PhD positions in Molecular Biology

at the University of Lausanne, Switzerland

Regulation of the Mammalian Circadian Clock

For our new lab to be established in fall 2010 at the Center for Integrative Genomics (CIG) at the University of Lausanne (http://www.unil.ch/cig/page77156_en.html), we are seeking 2 highly motivated PhD students with a background in molecular biology and/or biochemistry to join our team.

Circadian clocks can anticipate daytime and orchestrate temporal gene expression and associated physiological processes in a proactive manner. Typically 2-10% of an organ's transcriptome are subject to circadian oscillations, and there are thus many links between circadian biology and human disease, including cancer, obesity and depressive disorders. According to current models, rhythmic transcription constitutes the mechanistic basis of these oscillations. However, circadian transcription is not sufficient to explain many observations that have been made and suggest that important parts of the clock circuitry still remain to be discovered.

Our lab will be studying circadian rhythms with a focus on the regulation by miRNAs and other post-transcriptional mechanisms. For our work, we will be using tissue culture cells and mice as model systems. PhD students will be exposed to a variety of molecular biology and RNA techniques, biochemistry, and work with cultured cells and mice. The CIG is a high-profile, friendly, modern institute beautifully located at Lake Geneva.

We invite applications from candidates with a degree in biochemistry, biology or related fields, with experimental experience in molecular biology/biochemistry. Candidates must have excellent technical skills, an enthusiasm for using and developing new techniques, and good interpersonal skills to work within a young team of scientists.

Positions are available from November 2010.

Please send inquiries / applications to **david.gatfield@unige.ch**

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Representative Publications

Le Martelot, G., Claudel, T., **Gatfield, D.**, Schaad, O., Kornmann, B., Sasso, G.L., Moschetta, A. and Schibler, U. (2009) REV-ERBalpha Participates in Circadian SREBP Signaling and Bile Acid Homeostasis. PLoS Biol 7: e1000181.

Gatfield, D., Le Martelot, G., Vejnar, C.E., Gerlach, D., Schaad, O., Fleury-Olela, F., Ruskeepää, A.-L., Oresic, M., Esau, C.C., Zdobnov, E.M. and Schibler, U. (2009) Integration of microRNA miR-122 in hepatic circadian gene expression. Genes Dev 23: 1313-26.

Gatfield, D. and Schibler, U. (2008) Circadian glucose homeostasis requires compensatory interference between brain and liver clocks. Proc Natl Acad Sci USA 105: 14753-4. (review article)

Asher, G., **Gatfield, D.**, Stratmann, M., Reinke, H., Dibner, C., Kreppel, F., Mostoslavsky, R., Alt, F.W. and Schibler, U. (2008) SIRT1 regulates circadian clock gene expression through PER2 deacetylation. Cell 134: 317-28.

Gatfield, D. and Schibler, U. (2007) Proteasomes keep the circadian clock ticking. Science 316: 1135-6. (review article)