death of the chloroplast**
Bock, R., Schöttler, M., Adam, Z., Reich, Z.
12. **Defining the functional and structural interface between voltage-activated sodium channels and β -subunits**
Gilchrist, J., Das, S., Van Petegem, F., Bosmans, F.
13. **Single-molecule analysis of mammalian spliceosome assembly**
Braun, J.E., Friedman, L.J., Gelles, J., Moore, M.J.
14. **A novel functional genomics screen identifies zinc finger transcription factors as regulators of alternative splicing**
Braunschweig, U., Han, H., Vizeacoumar, F.J., Barbosa Morais, N.L., Ha, K., Pan, Q., Nutiu, R., Datti, A., Moffat, J., Wrana, J.L., Blencowe, B.J.

15. **In situ phospholipid membrane formation by native chemical ligation**
Brea, R.J., Cole, C.M., Devaraj, N.K.
16. **An extracellular RNA interference pathway as a mechanism of parasite-host communication**
Buck, A.H., Maity, T., Chow, F., Moises, C., Koutsovoulos, G., Blaxter, M., Abreu-Goodger, C., Claycomb, J.
17. **Cell-type specific reorganization of inhibitory circuits during motor learning**
Chen, S.X., Kim, A.N., Peters, A.J., Komiyama, T.
18. **A secretory kinase complex regulates extracellular protein phosphorylation**
Cui, J., Xiao, J., Tagliabracci, V.S., Wen, J., Rahdar, M., Dixon, J.E.
19. **Nature's puncture-resistant flexible composites: design lessons from shark skeletons**
Seidel, R., Knoetel, D., Schotte, M., Baum, D., Blumer, M., Li, L., Weaver, J.C., Dean, M.N.
20. **Effect of plant age on the flowering regulation of temperate cereals**
Debernardi, J.M., Dubcovsky, J.
21. **Regulation of neutrophil cytokine production during inflammation**
Deguine, J., Sinha, M., Lowell, C., Barton, G.M.
22. **Role of repressive chromatin factors in genomic loci positioning**
Wijchers, P.J., Krijger, P.H.L., Zhu, Y., Geeven, G., Denker, A., de Laat, W.
23. **A high-throughput functional screening identifies non-canonical *cis* regulatory sequences in the *OCT4* locus**
Diao, Y., Shen, Y., Jung, I., Li, B., Qiu, Y., Meng, Z., Guan, K-L., Ren, B.
24. **Adaptation via the 'Extended Genotype' - DNA methylome variation among low diversity populations of *Brachypodium***
Eichten, S.R., Streich, J., Wilson, P., Murray, K.D., Warthmann, N., Borevitz, J.O.
25. **The role of CTGF in pancreatic cancer**
Elyada, E., Öhlund, D., Handy-Santana, A., Neesse, A., Tuveson, D.A.
26. **T-Cell distributions: their dynamics and influence on divergent immune responses**
Erez, A., Altan-Bonnet, G.
27. **The age of the synaptic vesicle determines its ability to release**
Truckenbrodt, S., Viplav, A., Denker, A., Fornasiero, E.F., Rizzoli, S.O.
28. **Translational regulation of cell signaling gene in development**
Fujii, K., Shi, Z., Zhulyn, O., Barna, M.
29. **Shape-control in the *Xenopus Laevis* meiotic spindle**
Fürthauer, S., Needleman, D.J., Shelley, M.J.
30. **Bet-Hedging by combinatorial DNA methylation in bacteroidales**
Geva-Zatorsky, N., Coyne, M., Fomenkov, A., Jofre, J., Roberts, R., Comstock, L.E.
31. **Three-dimensional characterization of junctional membrane complexes and channel assembly in cardiac muscle using super-resolution correlated light and electron microscopy**
Hoshijima, M., Soeller, C., Takeshima, H.

