Dopamine in optogenetic self-stimulation and CRISPR editing of FoxP

Björn Brembs

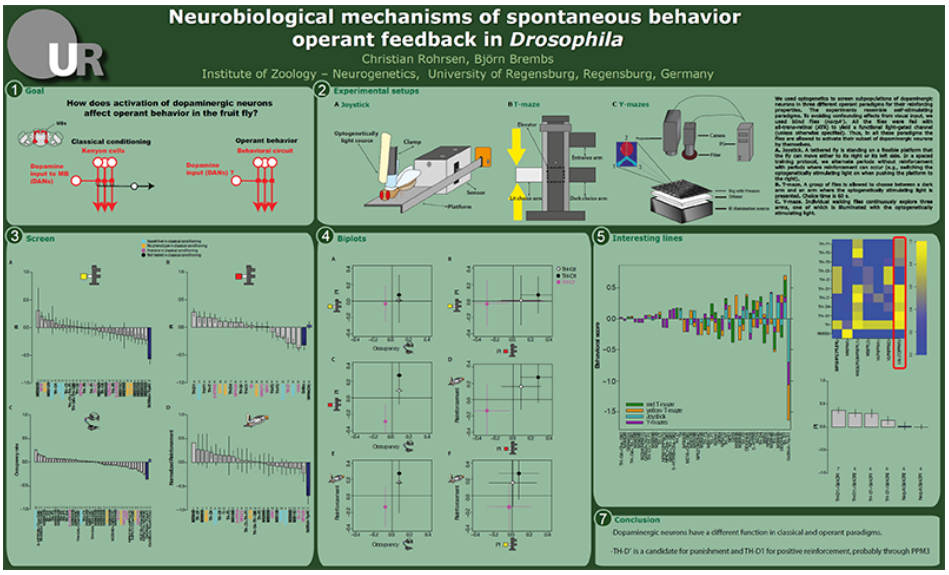
Published November 2, 2018

Citation

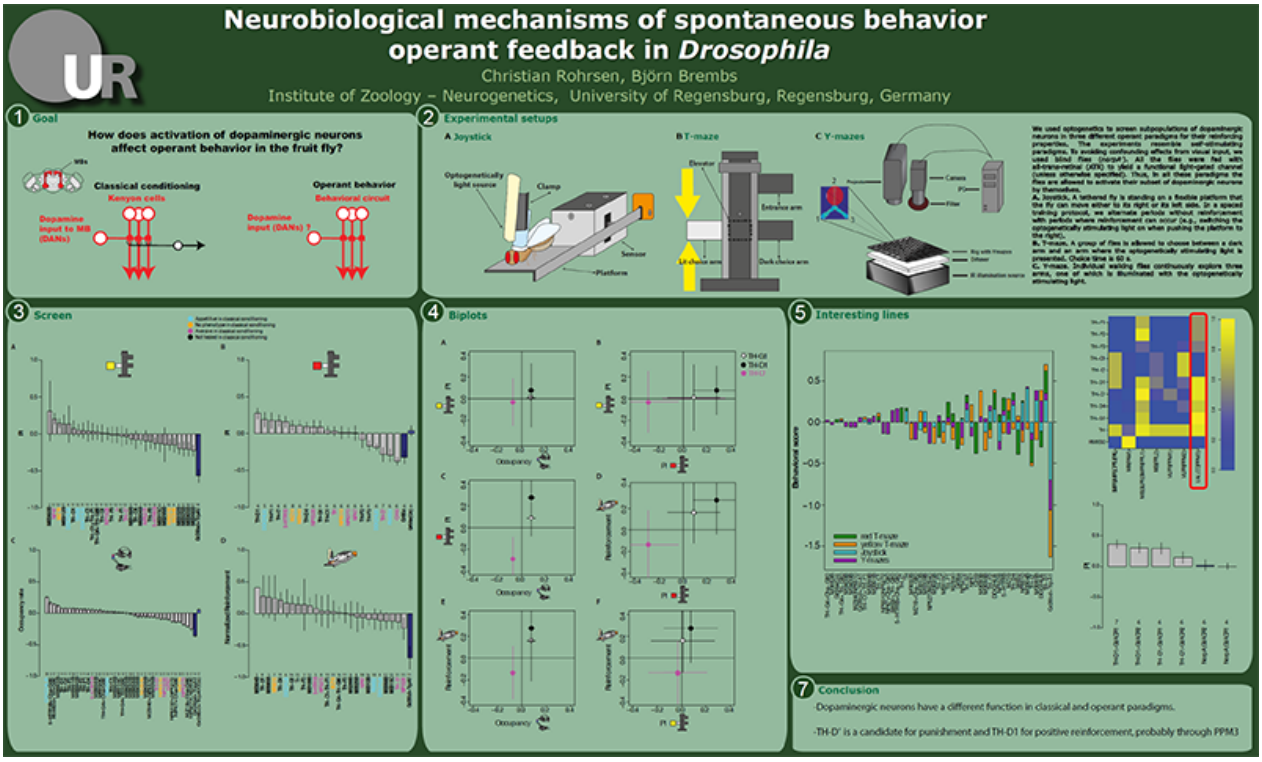
Brembs, B. (2018, November 2). Dopamine in optogenetic self-stimulation and CRISPR editing of FoxP. *Bjoern.brembs.blog*. https://doi.org/10.59350/8s809-an023

