Summerschool 2018: “Neural circuit development and plasticity”

Course organization:

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. C.J. Wierenga</td>
<td>UU</td>
<td>Director</td>
</tr>
<tr>
<td>Prof. dr. R.J. Pasterkamp</td>
<td>MCU</td>
<td></td>
</tr>
<tr>
<td>Dr. L.C. Kapitein</td>
<td>UU</td>
<td></td>
</tr>
<tr>
<td>Dr. H. MacGillavry</td>
<td>UU</td>
<td></td>
</tr>
</tbody>
</table>


Goal and topic of the Summerschool

Our summerschool is aimed at advanced master students and starting PhD students with the goal to teach them on recent advances in neural circuit development and plasticity from an interdisciplinary perspective. This will be achieved in three ways: first a series of lectures covering the basic principles of axonal and synaptic development and plasticity, second, by a series of lectures by renowned international speakers to provide knowledge to the participants and third, participants work on assignments that require extensive discussion between the lecturers, staff and participants. The topics will range from early developmental events required for neural circuit development to aspects of synaptic plasticity. More specifically, among others the following topics will be addressed: axonal growth and guidance, synapse formation, synaptic transmission, neural plasticity, membrane trafficking and transport, regeneration and degenerative disease.

Our main goal of this summerschool is to inspire young scientist at an early stage of their career by providing them with new insights, provocative thoughts and a networks of peers. Participants of this summer school will be informed on the latest developments in the field of neural circuit development and plasticity (lectures), but will also learn how experienced experts in the field address problems, formulate research questions and design experiments (workshop).

Lectures will include both basic research and preclinical examples. The topics will be addressed from different angles (molecular, cellular and systems), levels (from single neurons to the level of neuronal networks in vivo) and approaches (imaging, biochemistry, mouse genetics, electrophysiology).

Active participation of students

We can maximally accommodate 40 attendants. Students from all over the world can apply and will be selected by the organizers based on the suitability of their background and excellence. The summerschool aims at the level of advanced master/starting PhD student level with basic neuroscience and molecular biology knowledge. In the afternoon sessions, workshops are organized in which students will engage in discussions with the speakers, are challenged to come up with a research proposal, or further deepen their knowledge on relevant techniques. They will learn how experienced experts in the field address problems, formulate research questions and design experiments. The combination of high-quality lectures and lively scientific interactions was highly appreciated by participants and speakers in the previous years.

Location

All lectures and workshops will take place in the Booth room at the 1st Floor of the University Library, Heidelberglaan 3, Utrecht.
Monday July 2
Lectures by the organizers 'Basic principles of neuronal development and function'

09:00 – 09:15 hr  General introduction and welcome
09:15 – 10.00 hr  Jeroen Pasterkamp
10.00 – 10:45 hr  Student presentations (group 1)
10:45 – 11:00 hr  Coffee
11:00 – 11:45 hr  Lukas Kapitein
11.45 – 12:30 hr  Student presentations (group 2)
12:30 – 14:00 hr  Lunch with speakers
14:00 – 14:45 hr  Harold MacGillavry
14:45 – 15:30 hr  Student presentations (group 3)
15:30 – 16:15 hr  Corette Wierenga
16:30 – 21:00 hr  welcome BBQ (in 'the Basket')

Tuesday July 3
'Neuroimaging and Biophysics'
Organizer: Lukas Kapitein

09:00 hr  Introduction of the topic/speakers by the organizer
09:00 – 10:00 hr  Elizabeth Carroll
10:00 – 10:30 hr  Coffee
10:30 – 11:30 hr  Kristian Franze
11:30 – 12:30 hr  Alison Twelvetrees
12:30 – 14:00 hr  Lunch with speakers
14:00 – 17:00 hr  Workshops

Wednesday July 4
'Axon growth and guidance'
Organizer: Jeroen Pasterkamp

10:00 hr  Introduction of the topic/speakers by the organizer
10:00 – 11:00 hr  Britta Eickholt
11:00 – 11:30 hr  Coffee
11:30 – 12:30 hr  Fabrice Ango
12:30 – 14:00 hr  Lunch with speakers
14:00 – 15:00 hr  Jean-Francois Cloutier
15:00 – 17:00 hr  Workshops

Thursday July 5
'Synapse structure and function'
Organizer: Harold MacGillavry

09:00 hr  Introduction of the topic/speakers by the organizer
09:00 – 10:00 hr  Thomas Biederer
10:00 – 10:30 hr  Coffee
10:30 – 11:30 hr  Ingo Greger
11:30 – 12:30 hr  Ira Milosevic
12:30 – 14:00 hr  Lunch with speakers
14:00 – 17:00 hr  Lab visits in Utrecht
Friday July 6
‘Synaptic plasticity’
Organizer: Corette Wierenga

