Motivation letter

I hereby apply for the position "Wissenschaftliche Mitarbeiterin / Wissenschaftlicher Mitarbeiter" inside the programs HOS, D-17-198-199-200

Dear Ms. Rajski,

If you are looking for a creative scientist with IT knowledge, someone with a very strong background in (open) science, reproducible research and critical thinking, someone who is passionate about open FAIR data, someone who can understand the need of researchers, depict how an IT solution can help them perform their tasks efficiently and effectively, we should definitively meet.

I am an experienced neuro-geneticist with a decade of experience in complex behavioural data production and analysis in fundamental research, a field where one learns quickly that data quality and experiment speed are correlated positively. I am the first author of the first ever published paper with a living figure `https://f1000research.com/articles/3-176/v2`, and I have published all the data and code of my papers since 2009 (under CC0 licenses, mostly on Figshare, publications appeared of course in gold open access journals). My latest project is an open science project where I am developing a repository for home cage monitoring data (and its analysis using machine learning algorithms). I am using github, osf and zenodo as data storage and R (and shiny) as an interface to access and analyse the data `github.com/jcolomb/HCS_analysis`. Independently, I have been involved in project aiming at teaching data management and open science practices (`opensciencemooc.eu`, `https://www.youtube.com/watch?v=M-Zod8o7nTg`, `http://access2perspectives.com/julien-colomb/`). I was also very interested in ontologies, open linked data and semantic web solutions, while I did not had the possibility to participate in this effort directly, yet.

I am one of the few who have both a very strong background in life science research, a decent background in creating IT solutions to help the scientific process and experience in team and project management (I could put the concepts learned in the "Moderation & management" course during my time directing the animal outcome core facility). Independently, I have been running Drososhare GmbH and its IT solution development. (Drososhare is a web-platform aiming at facilitating peer to peer transactions of GMOs in the life sciences and make material descriptions of better quality in the literature.) During the last four years, I learned the difficulties in communicating one's wish to IT developers and how to be more effective at it. I got involved and interested in the Berlin startup communities, learning about agile development, business models and specificities of the scientists as customers. In addition, I am co-leading the open science berlin meetup group and was part of the march for science Berlin 2017 organisation team. I am also the happy father of two lovely children (4 and 1.5 years).

I am a quick learner, stress resistant and I like to work on ambitious projects lead by small teams. My current contract is a 50% position at the HU, it ends in March 2018 and I have no other remunerated activity at the moment. Since I left the lab in 2014, I have been trying to find new paths for my career and, as you see, I have been involved in many different projects in parallel. I have learned to manage my time and the team work more effectively and I am currently looking for a financially stable way to focus my energy on one single project.

In brief, I feel like if we would work together, we could make a difference in the open science landscape, in Hambourg and beyond, and I am looking forward to meet you in person.

Please reach to me for additional information.

Dr. Julien Colomb

Referees:

Prof. York Winter, Berlin, york.winter@charite.de

Prof. Bjoern Brembs, Regensburg, bjoern@brembs.net

Curriculum Vitae

Julien COLOMB, PhD in Biology
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Birth: 9 April 1979 in Sion (CH)
Married, two children
Swiss

Summary

After 12 years spent on fundamental research (neuro-genetics) in which I gathered skills in experimental design, team leading and student teaching, I got most interested in open science and research reproducibility as well as the digital tools helping scientists to achieve it. I would like to apply these novel knowledge to bring open science principles forward.

Research activities

2017 - present	Postdoctoral fellow, HU (**Berlin**, Germany), by Prof. Y. Winter Analysing mulitdimensional dataset: the homecagescan case.
2015 - 2016	Postdoctoral fellow, HU & Charité (**Berlin**, Germany), by Prof. Y. Winter Animal core facility director and project manager.
2014 - 2015	Postdoctoral fellow, HU & Charite (**Berlin**, Germany), by Prof. Y. Winter working on Phenobase.
2009 -2013	Postdoctoral fellow, FU (**Berlin**, Germany), by Prof. B. Brembs working on "the what and where of operant learning in *Drosophila*".
2007-2008	Postdoctoral fellow, ESPCI (**Paris**, France), by Dr. T. Preat working on "appetitive learning in *Drosophila*".

Commercial activities

2016-present	Freelance scientist, Animal core facility (Charité): organisation lead, data analysis in R, Phenobase (Exist, HU): literature curation.
2012-present	Founder and CEO of Drososhare GmbH (Berlin, Germany), facilitating fruit fly transactions between scientists

Education

2016	FELASA B. HU Berlin
2013	Moderation & management (Continuing Education), FU Berlin/Artop.
2006	PhD in Biology, University of Fribourg (**Fribourg**, Switzerland). PhD dissertation: “The chemosensory system of *Drosophila* larvae: neuroanatomy and behaviour” Thesis director: Prof. R.F Stocker

2002	Diploma in Biology, University of Fribourg (**Fribourg**, Switzerland)
1998	"Maturité fédérale type C" (scientific subsection), in the "Collège de la royale Abbaye de St. Maurice"

Languages

French (mother tongue), English (fluent), German (fluent), Spanish (basics).

Research output

8 research papers (7 first author), 3 reviews, 1 Scienceopen collection, 3 Open source software (2 main author), Meeting Presentations > 25
https://orcid.org/0000-0002-3127-5520
https://github.com/jcolomb

Supervision of student

2010-2014	Co-supervisor of the PhD student Christine Damrau (with Dr. B.Brembs) on the role of octopamine in reward, motivation and motor control in *Drosophila*.
2008	Co-supervisor of the PhD student Séverine Trannoy (with Dr. G. Isabel and Dr. N. Gervasi) on the role of dopamine in appetitive learning consolidation in *Drosophila*.
2005	Co-supervisor of the diploma work of Claire Huguenin (with Dr. A. Ramaekers) on the role of NO in olfactory discrimination in *Drosophila* larvae.

