SPP 1926

Next Generation Optogenetics

Tools and Application

Deutsche Forschungsgemeinschaft

2nd funding period ● Kick-off Meeting

23.-25.09. September, 2020

Frankfurt Main

www.spp1926.org

SPP 1926 Kickoff Meeting 2nd Funding Period, 23-25 September 2020

Frankfurt am Main, H4 Hotel Frankfurt Messe, Oeserstr. 180

23th September 2020, Wednesday

Before 14.00 Arrival and Check-In

14.00 **Welcome, general info on SPP1926, Steering Committee** (A. Gottschalk)

Project Proposals / report on state of the art (25, 30 or 35 min + 10 min discussion)

Chair: A. Gottschalk

14.30 **Project 1b:** **Baier / Bernal Sierra / Schneider-Warme / Seifert (35 + 10 min)**
Development and application of RoCK, a novel Rhodopsin Cyclase/K+ channel-based optogenetic tool for silencing of excitable cells

15.15 **Project XX*:** **Nalbant/Dehmelt (25 + 10 min)**
Optogenetic manipulation of cell contraction signal network dynamics in tumors

15.50 break

Chair: A. Möglich

16.20 **Project XIX*:** **Huet / Moser (25 + 10 min)**
Optical Stimulation of the Auditory Pathway by Blue-Shifted Photoswitchable Glutamate Receptor Agonists

16.55 **Project XV*:** **Elstner / Hegemann / Rost (30 + 10 min)**
Engineering of Chrimson for Subcellular Optogenetic applications

17.35 **Project 11b:** **Soba / Wiegert / Yizhar (30 + 10 min)**
Optogenetic silencing tools for precise, all-optical analysis of synaptic circuits

18.15 Concluding 1st day, discussion

19.00 – 20.00 Dinner in the Restaurant

20.00 – 21.30 **POSTER SESSION**

21.30 – 23.00 **Get together in Hotel Restaurant (Please notice: All orders for one's own account)**

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* new projects 2nd funding period
Xa/b **continuation projects**

24th September 2020, Thursday

9.00		Announcements (if needed)
9.05	Organization I:	**Workshop organization (what do we want, what can we offer)**
9.40	**Project XIV*:**	**Vázquez/Kassel (25 + 10 min)** Photoswitchable cell-penetrating PNAs for the manipulation of quiescence during regenerative myogenesis
10.15		Break
10.45	**Project XXII*:**	**Rentmeister / Raz (25 + 10 min)** Control over mRNA translation by light-mediated uncaging of synthetic 5' caps in combination with fluorescent labeling of mRNAs for in vivo applications
11.20	**Project 5a/b:**	**Brügmann / Gerwert / Herlitze (30 + 10 min)** Tuning wavelength and G protein specificity of Melanopsin for optogenetic control of G protein signaling pathways.
12.00 – 13.30		Lunch
13.45	Organization II:	**SPP1926 Annual meetings, Travel Funds, gender equality measures, financial support & mentoring for young scientists, public outreach**
14.15	**Project XXI*:**	**Prevedel/Heppenstall (Pakalniskis) (15 + 10 min)** Development of new voltage imaging tools for studying mammalian neuronal plasticity in-vivo
14.40	**Project XVI*:**	**Griesbeck / Reiff (25 + 10 min)** Second generation genetically encoded photosensitizers and killers for systems neuroscience
15.15	**Project XVII*:**	**Hegemann (Broser) / Kleinlogel (25 + 10 min)** Shrimp Rhodopsins as new far-red absorbing optogenetic tools
15.50		Break
16.20	**Project 6a/b:**	**Gottschalk / Lehnart / Sasse (30 + 10 min)** Going full circle - optogenetic control of Ca^{2+} release from and reuptake into the endoplasmic reticulum
17.00	**Project 9a/b:**	**Mayer / Möglich (25 + 10 min)** Photoactivated RNA Binding in a Blue-Light Receptor Enables Optoribogenetics
17.35		Discussion / End of day 2
18.30 – 20.30		Dinner in the Restaurant
20.30	**Keynote / 'Fossil Lecture' by Peter Hegemann** (he coined that term, not me… AG)	
After that	**Get together in Restaurant (Please notice: All orders for one's own account)**	

Chair: S. Kleinlogel

Chair: F. Schneider-Warme

Chair: S. Herlitze

25th September 2020, Friday

9.00	Announcements (if needed)	
9.05	Organization III:	**Infrastructure and information exchange in SPP1926, Website, Joint recruitment**
Chair: A. Rentmeister		
9.20	**Project XVIII:**	**Lang / Sumser / Thorn-Seshold (30 + 10 min)** Photo/photoredox-switchable ligands as chemical tools for optogenetics
10.00	**Project 8a/b:**	**Di Ventura / Kassel (25 + 10 min)** Shedding light on myogenesis: using optogenetics to investigate myoblast differentiation and muscle regeneration
10.35	Break	
Chair: A. Gottschalk		
11.05	**Project 3:**	**Diester / Möglich / Ruther / Zurbriggen (25 + 5 min)** Red-light-regulated actuators for spatiotemporal control of opsin expression and modulation of cell-cell interactions within the prefrontal circuit during impulse control
11.35	**Project 7:**	**Rost / Hegemann (25 + 5 min)** Optogenetic induction of presynaptic plasticity
12.05	Wrap-up, final discussion, end of meeting	
12.15 - 14.00	lunch / farewell	

How to get there:

Venue: H4 Hotel Frankfurt Messe, Oeserstr. 180, Frankfurt am Main
https://www.h-hotels.com/de/h4/hotels/h4-hotel-frankfurt-messe/lage-umgebung
(link contains google maps location of Hotel)

By public transport:
From Frankfurt Central Station, take S-Bahn S1 (Wiesbaden) or S2 (Niedernhausen), get off at "Bahnhof Griesheim" or "Bahnhof Nied", then catch Bus line 59 to the stop "Neufeld" (from Griesheim, get bus 59 to 'Unterliederbach Cheruskerweg'; from Nied, get bus 59 to 'Griesheim Erzbergerstrasse').

Shuttle service from Frankfurt Airport to the Hotel (report to rentsch@em.uni-frankfurt.de)