09:00 hr      Introduction of the topic/speakers by the organizer
09:00 – 10:00 hr  Andreas Vlachos
10:00 – 10:30 hr  Coffee
10:30 – 11:30 hr  Laura Cancedda
11:30 – 12:30 hr  Pablo Castillo
12:30 – 14:00 hr  Lunch with speakers
14:00 – 17:00 hr  Workshops
17:00 – 19:00 hr  Farewell drinks

Organizers
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corette Wierenga</td>
<td>UU</td>
<td><a href="http://cellbiology.science.uu.nl/research-groups/corette-wierenga">http://cellbiology.science.uu.nl/research-groups/corette-wierenga</a></td>
</tr>
<tr>
<td>Jeroen Pasterkamp</td>
<td>UMCU</td>
<td><a href="http://www.jeroenpasterkamplab.com">http://www.jeroenpasterkamplab.com</a></td>
</tr>
<tr>
<td>Lukas Kapitein</td>
<td>UU</td>
<td><a href="http://cellbiology.science.uu.nl/research-groups/lukas-kapitein">http://cellbiology.science.uu.nl/research-groups/lukas-kapitein</a></td>
</tr>
<tr>
<td>Harold MacGillavry</td>
<td>UU</td>
<td><a href="https://macgillavrylab.com/">https://macgillavrylab.com/</a></td>
</tr>
</tbody>
</table>

Speakers
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kristian Franze</td>
<td>Cambridge University, UK</td>
<td><a href="http://www.neuroscience.cam.ac.uk/directory/profile.php?franze">http://www.neuroscience.cam.ac.uk/directory/profile.php?franze</a></td>
</tr>
<tr>
<td>Alison Twelvetrees</td>
<td>Sheffield University, UK</td>
<td><a href="http://sitran.org/people/dr-alison-twelvetrees/">http://sitran.org/people/dr-alison-twelvetrees/</a></td>
</tr>
<tr>
<td>Elizabeth Carroll</td>
<td>Technical University Delft, NL</td>
<td><a href="http://www.elizabethcarroll.org/">http://www.elizabethcarroll.org/</a></td>
</tr>
<tr>
<td>Britta Eickholt</td>
<td>Charité – Universitätsmedizin Berlin, Germany</td>
<td><a href="https://www.neurosignallab.com">https://www.neurosignallab.com</a></td>
</tr>
<tr>
<td>Jean-Francois Cloutier</td>
<td>Montreal Neurological Institute and Hospital, Canada</td>
<td><a href="https://www.mcgill.ca/neuro/research/researchers/cloutier">https://www.mcgill.ca/neuro/research/researchers/cloutier</a></td>
</tr>
<tr>
<td>Thomas Biederer</td>
<td>Tufts University, Boston, USA</td>
<td><a href="http://biederer.org/thomas-biederer/">http://biederer.org/thomas-biederer/</a></td>
</tr>
<tr>
<td>Ingo Greger</td>
<td>MRC Laboratory of Molecular Biology, Cambridge, UK</td>
<td><a href="https://www2.mrc-lmb.cam.ac.uk/group-leaders/a-to-g/ingo-greger/">https://www2.mrc-lmb.cam.ac.uk/group-leaders/a-to-g/ingo-greger/</a></td>
</tr>
<tr>
<td>Ira Milosevic</td>
<td>European Neuroscience Institute, Goettingen, Germany</td>
<td><a href="https://www.uni-goettingen.de/en/419893.html">https://www.uni-goettingen.de/en/419893.html</a></td>
</tr>
<tr>
<td>Andreas Vlachos</td>
<td>University Freiburg, Germany</td>
<td><a href="http://www.sgbm.uni-freiburg.de/index.php?option=com_zooprofiles&amp;task=UserProfile&amp;user=15026&amp;Itemid=">http://www.sgbm.uni-freiburg.de/index.php?option=com_zooprofiles&amp;task=UserProfile&amp;user=15026&amp;Itemid=</a></td>
</tr>
<tr>
<td>Laura Cancedda</td>
<td>Istituto Italiano di Tecnologia</td>
<td><a href="https://www.iit.it/people/laura-cancedda">https://www.iit.it/people/laura-cancedda</a></td>
</tr>
<tr>
<td>Pablo Castillo</td>
<td>Albert Einstein College of Medicine, New York, USA</td>
<td><a href="http://www.einstein.yu.edu/faculty/8363/pablo-castillo/">http://www.einstein.yu.edu/faculty/8363/pablo-castillo/</a></td>
</tr>
</tbody>
</table>