17th HFSP Awardees Meeting

Champalimaud Centre for the Unknown

Lisbon, Portugal

Sunday, 9 – Wednesday, 12 July 2017
Saturday, 8 July

14:00-18:00  Registration
Lobby of Altis Grand Hotel

Sunday, 9 July

09:00 – 17:00  Special symposium
Physics of Living Matter for Tomorrow
Champalimaud Centre for the Unknown

19:00  Welcome reception – Altis Grand Hotel
**Monday, 10 July**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:45-9:00</td>
<td><strong>Opening remarks and welcome address</strong>&lt;br&gt;High Level Representative from EU (host country) and host institute&lt;br&gt;Prof. Warwick Anderson, Secretary General, HFSPO</td>
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<tr>
<td>9:00-9:15</td>
<td><strong>Nakasone Award ceremony</strong>&lt;br&gt;Introduction by Prof. Nobutaka Hirokawa, President of HFSPO</td>
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<td>9:15-10:15</td>
<td><strong>HFSP Nakasone Lecture</strong>&lt;br&gt;Natural products as probes of the pain pathway: from physiology to atomic structure&lt;br&gt;<em>David Julius</em>, Department of Physiology, University of California, San Francisco, USA</td>
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<td>10:15-10:45</td>
<td><strong>Coffee break</strong></td>
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<tr>
<td><strong>Oral Session 1 (Chair: tba)</strong></td>
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<td>10:45-11:05</td>
<td><strong>Visual control of flight modes and transitions in birds</strong>&lt;br&gt;<em>Lentink, David</em>, Srinivasan, M., Altshuler, D.L.&lt;br&gt;2013 Program Grant</td>
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<tr>
<td>11:25-11:45</td>
<td><strong>Synthetic embryology</strong>&lt;br&gt;<em>Sorre, Benoit</em>&lt;br&gt;2015 Career Development Award</td>
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<td>11:45-12:05</td>
<td><strong>A sex pheromone mitigates the attraction of starved flies to a food odor</strong>&lt;br&gt;<em>Mersch, Danielle P.</em>, Jefferis, G.S.X.E.&lt;br&gt;2014 Long-Term Fellow</td>
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<tr>
<td>**12:05-13:20</td>
<td><strong>Lunch</strong></td>
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<tr>
<td><strong>Oral Session 2 (Chair: )</strong></td>
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<tr>
<td>13:40-14:00</td>
<td><strong>Building a barrier: survival of the fittest in the developing skin</strong>&lt;br&gt;<em>Ellis, Stephanie J.</em>, Fuchs, E.&lt;br&gt;2015 Long-Term Fellow</td>
</tr>
<tr>
<td>14:00-14:20</td>
<td><strong>Evolution of early genetic instability by single-hit mutations</strong>&lt;br&gt;<em>Coelho, Miguel</em>, Murray, A.W.&lt;br&gt;2014 Long-Term Fellow</td>
</tr>
</tbody>
</table>
Towards a spatiotemporal control of mRNA translation using magnetic nanoparticles: insights from in vitro studies
Kashida, S., Wang, D.O., Saito, H., Gueroui, Zoher
2014 Program Grant

Poster Talks 1 (Chair:)

Single-molecule studies of ribosome assembly: coupling transcription and assembly
Geffroy, L., Melkonyan, L., Bizebard, T., Bockelmann, Ulrich, Biebricher, A., Peterman, E., Nikolay, R., Amikura, K., Aoyama, R., Ueda, T.
2014 Program Grant

Jumping spider rhodopsin: a new tool for optogenetics in GPCR signaling
Lesc, E., Mutt, E., Varma, N., Terakita, A., Lucas, R.J., Deupi, X., Schertler, Gebhard F.X.
2014 Program Grant

From multi-modal sensory perception to foraging decision making - the bat's point of view
Yovel, Yossi, Page, R., Surylykke, A., Hallam, J., Moss, C.
2013 Program Grant

Relating brain and behavior: the neural basis of modality specific attention
Town, S.T., Stitt, I., Nordmark, J.K.A., Frohlich, F., Bizley, Jennifer K.
2014 Young Investigator Grant

