Practical course on Real-Time PCR and analysis of mRNA and miRNA expression data

HOST: Department of Biology

Collaborations: CESAM

University of Aveiro

Course date: 1st-5th September

Application deadline: 31st July

Email Registration: pereirap@ua.pt

Registration Fee: 150 €

Number of participants: 15

This course is aimed at researchers who are familiar and also at newcomers to Real-Time PCR Technology, Applications and Data Analysis. Attendees will benefit from hands-on laboratory training.

Course Content:

This is a 5-day course, with comprehensive application based training covering the Principles of Real-Time PCR for quantitative analysis of mRNA and microRNA expression. Users will learn how to apply the topics learned in class to their own lab experiments. The course is designed to teach proper experimental design and how to correctly use the Real-Time instruments and software. Course topics include theory of the TaqMan and the SYBR Green Dye Assay, experimental design, principles of designing an efficient assay, quantification with standard curves, data interpretation, discussion and troubleshooting. The course also includes computer tutorials on data analysis and interpretation of gene and miRNA expression experiment and miRNA target prediction.

Practical labs include: Quantification of Gene Expression by Real-time PCR; Recommendations tailored to your assay.

Lecturers:

Cei-Abreu Goodger is a Post-Doctoral Fellow at Computational and Functional Genomics laboratory, Sanger Institute, Cambridge, UK.

Jens Stolte is a research technician in the Genomics Core Facility at the EMBL in Heidelberg, Germany, a multidisciplinary team responsible for providing access to functional genomics techniques. His fields of expertise are spotted microarrays and qPCR. He is in charge of miRNA expression profiling by qPCR as an in-house service. In addition, he provides full assistance (experimental design, setup of experiments, analysis of results and troubleshooting) to EMBL users of the qPCR technique. He is also responsible for maintenance and operation of the customized spotted microarray, so-called iron chip.

Patrícia Pereira is a Post-Doctoral Fellow at RNA Biology Laboratory, Department of Biology and CESAM, University of Aveiro; she is part of a multidisciplinary team responsible for the in-house production, processing and analysis of DNA oligonucleotides microarrays targeting microRNAs from vertebrate organisms. Her current interests include the use of DNA microarrays technology for the assessment of miRNA misexpression in human cancer, as well as study the role of microRNAs in cancer development and progression and in zebrafish biology.

Ana Raquel Soares is a PhD student at the RNA Biology Lab, Department of Biology and CESAM, University of Aveiro. After finishing the first year of the doctoral program on biomedicine and experimental biology, she decided to study the involvement of miRNAs in Zebrafish biology. Her current interests are miRNA discovery by high throughput sequencing, miRNAs contribution in Zebrafish morphogenesis and organogenesis and miRNA profiling after drug/toxics exposure, also in ZebraFish.

Travel to Aveiro

For those arriving at Porto Airport: Aveiro has an excellent railway service to Porto, situated 60 km North of Aveiro. Porto airport is directly connected to the major European and some North and South American cities. Travel by underground between Porto airport and railway station of Porto-Campanhã is 40 minutes. Depending on the type of train service used, travel between Porto-Campanhã and Aveiro railway takes 30 to 50 minutes

and costs between €2 and €13. On average, there are trains every 25 minutes between Porto and Aveiro. Aveiro University is 5 minutes taxi distance from the railway station, and the taxi fare is around €5 to €7.

For those arriving at Lisbon airport: Aveiro is also connected by train to Lisbon, situated 250 km South of Aveiro. From Lisbon airport you should go to Oriente railway station, by taxi (fare between €10 to €15). On average, there are trains from Lisbon-Oriente to Aveiro every 90 minutes. Train will cost between €15 to €30, and the journey between Lisbon-Oriente and Aveiro railway station will be around 2,5 hours.

Accommodation

We recommend **Residencial do Alboi** (http://www.residencial-alboi.com/)a hotel located in the city center and within walking distance from the University, with prices from €41 per single room and €55 per double room per day, with breakfast included. If you take care of the reservations, please make sure to refer that you are participating in one of the Aveiro Genomics Courses, in order to have the indicated discount price.

You can also be accommodated at the **Youth Hostel** (http://www.pousadasjuventude.pt/edicoes1/pousadas/artigos.asp?rev=2&cat=121&art=371), also within walking distance from the University and city center, from €9 per night, without breakfast.

If you wish the organizers to take care of the accommodation booking for you, please indicate clearly the Hotel of your choice, type of room, check in and check out dates in the application letter.