



## ***Newsletter November 2013***

Welcome to the 2nd edition of the PopGen ALUMNI newsletter!

### ***Recent events***

The 2013 **introductory course** was held in September and October. Among our new students and several other participants from the Vienna area, the course had also attracted a PhD student from New Zealand to undertake the long travel to Vienna. The October course week saw a new participant record with 13 early-stage researchers (ESRs) of the INTERCROSSING Marie Curie Training Network joining the locals, summing up to 24 participants.

The **welcome event** for our PopGen freshmen took place in September. New and more senior students explored a historical festival at **Schloß Neugebäude** in the 11th district and enjoyed special Schnitzel creations at a candle-lit restaurant nearby. Details about our new student's projects can be found on the website: <http://www.popgen-vienna.at/people/students.html>



This year we moved our traditional **retreat** location from Feuerkogel a bit towards the South: we spent a social weekend with seminar talks at a cosy hut village in the Salzkammergut at Altaussee, at the foot of the Styrian Loser

plateau. 33 registered participants (PhD students, postdocs, faculty and associated guests of The Vienna Graduate School of Population Genetics) enjoyed an inspiring weekend with seminars, discussions, brainstorming and hiking.



## ***Alumni careers***

As reported in the 1<sup>st</sup> edition of the Newsletter, our graduates keep landing great positions at excellent institutions:

### **Recent Graduates:**

**Nicola de Maio** (Advisors Carolin Kosiol/Christian Schlötterer) defended his thesis "*Accounting for Genomic Variation in Phylogenetic Substitution Models*" in September 2013. Nicola now works as postdoc with Daniel Wilson at the Nuffield Department of Medicine (University of Oxford).

**Saad Arif** (Advisors Alistair McGregor/Christian Schlötterer) finished his degree at Oxford Brookes University in July and moved to Tübingen's MPI to work with Felicity Jones.

## ***Alumni lab portraits***

We feature a brief report about one of PopGen's graduate and faculty alumni in every Newsletter (last edition: Alistair McGregor).

This time, we asked former faculty **Thomas Flatt** to tell us about his professor position and growing group at the University of Lausanne:

*"We have now been (at least several of us) in Lausanne for almost a year, and we are enjoying the new place (especially the stunning view of the beautiful lake and mountains) a lot. Things are really very good here, both in terms of life and research, but we obviously also miss many great things about Vienna and about the Institute and Graduate School, especially the stimulating*



discussions and chats in the corridor, the fantastic array of excellent external speakers (two things also mentioned by Alistair and with which I completely agree), and the amazing local expertise in NGS and bioinformatics we had direct access to at the Institute. Needless to say that some of us also miss the famous Wiener Schmäh, the many amazing buildings, museums, great bookshops, restaurants, bars and Heurigen, iconic gastronomic items such as Käsekrainer, Wiener Schnitzel, Tafelspitz, Kaiserschmarrn, Rotes Zwickl, etc. and also the generally much more affordable costs of living. But Lausanne also has plenty of nice cultural, recreational and gastronomic things to offer, so we won't complain too much. Workwise, our team has some new faces (as well as some you know already from Vienna), and we are pretty happy new crew. Since our move, we have continued our work on *Drosophila* aging and life history, now with a stronger focus on analyzing the contribution of candidate genes and natural polymorphisms (as identified by pool-seq, including inversion polymorphisms) to clinal life history phenotypes and to lifespan in both natural and artificially selected populations. We have also recently embarked on some new work looking at the physiological role of couch potato, a gene involved in diapause. So, I'd say, life and research continue to be fun and interesting for us!"



**Thomas' lab:** *Evolution & Mechanisms of Aging and Life History*  
Department of Ecology and Evolution  
University of Lausanne

<http://www.unil.ch/dee/page95005.html>

[http://www.unil.ch/dee/page94630\\_en.html#1](http://www.unil.ch/dee/page94630_en.html#1)

## ***Out of sight, out of mind?***

### ***Experiences of our students abroad***

Many of our students choose to spend 3 months in foreign labs during their study time. In each of the Newsletters one of them tells us about their experiences.

