Molecular Population Genomics
26 March and 9 April 2020
Overview of Lectures & Exercises

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Dear Evolutionary Genomics Students:

We hope this finds you well. My postdoc Margot Paris and I are teaching our part of this course on evolutionary genetics for the first time this year. As you know, we were supposed to give you lectures and tutorials on molecular population genomics, covering some concepts and subjects building on and going a bit beyond what Vitor has presented to you already. Unfortunately, due to the COVID-19 crisis, we cannot meet you in person and we feel very sorry about this - we were really looking forward to interacting with you directly! Instead, Margot and I will try to **"teach" you remotely**. We will do this in several different ways:

(1) Via direct **online lecturing & tutoring**, on **26 March 2020** and on **9 April 2020**, via video conference, using the **zoom software**. Please download the zoom software to your computer (https://zoom.us/download) and test it out / explore it on your computer. With this software Margot and I will give our lectures online in real time and go through our slides with you in screen sharing mode. On the dates/times below you can access the online lecture / tutorials using this **zoom link**: https://zoom.us/j/4823793519 (please do not access this link before the dates/times mentioned below). If you cannot participate you can always check out our slides "offline" and we also give you other ways of accessing the course materials below.

On **26 March 2020**, starting at **09:15 AM**, you can access the above **zoom link** and we will give you **3 online lectures,** with several shorter and longer offline breaks in-between: (a) Genetic variability and its measurement; (b) Recombination, linkage disequilibrium, and population structure, and (c) Detecting selection and adaptation genomics.

On **9 April 2020**, starting at **09:15 AM**, you can access the above **zoom link** and we will do an **online tutorial**, led by Margot. This will consist of performing some simple **exercises in *R* (see dropbox mentioned below) in real time** and you will also have time to ask us questions about the lectures above. The exercises will cover (i) genetic diversity, population genetic differentiation, and population structure, (ii) relations between populations / admixture, and (iii) genome scans, especially scans for selection. Again, we will have several offline breaks in-between.

(2) By providing you with **additional supporting materials for home study** in **dropbox**: https://www.dropbox.com/sh/qsxanyya0w28i3p/AACpOIp0HLw_eiDiPoWfyNPMa?dl=0

Working with these materials is **not compulsory** but, since you are currently more or less stuck at home and cannot take 1:1 classes, and since you might be in need of some further intellectual stimulation, we provide you with a detailed reading list and some review papers, pointers to some books, as well as a list of online lectures and talks you might want to check out. Thus, we try to give you several additional "points of access" to the material so that you can study and work from home. This material might also be helpful for you in case you cannot attend the online lectures & tutorials on 26 March and 9 April.

(3) Via **e-mail or skype** after the course. If you have any further questions during your home studies beyond our online lectures and tutorials you can always contact us via e-mail at thomas.flatt@unifr.ch and margot.paris@unifr.ch and/or via skype by contacting Thomas Flatt (skype name: tomflatt or Margot Paris (skype name: parismargot_1). We are happy to answer any questions you might have.

As you will see, there will occasionally be **some overlap** between our course content and that of Vitor. This is NOT a bad thing – quite on the contrary: evolutionary genomics is a technically sophisticated and conceptually challenging field so that a certain amount of repetition and exposure to the same ideas and concepts from **different points of view** can be helpful and might indeed be necessary for you to "get it". Many of the things you have already heard and seen cannot be understood in "one go" so it is important to have **multiple "access points" to the material** at hand.

Because the time for preparing our course parts was quite short, we relied and built on quite heavily on previous course materials. **We are very grateful to Vitor Sousa, Brian Charlesworth, Laurent Excoffier and Dmitri Petrov for generously sharing course materials with us.** All errors or omissions are our own.

We are looking forward to seeing you soon, albeit from a distance!

All best wishes,
Thomas & Margot

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