32. **Nuclear pore components regulate gene expression in human cells**
Ibarra, A., Benner, C., Hetzer, M.
33. **Comprehensive identification of rhythmic protein synthesis in mouse liver**
Janich, P., Arpat, B., Gatfield, D.
34. **Vomeronal receptor families in the deer mouse *Peromyscus maniculatus*: towards an evolutionary analysis**
Lassance, J-M., Isogai, Y., Dulac, C., Hoekstra, H.E.
35. **Novel behavior and imaging methods reveal a widespread representation of learned information in mouse primary auditory cortex**
Sosulski, D.L., Häusser, M.
36. **CTLA-4: an inhibitory immune receptor that promotes balanced antibody responses**
Sweet, R.A., Chand, R., Hayes, L., Choo, S., Cook, M.C.
37. **Epigenetic reprogramming of the circadian clock by a low carbohydrate ketogenic diet**
Tognini, P., Murakami, M., Liu, Y., Eckel-Mahan, K., Newmann, J., Verdin, E., Baldi, P., Sassone-Corsi, P.
38. **The role of mitochondria in synaptic transmission**
Zhao, T., Hao, Y., Kaplan, J.

Tuesday 14th July

1. **DNA-Origami capsules as immune modulators**
Bastings, M.M.C., Shih, W.M.
2. **DNA methylation and histone H1 cooperate to reduce chromatin accessibility**
Choi, J., Zilberman, D.
3. **Experimental evolution of Genetic Instability during a yeast model of cancer progression**
Coelho, M.C., Murray, A.W.
4. **Mucin mimetic 3D array for identifying influenza binding specificity in primary samples**
Cohen, M., Huang, M., Fisher, C.J., Godula, K., Gagneux, P.
5. **Ferroptosis: greasing-up regulated, non-apoptotic form of cell death**
Angeli, J.P.F., Kagan, V.E., Conrad, M.
6. **Anchoring of grid cells**
Häggglund, M., Moser, M.B., Moser, E.I.
7. **NIR light mediated optogenetics via upconversion nanoparticles**
Han, G., Xiang, Y., Xue, T.
8. **Molecular basis for statin-induced mitochondrial dysfunction**
Hasenfuss, S.C., Jedrychowski, M., Gygi, S., Spiegelman, B.M.
9. **How to make an egg shine: a nanostructural basis for gloss of avian eggshells**
Igic, B., Fechey-Lippens, D., Chan, A., Hanley, D., Brennan, P.R.L., Grim, T., Waterhouse, G.I.N., Hauber, M.E., Shawkey, M.D.

10. **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.
11. **Role of intermediate progenitors in the specification of cortical pyramidal neurons**
Huilgol, D., Levine, J., Huang, Z.J.
12. **What enables geckos and insects to climb as they get larger? An integrative analysis of adhesion, morphology, and material properties**
Irschick, D.J., Crosby, A.J., Federle, W., King, D., Imburgia, M., Kuo, C., Gilman, C., Kuo, C., Moen, D., Briggs, D., Showalter, I.
13. **Rocaglamide A converts RNA helicase eIF4A into a sequence-specific translational repressor**
Iwasaki, S., Floor, S.N., Ingolia, N.T.
14. **A forward genetics approach to illuminate meiotic recombination and chromosome structure in mammals**
Jain, D., Torres, L., Anderson, K.V., Keeney, S.
15. **Coordination between cell fate specification and cell cycle control in *C. elegans* vulval development**
Keil, W., Shaham, S., Siggia, E.D.
16. **Reconstitution of the Dosage Compensation Complex**
Keller, C. I., Hallaceli, E., Akhtar, A.
17. **Semi-supervised learning predicts approximately a third of the alternative splicing isoforms as novel functional proteins**
Hao, Y., Colak, R., Teyra, J., Corbi-Verge, C., Ignatchenko, A., Hahne, H., Wilhelm, M., Kuster, B., Braun, P., Kaida, D., Kislinger, T., *Kim, P.M.*
18. **Organization of the synaptonemal complex in *C. elegans* meiosis**
Köhler, S., Wojcik, M., Xu, K., Dernburg, A.F.
19. **The biochemical basis of budding yeast cell size control**
Kõivomägi, M., Turner, J.J., Schmoller, K., Skotheim, J.M.
20. **Selective elimination of iPS cells via enzyme catalyzed self-assembly of peptide derivatives**
Kuang, Y., Miki, K., Parr, C.J.C., Li, J., Yoshida, Y., Saito, H.
21. **LKB1 regulates neurotransmitter release through mitochondria-dependent presynaptic calcium clearance**
Kwon, S.K., Sando III, R., Lewis Jr., T.L., Maximov, A., Polleux, F.
22. **Neural representation of social interactions in awake behaving mice**
Li, Y., Mathis, A., Grewe, B., Schnitzer, M., Murthy, V.N., Dulac, C.
23. **Structural insights into the inhibition of Wnt signaling by cancer antigen 5T4/Wnt-activated inhibitory factor 1**
Zhao, Y., *Malinauskas, T.*, Harlos, K., Jones, E.Y.
24. **Defining inflammatory aging through single cell characterization**
Mann, M., Metha, A., Wang, J., Kowalczyk, M.S., Heath, J.R., Regev, A., Baltimore, D.