**Christian Huber** (advisors Ines Hellmann and Magnus Nordborg) was hosted by Rasmus Nielsen as guest student at the **University of California Berkeley** from September to December 2012:

"I have been visiting Rasmus Nielsens group in Berkeley, California, for 3 months. When I first met Rasmus to discuss what I could work on during my stay, he proposed me an interesting idea: a popular method for detecting selective sweeps in genomic data considers the allele frequency distribution of polymorphic sites, and how that distribution changes across the genome. However, the mathematical model can be extended to include invariant sites (sites where all individuals in the sample have the same nucleotide). This way one can utilize the reduction in diversity as a powerful pattern to discriminate sweeps from neutral fluctuations. My task was to implement and test this extension and also think about ways to make this approach robust against factors that also influence local diversity, like mutation rate variation or background selection. I found it valuable to experience the working style in Rasmus' lab, with a very flat hierarchy and a lot of interactions and discussions (involving popgen heroes like Monty Slatkin or Joe Felsenstein).

I also enjoyed the exposure to different cultures and lifestyles in Berkeley, especially the diverse range of excellent Asian food places available. One weird experience was watching baseball in a bar one night. I had considered it a very simple game before, but apparently there are many, many rules to follow, and exceptions to just about every one of them. People would try to explain them to me, but end up in arguments about their right interpretation. Paradoxically, there never seemed to be much going on, and players would more often stand around than actually doing something (I suspect that they are afraid of doing something wrong). Still, occasionally and unpredictably people would get very excited about the progress of the game :)

The picture shows me in the Yosemite park, which is not far away from the Bay Area. In the back you can see the "El Capitan", a vertical and very impressive rock formation that is one of the world's favourite challenges for rock climbers (I felt already quite uncomfortable standing on this rock about 1m above ground)."



### ***Upcoming events***

We're hosting this year's **Mind The Gap** meeting on 1st and 2nd of November!

MIND THE GAP aims at bringing together theoretical and empirical population geneticists. This conference is the fourth meeting in a series of conferences held in Freiburg (2009), Plön (2010), and Cologne (2011). As in these past meetings, there are different main topics for this conference. This year's themes are:

- Viral and Predictive Evolution
- Experimental Evolution
- Signatures of Complex Selection
- Introgression, Hybrid Zones, and Clines

We're expecting 125 participants, and a number of well-known speakers. Details can be found on our website:

<http://www.popgen-vienna.at/news/mindthegap.html>

The **X-Mas event** is in its planning phase. A brief report will be featured in the next Alumni News.

### ***Upcoming seminars***

We're looking forward to talks this winter by **Ville Mustonen, Asger Hobolth, Darren Obbard, Mohammed Noor, Julius Brennecke, Veronika Sexl, Thomas Lenormand, Virginie Orgogozo and Bruce Rannala.**

## ***Publications of our students***

New publications from our students since the last Newsletter edition in August:

**Raymond Tobler**, S. Franssen, R. Kofler, P. Orozco-terWengl, V. Nolte, J. Hermisson, and C. Schlötterer (2013) Massive habitat-specific genomic response in *D. melanogaster* populations during experimental evolution in hot and cold environments. *Mol Biol Evol* (accepted)

**Nicola De Maio**, C. Schlötterer, and C. Kosiol (2013) Linking great apes genome evolution across time scales using polymorphism-aware phylogenetic models. *Mol Biol Evol* 30(10):2249-62.

**Peter M. Klepsatel**, Martina Gáliková, **Nicola De Maio**, **Christian D. Huber**, C. Schlötterer, and T. Flatt (2013) Variation in thermal performance and reaction norms among populations of *Drosophila melanogaster*. *Evolution* (in press)

***Have a lovely autumn!***