Rapid evolution of the Drosophila Dosage Compensation complex
Keller Valsecchi, Claudia, Basilicata, M.F., Georgiev, P., Dasmeh, P., Holz, H., Akhtar, A.
2014 Long-Term Fellow

In silico and in vivo interrogation of a fear memory functional connectome in mice
Kenney, Justin W., Vetere, G., Tran, L., Xia, F., Steadman, P.E., Parkinson, J., Jossenlyn, S.A., Frankland, P.W.
2014 Long-Term Fellow

Multi-pass microscopy for structural biology
Juffmann, Thomas, Koppell, S.A., Klopfer, B.B., Ophus, C., Glaeser, R., Kasevich, M.A.
2016 Cross-Disciplinary Fellow

Single-cell dynamics of growth and homeostasis in intestinal organoids
Huelsz-Prince, G., Louzame Rouano, J., Van Zon, Jeroen S.
2014 Career Development Award
<table>
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<tr>
<td>15:20-17:15</td>
<td>Poster Session 1 (with refreshments)</td>
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<td></td>
<td><strong>Invited Lecture</strong> (Chair: Warwick Anderson)</td>
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<td>17:15-18:15</td>
<td><strong>tbc</strong></td>
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<td><em>Eric Wieschaus, Princeton University, USA</em></td>
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<td>19:30</td>
<td>Dinner reception at the Estufa Real</td>
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<td><em>Buses depart at ?</em></td>
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Tuesday, 11 July

**Oral Session 3 (Chair: tba)**

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<thead>
<tr>
<th>Time</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>9:00-9:20</td>
<td>Foot in motion: materials, mechanics and control</td>
<td>Venkadesan, Madhusudhan, Bandi, M.M., Mandre, S.</td>
<td>2013 Young Investigator Grant</td>
</tr>
<tr>
<td>9:40-10:00</td>
<td>Dissecting the mechanochemistry of membrane invagination with designer DNA-based probes</td>
<td>Krishnan, Yamuna, Johannes, L., Bathe, M., Ipsen, J.H.</td>
<td>2014 Program Grant</td>
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<tr>
<td>10:00-10:20</td>
<td>Direct in vivo crispr deliniates importance of actomyosin dynamics in cancer</td>
<td>Langille, E., Loganathan, S., Schramek, Daniel</td>
<td>2015 Career Development Award</td>
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10.20-10:50 Coffee break

**Oral Session 4 (Chair: )**

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<tbody>
<tr>
<td>11:10-11:30</td>
<td>The life and times of malaria parasites: circadian rhythms in within-host behaviours and development</td>
<td>Mideo, Nicole, Maier, B., Savill, N., Reece, S.E.</td>
<td>2013 Program Grant</td>
</tr>
<tr>
<td>11:30-11:50</td>
<td>Understanding the role of electrical and mechanical cell-cell coupling during human heart muscle formation and disease</td>
<td>Feinberg, Adam W., van der Meer, P.</td>
<td>2014 Young Investigator Grant</td>
</tr>
<tr>
<td>11:50-12:10</td>
<td>Spatial regulation of synapse formation by Plexin signaling in C. elegans</td>
<td>Mizumoto, Kota, Chen, K.C.</td>
<td>2014 Career Development Award</td>
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12:10-13:20 Lunch

*With the opportunity to meet the HFSP Council of Scientists and Review Committee Chairs*

**Oral Session 5 (Chair: tba)**

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<tr>
<td>13:40-14:00</td>
<td>The role of meiotic recombination in adaptive evolution</td>
<td>Harjunmaa, Enni, Venu, V., Jones, F.C.</td>
<td>2015 Long-Term Fellow</td>
</tr>
</tbody>
</table>
14:00-14:20  
**The conquest of the Arctic: a genetic journey**

*Fumagalli, Matteo*, Moltke, I., Racimo, F., Albrechtsen, A., Nielsen, R.
2014 Long-Term Fellow