25. **Visualizing human transcription with nucleotide resolution by native elongating transcript sequencing**
Mayer, A., di Iulio, J., Maleri, S., Eser, U., Vierstra, J., Reynolds, A., Sandstrom, R., Stamatoyannopoulos, J.A., Churchman, L.S.
26. **Single fly behavioral responses to odor blends**
Mersch, D.P., Jefferis, G.S.X.E.
27. **Single-cell analysis of a developmental transition**
Miermont, A., Chubb, J.
28. **Generation of a genetic tool labeling hematopoietic stem cells with a single color**
Miyanishi, M., Chen, J.Y., Wang, S., Sinha, R., Weissman, I.L.
29. **Genetic dissection of motor coordination in *C. elegans***
Mizumoto, K.
30. **Proximity analysis of nucleic acids in chromatin complexes**
Morf, J., Furlan-Magaril, M., Wingett, S., Liu, X., Craig, F.F., Fraser, P.
31. **Studying the functions of consciousness in real-time: an intracranial study**
Mudrik, L.M., Maoz, U., Gelbard-Sagiv, H., Rutishauser, U., Mamelak, A., Koch, C.
32. **Functional relationship between Katanin p60 catalytic subunits and p80 accessory subunits**
Nakamura, M., Lindeboom, J.J., Ehrhardt, W.D.
33. **What makes the infectious protozoan *Toxoplasma gondii* such an extraordinary generalist?**
Naor, A., Boothroyd, J.C.
34. **Regulation of the central nervous system by osteocalcin and its potential link with age-associated cognitive decline**
Oury, F., Kosmidis, S., Khrimian, L., Rousseaud, A., Obri, A., Kandel, E., Karsenty, G.
35. **Of the importance of non-neuronal cells in controlling brain activity throughout the sleep-wake cycle: astrocytes sense vigilance-state to command the gating of the neuronal NMDA receptor**
Papouin, T., Dunphy, J., Haydon, P.G.
36. **Alternative splicing in *C. elegans***
Preibisch, S., Carrillo-Österreich, F., Myers, E., Howard, J., Singer, R.H.
37. **Cell migration in highly confined environments breaks the nuclear envelope**
Raab, M.D., de Belly, H., Thiam, H.R., Vargas, P., Gentili, M., King, M., Manel, N., Lennon, A.M., Piel, M.
38. **Sensory integration and transformation of olfactory and visually guided behaviors in insects**
Riffell, J.A., Vinauger, C., Lahondere, C., Chittka, L., Giurfa, M.
39. **Sensors and modulators of autophagy networks in vivo**
Sidhu, S.S., Dikic, I., Sander, C., Komatsu, M., Teyra, J.
40. **Survival of the weakest: less fit virus is stabilized in the face of drug during robust HIV infection**
Jackson, L., Young, A., Boulle, M., Zanini, F., Neher, R., Lustig, G., Sigal, A.
41. **Neural circuits for understanding peer's social interactions**
Sliwa, J., Freiwald, W.A.

42. **A sensory-motor loop interfacing the cerebrospinal fluid to central pattern generators in the zebrafish spinal cord**
Boehm, U., Djenoune, L., Fidelin, K., Hubbard, J., *Prendergast, A.*, Sternberg, J., Desban, L., England, S., Hao, J., Banerjee, S., Coste, B., Bardet, P-L., Delmas, P., Lewis, K., Wyart, C.