Keywords

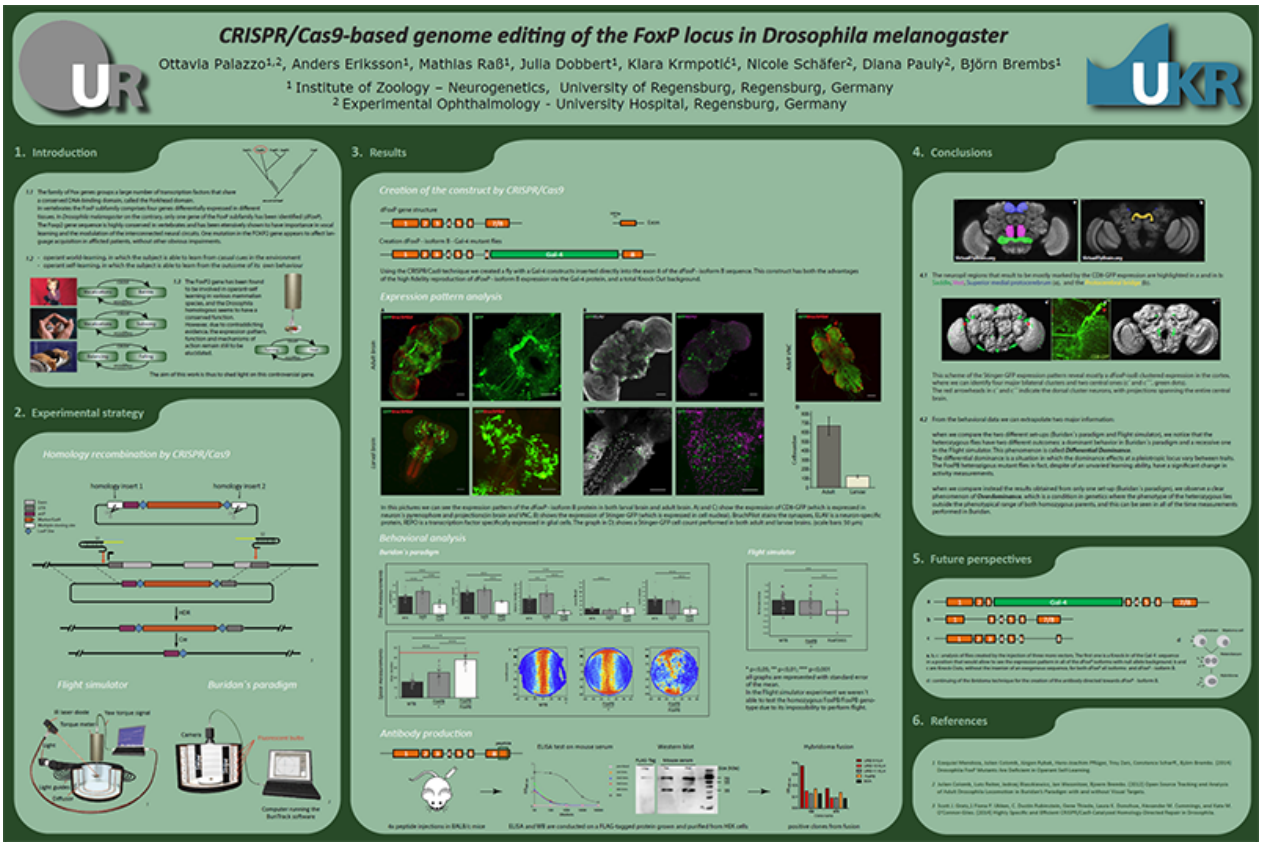
Own Data, Dopamine, FoxP, Optogenetics, Poster



This year we have two posters at the SfN meeting in sunny San Diego, Ca. The first poster is on Sunday morning, Nov. 4, **poster number 152.09, board QQ7**, entitled "Neurobiological mechanisms of spontaneous behavior and operant feedback in *Drosophila*". For this poster, Christian Rohrsen used three different optogenetic self-stimulation experiments to find out which dopaminergic neurons mediate reward or punishment, respectively.



The second poster is on Monday afternoon, Nov 5, **poster number 407.23, board UU1**, entitled "CRISPR/Cas9-based genome editing of the *FoxP* locus in *Drosophila*". For this poster, Ottavia Palazzo created several fly lines in which the *FoxP* gene locus was modified by, for instance, inserting a GAL4 reporter in place of important parts of the gene, creating loss-of-function alleles. Ottavia has created a range of useful constitutional and conditional manipulations and the first characterizations of the first constitutional lines are presented on this poster. Postdoc Anders Eriksson and intern Klara Krmpotic performed some of the behavioral tests and the monoclonal antibodies are being generated in the lab of Diana Pauly with the help of her graduate student Nicole Schäfer. Bachelor student Julia Dobbert helped with some of the molecular work and postdoc Matthias Raß taught and supervised all of Ottavia's and Julia's molecular work.


CRISPR/Cas9-based genome editing of the FoxP locus in Drosophila melanogaster
Ottavia Palazzo[1,2], Anders Eriksson[1], Mathias Raß[1], Julia Dobbert[1], Klara Krmpotić[1], Nicole Schäfer[2], Diana Pauly[2], Björn Brembs[1]
[1] Institute of Zoology – Neurogenetics, University of Regensburg, Regensburg, Germany
[2] Experimental Ophthalmology - University Hospital, Regensburg, Germany
UR
UKR
1. Introduction
2. Experimental strategy
Homology recombination by CRISPR/Cas9
homology insert 1
homology insert 2
Flight simulator
Buridan's paradigm
3. Results
Creation of the construct by CRISPR/Cas9
Expression pattern analysis
Behavioral analysis
Buridan's paradigm
Flight simulator
Antibody production
4. Conclusions
5. Future perspectives
6. References