14:20-14:40

**Processive motility of multi-motor kinesin-14 teams underlies regulation of microtubule minus-end dynamics**

Norris, S.R., Strothman, C., Ohi, R., *Zanic, Marija*
2014 Career Development Award

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**Poster Talks 2 (Chair: tba)**

14:40-14:43

**Dissecting central pathways of oxytocin signaling in the brain**

*Wagner, Shlomo*, Hansel, D., Buxbaum, J.D., Grinevich, V.
2015 Program Grant

14:43-14:46

**The Arabidopsis NPF3 protein is a GA transporter**

2015 Young Investigator Grant

14:46-14:49

**Molecular engineering and nonlinear imaging of nanoscale acoustic biomolecules**

2016 Cross-Disciplinary Fellow

14:49-14:52

**Evolution of attraction in the olfactory system**

*Auer, Thomas*, Lucarelli, G., Khallaf, M.A., Knaden, M., Benton, R.
2015 Long-Term Fellow

14:52-14:55

**Deep two-photon calcium imaging in the barrel cortex of the mouse**

*Bethge, Philipp*, Chen, J.L., Voigt, F.F, Helmchen, F.
2015 Long-Term Fellow

14:55-14:58

**Deciphering the biological role and molecular mechanism of germline de-differentiation in flies**

*Herrera, Salvador*, Bach, E.
2015 Long-Term Fellow

14:58-15:01

**In vivo 2-photon imaging on freely behaving mice with Rett Syndrome**

*Artoni, Pietro*, Ewall, G., Hensch, T., Fagioli, M.
2015 Cross-Disciplinary Fellow

15:01-15:04

**Dynamic biofilm architecture confers individual and collective mechanisms of phage protection**

Vidakovic, L., Singh, P.K., Hartmann, R., Nadell, C., *Drescher, Knut*
2015 Career Development Award

15:04-15:07

**Cell lineage perspectives of scar tissue development and diversity**

*Rinkevich, Yuval*
2016 Career Development Award

15:07-15:10

**A role for FoxP in decision-making**

*DasGupta, Shamik*, Ferreira, C.H., Miesenböck, G.
2016 Career Development Award

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15:10-15:13  Fluorescence Lifetime Imaging Microscopy reveals rerouting of SNARE trafficking driving immune cell activation
Verboogen, D.R.J., Mancha, N.G., ter Beest, M., van den Bogaart, Geert
2014 Career Development Award

15:13-15:16  Non-equilibrium control of protein assembly by genetic circuits
Morris, E., Jensen, M., Nash, M., Tan, Cheemeng
2015 Young Investigator Grant

15:20-17:00  Poster Session 2 (with refreshments)

Invited Lecture (Chair: Warwick Anderson)

17:00-18:00  tbc
Bill Bialek, Princeton University, USA
Wednesday, 12 July

Oral Session 6 (Chair: tba)

9:00-9:20  The image forming mirror in the eye of the scallop
          Palmer, Benjamin A., Taylor, G.J., Brumfeld, V., Gur, D., Shemesh, M., Elad, N.,
          Oron, D., Weiner, S., Addadi, L.
          2015 Cross-Disciplinary Fellow

9:20-9:40  Climbing favors the tripod gait over alternative faster insect gaits
          Ramdya, Pavani, Thandialkal, R., Cherney, R., Asselborn, T., Benton, R.,
          Jan Ijspeert, A., Floreano, D.
          2016 Career Development Award

9:40-10:00  Evolutionary genetics of plant-microbe interactions in natural populations
           Lundberg, Derek S., Kersten, S., Regalado, J., Karasov, T., Friedemann, C., Jolic, D.,
           Shirsekar, G., Weigel, D.
           2015 Long-Term Fellow

10:00-10:20  Autophagy is necessary for the integration of novel hippocampal-dependent memory
             Glatigny, M., Moriceau, S., Ramos-Brossier, M., Rousseaud, A., Nascimbeni, A., Settembre, C.,
             Morel, E., odogno, P., Oury, Franck
           2014 Career Development Award