Wednesday 15th July

1. **Bridge over troubled synapses by secreted extracellular scaffolding proteins (ESPs): C1ql1 determines and maintains a single winner climbing fibers in the mouse cerebellum**
Yuzaki, M., *Aricescu, A.R.*
2. **The small protein CYREN dictates how and when to repair DNA**
Arnoult, N., Tognetti, M., Sagathelian, A., Karlseder, J.
3. **Identification of a general mechanism how kinases localize to membrane-less compartments**
Berchtold, D., Pelkmans, L.
4. **Optimized *Plasmodium falciparum* hepatocyte infection model facilitates drug and vaccine development**
Tweedell, R.E., Tao, D., King, J.G., Jost, P.J., Boddey, J.A., *Dinglasan, R.R.*
5. **Construction of a robust and sensitive arginine biosensor through ancestral protein reconstruction**
Whitfield, J., Herde, M., Janovjak, H., Henneberger, C., *Jackson, C.J.*
6. **Development of a toolkit for multicellular synthetic biology in mammalian cells**
Morsut, L., Roybal, K., Lim, W.
7. **Single-molecule studies on cellulosome receptor-ligand bonds**
Nash, M.A., Jobst, M.A., Milles, L.F., Schoeler, C., Ott, W.
8. **The importance of apical divisions in pseudostratified neuroepithelia for tissue development and neuronal lamination**
Strzyz, P.J., Lee, H.O., Sidhaye, J., Weber, I.P., Leung, L.C., *Norden, C.*
9. **ISG15 counteracts *Listeria monocytogenes* infection**
Radoshevich, L., Impens, F., Ribet, D., Nahori, M., Knobloch, K.P., Cossart, P.
10. **Regulation of DYRK kinase activity during RNA granule assembly/disassembly**
Raj, A.K., Pelkmans, L.
11. **PTIP drives replication fork instability in BRCA1- and BRCA2-deficient cells**
Ray Chaudhuri, A., Callen, E., Ding, X., Wong, N., Chen, H-T., Lee, J-E., Daniel, J.A., Chowdhury, D., Konstantinopoulos, P., Cortez, D., Ge, K., Sharan, S.K., Nussenzweig, A.
12. **Regulation of organ size in *Arabidopsis***
Hong, L., Routier-Kierzkowska, A-L., Smith, R.S., *Roeder, A.H.K.*
13. **Mechanism of lipid droplet accumulation in mononuclear phagocytes during sepsis**
Rosas-Ballina, M., Guan, X.L., Schürmann, N., Schmidt, A., Bumann, D.
14. **Microglia depletion triggers severe cerebellar ataxia independently of T-cell driven neuroinflammation**
Rubino, S.J., Mayo, L., Lanser, A., Butovsky, O., Lassmann, H., Weiner, H.L.

