

Protocol

DFG Research Unit FOR2281

Satellite Symposium (International IUSSI Conference)



So – Long

SOCIALITY AND THE REVERSAL OF THE
FECUNDITY/LONGEVITY TRADE-OFF

08th of August 2018 in Guarujá, Brazil
(2 PM – 6 PM)

Participants: Dr. Abel Bernadou (TP 04, Postdoc, Regensburg), Alice Séguret (TP 09, PhD student, Halle), Dr. Barbara Feldmeyer (TP 03, PI, Mainz/Frankfurt), Dr. Boris Kramer (TP 10, Postdoc, Groningen, NL), Daniel Elsner (TP 05, PhD student, Freiburg), Florentine Schaub (CORE Project, Coordinator, Freiburg), Prof. Dr. Judith Korb (TP 05, PI & Speaker, Freiburg), Prof. Dr. Jürgen Heinze (TP 04, PI, Regensburg), Dr. Karen Meusemann (CORE Project, Postdoc, Freiburg), Dr. Mark Harrison (TP 01, Postdoc, Münster), Matteo Negroni (TP 03, PhD student, Mainz), Prof. Dr. Susanne Foitzik (TP 03, PI, Mainz)

Associated researchers: Dr. Eckart Stolle (associated 2nd funding phase, Halle), José Manuel Monroy Kuhn (PhD student, Freiburg), Dr. Romain Libbrecht (PI 2nd funding phase, Mainz), Dr. Volker Nehring (associated 1st funding phase, PI 2nd funding phase, Freiburg)



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1. Welcome by J. Korb

2. General Discussion of Problems

Updates

Updates of each project were presented during the IUSI congress (talks/posters). Thus, there were no separate presentations during the RU meeting.

Problems/questions

B. Kramer: The elongation process for his contact in Groningen is unclear. He asks whether he can start later if he has to take a break in between his contracts. According to J. Korb the DFG is flexible with the starting point.

General:

- Discussion whether it is better to use genes or isoforms for DEG analyses and publications. According to different experiences, all projects agree that it is depending on the reviewers if a paper is rejected using the one or the other level.
- Discussion whether PhD students of the 2nd funding phase could/should be involved in finishing data analysis of the projects of the 1st funding phase PhD students'. Each project agreed that Master students should analyze these data if needed and possible; alternatively current PhD students finalize their analyses/papers themselves having (hopefully) a Postdoc position (→ RU follow up publications).

Journals

- There is no general rule what journals appreciate transcriptome data combined with other e.g. behavioral data; journals in which such papers got accepted were recently *Mol. Ecol* and *Proc B*.
- Behavioral studies combined with transcriptome data might yet be tricky to publish depending on journal and reviewers.
- Nevertheless, each project should choose a journal for publications according to what question/topics is asked/are investigated, not according to the methods used.
- For projects on ageing, *Exp. Gerontol.* is a suitable journal. This journal mainly focuses on articles concerning ageing in humans, yet, it would be desirable to get articles published (→ high impact journal, link with human-ageing-community so that the RU gets more recognition).

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Data storage & BGI (K. Meusemann)

- Data of the 1st and 2nd funding phase need to be stored and backed up together!
- Each project should check the transcriptome data a) when they receive it via Freiburg on the hard drive and b) in NCBI/EMBL once submitted: sometimes they don't release data although papers are accepted/published; sometimes they release data earlier although unpublished and with an embargo.
- During the 1st funding phase data download online (ftp or service BGI) often did not work. So, data were (and will be) sent on a hard drive to Freiburg (which has to be paid extra), where a backup will be made before sending them out to the respective projects.
- Mixing with no RU-project data must be avoided.
- TP 09 (A. Séguret) is the last project within the 1st funding phase that will send samples to BGI soon.
- We have a new project manager at BGI: Peter Liu, peter.liu@bgi.com. Contact has been sent around by K. Meusemann and will be sent around again once the 2nd funding phase has started.

Competing groups

Concerns about competing groups investigating ageing (e.g. France, Laurent Keller lab): advantage of the RU: has experimental data and comparative approach. Nevertheless, pressure is increasing.

Networking outside the RU

It might be important to get in contact with groups/people that work on ageing in general (incl. humans). Therefore at an upcoming RU a suitable person from this area will be invited. Yet there is recognition of our work also by people working on gerontology in humans (see response after the Elsner et al. 2018 paper).

Juvenile Hormone

Klaus Hartfelder cannot do JH measurements anymore, as the JH III antibody is no longer available. He will still be associated with the RU. If RU members are interested in investigating JH samples, they should contact J. Korb. She will contact Colin Brent who is already collaborating with the Freiburg group.

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3. RU's 2nd funding phase (J. Korb)

1) Selection process of new PhD students

- Candidates should decide in case they were offered several positions within the RU.
- A final decision which person will be hired for the 2nd funding phase has to be made by August 15th, 2018. J. Korb will then inform all applicants who did not get a position.

2) Kick-off meeting (F. Schaub)

- Date: September 03 – 05, 2018
- Venue: Hotel Lahnschleife, Weilburg/Lahn, D
- Costs: Travel & accommodation for all “old” RU members, “new” PhD students as well as for “old” and “new” associated scientists are covered by the CORE project.
- Plan: 03.09. arrival & dinner, 04.09. meeting, 05.09. meeting until lunch & departure.