Teaching experience

2016	Animal models of neuropathy, (master student, 2x2h lecture, organisation)
2012	Genetik (bachelor student, 2 x 3 h. lecture, 2x 1h. seminar)
2012	Neurogenetik. (master student, 2 x 2 h. lecture, 2x 1h. seminar)
2011	Practical course neurobiology. (7 x 4 h., Practical course supervision)
2011	Entwicklung der Insekten [Insect development] (2 h. lecture)
2006	Fluorescence and Confocal Microscopy (master student, 3h. lecture)
2003-2006	Studying behavior. (master student, 2 h. lecture)
2003-2005	Developmental- and Neurogenetics (master student, 2 h. lecture).

Computer skills

Organisation: Outlook, Access, labfolder; *Publishing*: LaTeX, Office, overleaf, markdown, html, figshare; *Image processing*: Photoshop, Illustrator, Image J; *Programming and data analysis*: R, Rmarkdown, shiny, Git, Labview; *Collaborative working*: Github, redmine

Other tasks

Organisation of the Berlin Open Science meetup:
Part of the march for science Berlin Orga team:
Creation of the T. Preat's and R.F. Stocker's lab website.
Co-director in the theater group "les apostrophes" in 2006

RESEARCH PRODUCTS

Open source Software

- (2011-2013) CeTrAn 1.4 to 4.0, developed on Github (https://github.com/jcolomb/CeTrAn). Used for more than three research papers.
- (2016-2017) Viewer data concatenator and flystockcleaner (shiny apps).
- (2013-2017) Collaborating on osfR, Rfigshare and Rflybase (on github).

Peer review publications

Five most important publications:

- (2016). **Julien Colomb** and Björn Brembs.
" PKC in motorneurons underlies self-learning, a form of motor learning in Drosophila" PeerJ (e1971).
cited 3 times
- (2014). **Julien Colomb** and Björn Brembs.
"Sub-strains of Drosophila Canton-S differ markedly in their locomotor behavior". F1000RESEARCH (3:176).
cited 15 times
- (2009). **Julien Colomb**, Laure Kaiser, Marie-Ange Chabaud, Thomas Preat.
"Parametric and genetic analysis of Drosophila appetitive long-term memory and sugar motivation" Genes Brain and Behaviour (8 (4): 407-415).
cited 52 times
- (2007). **Julien Colomb**, Nicola Grillenzoni, Ariane Ramaekers, and Reinhard F. Stocker.
"Architecture of the primary taste center of *Drosophila melanogaster* larvae". J. comp. neurol. (502: 834-847).
cited 72 times
- (2007). **Julien Colomb**, Nicola Grillenzoni, Reinhard F. Stocker, and Ariane Ramaekers.
"Complex behavioural changes after odour exposure in *Drosophila* larva". Anim. Behav. (73 (4): 579-85).
cited 13 times

Other Publications

- (In revision). Christine Damrau, Naoko Toshima, Teiichi Tanimura, Björn Brembs **Julien Colomb**.

"Octopamine and Tyramine contribute separately to the counter-regulatory response to sugar deficit in Drosophila." Frontiers

- (2014). Ezequiel Mendoza, **Julien Colomb**, Jürgen Rybak, Hans-Joachim Pflüger, Troy Zars, Constance Scharff, and Björn Brembs.
"*Drosophila* FoxP mutants are deficient in operant self-learning". Plos One (9(6): e100648).

- (2012). **Julien Colomb**, Lutz Reiter, Jedrzej Blaszkiewicz, Jan Wessnitzer and Björn Brembs.
"Open Source Tracking and Analysis of Adult *Drosophila* Locomotion in Buridan's Paradigm with and without Visual Targets.". Plos One (7(8): e42247).

- (2010). **Julien Colomb**, Björn Brembs
"biology of psychology: "simple conditioning"" Communicative and Integrative Biology (3 (2): 142-145).

- (2008). **Julien Colomb**
"Discriminative learning, learning generalization and masking tests as three strategies to assess olfactory discrimination." Animal Behaviour: New Research 185-192

- (2007). **Julien Colomb***, Rüdiger Bader*, Bettina Pankratz, Anne Schröck, Reinhard F. Stocker, and Michael J. Pankratz.
"Genetic dissection of a neural circuit underlying feeding behavior in *Drosophila*: distinct morphology of single *hugin* expressing neurons". J. comp. neurol. (502: 848-856).
* the two authors participated equally to this work.

- (2007). **Julien Colomb**, Reinhard F. Stocker
"Combined rather than separate pathway for hedonic and sensory aspects of taste in *Drosophila* larvae." FLY (1 (4): 232-234).

Meeting presentations (4 most representative)

2016 Faster and more reproducible science: Open Science. ORAL PRESENTATION at the neurofly meeting, Creta, Greece.

2008 New insight into appetitive Long term memory in *Drosophila*. POSTER PRESENTATION at the FENS Forum, Geneva, Switzerland.

2006 Sub-regions in the primary taste center of *Drosophila* larvae. ORAL PRESENTATION at the 11th European Drosophila neurobiology Conference, Leuven, Belgium

Learning by odor exposure in agar plate. ORAL PRESENTATION at the behavioural neurobiology of *Drosophila* larvae meeting, Würzburg, Germany.

2002 Functional studies of the chemosensory system of the *Drosophila* larva using a new tool: the GAL4 / UAS-shi^{ts} system. ORAL PRESENTATION at the Swiss Drosophila meeting, Basel, Switzerland.