15. **Mapping the *C. elegans* motor circuits from birth to adulthood**
Mulcahy, B., Chen, S., Lu, Y., Guan, A., Mitchell, J., Witvliet, D., Cook, S., Neubauer, M., Laskova, V., Kersen, D., Berger, D., Schalek, R., Holmyard, D., Hall, D., Chisholm, A., Lichtman, J., *Samuel, A.*, Zhen, M.
16. **How termites repair their mounds**
Vats, A., Prasad, P., Raja, S.V., Bardunias, P., *Sane, S. P.*
17. **A study of termite mound morphology: swarm construction, the emergence of the construction interface and sustaining moisture thresholds**
Soar, R.C., Andreen, D., Sharma, P.
18. **Interaction between Type 3 innate lymphoid cells and epithelial cells promote functional maturation of Th17 cells in response to segmented filamentous bacteria**
Sano, T., Huang, W., Hall, J., Yang, Y., Chen, A., Littman, D.R.
19. **Yeast as a ratio sensor: a case study of combinatorial signal integration**
Savir, Y., Escalante-Chong, R., Springer, M.
20. **Retinal proteins as prime tools for optogenetics and analysis of complex signaling networks**
Panneels, V., Lesca, E., Deupi, X., Kammerer, R.A., Terakita, A., Lucas, R.J., *Schertler, G.F.*
21. **Dilution of the cell cycle inhibitor Whi5 controls budding yeast cell size**
Schmoller, K.M., Turner, J.J., Kõivomägi, M., Skotheim, J.M.
22. **Delineating the interactions between the intestinal mucosal barrier and gut microbiota in metabolic diseases**
Schröder, B.O., Bäckhed, F.
23. **Global gene expression of individual mouse adipose stem cells**
Schwalie, P.C., Akchiche, N., Wolfrum, C., Deplancke, B.
24. **A case study on correcting the scientific literature: identifying the ligand of the rice immune receptor XA21, first as misstep, second as reality**
Schwessinger, B., Pruitt, R.N., Joe, A., Thomas, N., FLiu, F., Albert, M., Robinson, M., Chan, L., Luu, D., Chen, H., Bahar, O., Daudi, A., De Vleeschauwer, D., Caddell, D., Zhang, W., Zhao, X., Li, X., Heazelwood, J., Ruan, R., Majumder, D., Chern, M., Kalbacher, H., Sonti, R., Petzold, C., Liu, C., Brodbelt, J., Felix, G., Ronald, P.
25. **The gut microbiome serves as an antigen pool in autism**
Sharon, G., Mazmanian, S. K.
26. **Single-cell DNA methylome sequencing and bioinformatic inference of epigenetic cell state dynamics**
Sheffield, N.C., Farlik, M.F., Bock, C.
27. **A psychophysical and neuroengineering approach to human magnetoreception**
Shimojo, S., Matani, A., Kirschvink, J.L.
28. **Elucidating how chromosome cohesion is regulated during mammalian meiosis**
Silva, M.C.C., Stecher, K., Tedeschi, A., Kreidl, E., Tachibana-Konwalski, K., Peters, J.M.
29. **Asymmetric ubiquitination of the contractile ring mediated by CUL-3 E3 ubiquitin ligase complex specifies the future dorsal-ventral axis in *C. elegans***
Sugioka, K., Bowerman, B.

30. **The engineering of artificial cellular systems using synthetic biology approaches**
Tan, C.
31. **Assessing the function of neocortical Layer 1 with genetically-encoded indicators of synaptic activity**
Broussard, G., Liang, R., Fridman, M., Petreanu, L., Tian, L.
32. **Genetic basis and ecological relevance of seed camouflage in desert sunflowers**
Todesco, M., Bercovich, N., Heredia, S.M., Rosas, U., Baute, G.J., Hübner, S., Bock, D.G., Grassa, C.J., Rieseberg, L.H.
33. **Gene expression regulation by alternative cleavage and polyadenylation**
Ugalde, A.P., Elkon, R., Agami, R.
34. **Stiffness of the human foot and evolution of the transversal arch**
Venkadesan M., Dias, M.A., Singh, D.K., Bandi, M.M., Mandre, S.
35. **Membrane folds and cell mechanics**
Wartlick, O., Schneider, J., Salbreux, G., Paluch, E.
36. **Investigating a mechanical basis for the transmission of information along meiotic chromosomes**
White, M.A., Nadarajan, S., Saklayen, N., Mazur, E., Colaiácovo, M.P., Kleckner, N.
37. **Insight into the chromatin recruitment of 53BP1 to DNA double-strand breaks**
Wilson, M.D., Fradet-Turcotte, A., Guennette, R., Strieter, E., Sicheri, F., Durocher, D.
38. **Motor cortex: a tutor for the basal ganglia?**
Wolff, S.B.E., Ölveczky, B.P.
39. **Optical measurement and manipulation of synaptic transmission in cortical networks**
Mahn, M., Prigge, M., Ron, S., Estry, N., Yizhar, O.
40. **Two-types of organelle division protein FtsZs assemble a single contractile ring by sequential two-step-heteropolymerization *ex vivo***
Yoshida, Y., Mogi, Y., TerBush, A., Kadirjan-Kalbach, D., Chen, C., Dutta, S., Porter, K., Larkin, R., Osteryoung, K.
41. **S-palmitoylation in endoplasmic reticulum (ER) – mitochondria contact sites**
Zaballa, M.E., Blanc, M., van der Goot, F.G.