3) Organization/structure of the Kick-off meeting (J. Korb)

- Introduction of RU frame (J. Korb)
- Posters from Assessment Meeting:
- PhD student present 1st funding phase & PI present 2nd funding phase to the “new” PhD student (for each project separately, at the same time in the same room).
- General Poster Session so that all can float around and look at other projects)
- Re-assemble in Foci A, B, C discussion groups with the new PhD students
- Re-assemble all RU members
- Time for a get together of “old” and “new” PhD students
- Discussion about experimental design (all RU members)
- Discussion about potential summer schools – they should be better guided in terms of organization. F. Schaub will help in organizing the first one.

A detailed schedule is following soon.

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4) WIKI (K. Meusemann)

- The WIKI will be moved to another provider in September/October as Wikispaces will close (probably to iNETsolutions.de). After the official start of the 2nd funding phase, the projects (incl. staff) will be updated – old projects and members will be moved to a page “1st funding phase”. With moving the WIKI/Homepage, everyone has to newly register. K. Meusemann will provide an update at the Kick Off meeting and later via email.
- Every RU member has to register finally at the WIKI (still two members did not register yet)! All important information is provided rather via the WIKI than via email.
- People leaving the RU (e.g. PhD students of the 1st funding phase + PIs) will continue to have access to the WIKI.
- We will keep the public page as simple as possible (= official RU homepage).

5) Logistics

- The funding of DFG starts officially at October 1st, 2018 and ends at September 30th, 2021.
- An overlap of PhD students from the 1st and 2nd funding phase is desirable for all projects since PhD students of the 1st funding phase can then introduce the PhD students of the 2nd phase.
- PhD students from the 1st funding phase can attend the 2nd phase meetings. Their travel and accommodation costs will be covered by the CORE project.

6) Sequencing

- The contract with BGI for transcriptome sequencing will soon be negotiated by J. Korb. In order to get a good deal alternative companies will be contacted for quotes. These include: Genewiz (Leipzig), Genome (Quebec), NovoGene (China).
- It is undesirable to change the company for the 2nd funding phase because of problems with comparability, data handling, proper communication and coordination.
- Which sequencing platform will be used has still to be clarified: most like Illumina Hiseq 4000 (150bp + Spike in control); as Illumina XTEN seems still to have various problems (see: <https://genohub.com/ngs-instrument-guide/>; <http://www.opiniomics.org/hiseq-move-here-comes-nova-a-first-look-at-illumina-novaseq/>).

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7) Joint papers

MSs in progress were discussed

- J. Korb, J. Heinze & B. Kramer are interested in publishing an entry on 'Aging' in the *Encyclopedia of social insects*. Deadline is mid Sept. J. Heinze will contact B. Kramer and J. Korb.
- TI J LiFe Ms (main responsible persons: J. Korb, T. Flatt, K. Meusemann). Paper in progress; aimed journal: *Mol Ecol*. (analyses are based on the PCA loadings).
- Comparative Genes/Pathway (main responsible persons: M. Harrison, K. Meusemann, J. Korb). Only old & young individuals from each taxon should be used. In progress/planning.
- Oxidative stress (main responsible persons: A. Bernadou, B. Kramer, A. Buttstedt, J. Heinze). The data are comparable across the RU species. There was no significant effect
 - All data analysis need to be synthesized across the RU species.
 - Each project has to send a few sentences concerning sample generating to A. Bernadou.
 - K. Meusemann will send A. Bernadou a short summary of the DNPH approach done in Halle in 2017 (see also: <http://so-long.wikispaces.com/WetLab>).

8) Other ideas/available data for joint papers

It was discussed which other comparative MSs might be possible

- Egg removal experiments & fitness measures (fitness data available for Temnothorax, Cryptotermes; transcriptome data available here as well for Temnothorax, Cryptotermes (queens & workers)).
- Food restriction experiments and data. Available for Temnothorax, Cryptotermes, Platythyrea.
- Paraquat experiments and data. Available for Temnothorax, Macrotermes, Platythyrea.
 - TPs working on Temnothorax and Platythyrea will first publish a stand alone paper each.
- Workload. No comparative paper possible.
- Juvenile Hormone. A. Bernadou, V. Nehring, A. Séguret are interested in getting data.

For all these potential papers: we will wait until the individual projects have published their results and then we will evaluate whether it is useful to add a joint comparative paper. J. Korb will send around a table where each project needs to fill in the availability of data.

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9) Transcriptomics

For future analysis it is very important that the following details are noted:

- Time of day when killing the individual for RNA extraction
- Person who kills the individual
- Person who performs the RNA extraction

10) Workshops for PhD students

During the 2nd funding phase the following workshops should be organized:

- Transcriptomics & DEG analyses: One week, incl. introduction to Linux/command line, R, easy scripting; may include discussion on experimental design; 1. workshop, most likely in Freiburg (infrastructure already available).
- Modelling: in Groningen
- Open topic: Will be decided by PhD students.

11) Annual meeting

During the 2nd funding phase, a speaker presenting backgrounds and problems concerning RNAi could be invited, e.g. Miriam Rosenberg (Israel).

12) Summer school

- For the 2nd funding phase there is money to organize two summer schools.
- They should mainly be organized by the PhD students.
- PhD students from the 1st funding phase reflect the problems they had in terms of planning a summer school. Major problem: lack of experience in organizing incl. infrastructure. Therefore F. Schaub will help the new students in organizing the 1st summer school (accommodation, venue, organizational guidance etc.).
- Possible topic: Gene Pathways
- Necessary beforehand: Set date & location. Idea for a location: Schieferpark, Thüringen.
- Details will be discussed during the Kick-off meeting.

J. Korb closed the meeting by thanking the participants and F. Schaub for organizing at 6 pm.

Judith Korb, Karen Meusemann, Florentine Schaub

Freiburg, August 22nd, 2018