10:20-10:40  Gut feelings: engineering synthetic bacterial circuits to functionally probe the mammalian
             gut microbiome
             Riglar, David T., Potvin-Trottier, L., Giessen, T.W., Baym, M., Kerns, S.J., Niederhuber, M.J.,
             Bronson, R.T., Kotula, J.W., Gerber, G.K., Paulsson, J., Way, J.C., Silver, P.A.
           2014 Long-Term Fellow

10:40-11:10  Coffee break

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

Oral Session 7 (Chair: tba)

13:10-13:30  Physical basis of insects wings transparency
             Berthier, Serge, Elias, M., Patel, P., Andraud, C., Gomez, D.
           2016 Program Grant

13:30-13:50  Tailoring upconversion luminescent for biology
             Ma, Y., An, K., Zhang, Y., Kendra, T., Zhang, M., Zhao, H., Bao, J., Zhang, J., Wu, X., Li, Z.,
             Xue, T., Han, Gang, Xiang, Y.
           2014 Young Investigator Award

13:50-14:10  Selective elimination of iPS cells via enzyme catalyzed self-assembly of peptide derivatives
             Kuang, Yi, Miki, K., Parr, C.J.C., Li, J., Yoshida, Y., Saito, H.
           2014 Cross-Disciplinary Fellow

14:10-14:30  Establishing microfluidic cell-free systems for the rapid characterization of genetic
             networks
             Murray, R.M., Maerkl, Sebastian J.
           2015 Program Grant
14:30-14:33 Predictive modelling of how pathogen-vector-host interactions drive complex large-scale patterns of infection
Marée, Athanasius F.M., Tomkins, M., Immink, R., Groves, R., Zwolińska, A., Hogenhout, S. 2015 Program Grant

14:33-14:36 Design of multi-cellular self-organizing structures with synthetic cell-cell communication inducing cell adhesion
Toda, Satoshi, Morsut, L., Lim, W. 2016 Long-Term Fellow

14:36-14:39 The second brain connectome: the organization of enteric neural circuits by microflora-immune axis
Obata, Yuuki, Murray, A., Pachnis, V. 2016 Long-Term Fellow

14:39-14:42 How do the semicircular canals of the inner ear form?
Munjal, Akankshi, Megason, S. 2016 Long-Term Fellow

14:42-14:45 Computational design of self-assembling protein nanomachines

14:45-14:48 Gas vesicles: gas-filled proteins as reporters for noninvasive cellular imaging
Shapiro, Mikhail G., Schröder, L. 2016 Program Grant

14:48-14:51 Architecture and mechanics of the macrophage podosome
Bouissou, A., Proag, A., Labernadie, A., Le Cabec, V., Bourg, N., Pingris, K., Balor, S., Thibault, C., Vieu, C., Lévéque-Fort, S., Poincloux, R., Maridonneau-Parini, Isabelle 2016 Program Grant

14:51-14:54 Interactions among marine microbes as they grow and die: linking experiments and genome-scale models
Grossart, Hans-Peter, Sher, D., Segre, D., Voss, M. 2016 Program Grant

14:54-15:07 In depth two photon optogenetics with millisecond temporal resolution and single cell precision
Emiliani, Valentina E., Boyden, E., Li, B., Katz, O. 2016 Program Grant

15:07-15:00 The soft side of extra-cellular vesicles
Sorkin, Raya, Huisjes, R., Vorselen, D., Ofir-Birin, Y., MacKintosh, F., Regev-Rudzki, N., Schifferlers, R., Wuite, G. 2015 Long-Term Fellow

15:00-15:03 Active contractions in microtubule networks
Fürthauer, Sebastian, Foster, P.J., Shelley, M.J., Needleman, D.J. 2014 Cross-Disciplinary Fellow

15:10-17:30 Poster Session 3 (with refreshments)
Invited Lecture (Chair: Warwick Anderson)

17:30-18:30  tbc
*The Hon. Dr. Annabelle Bennett AO SC, Bond University, Robina, Australia*

19:30  Farewell reception - Altis Grand Hotel