A PhD student position is available immediately in the Chronobiology lab of Nicholas S. Foulkes at the Institute for Biological and Chemical Systems (Karlsruhe Institute of Technology, Germany, https://urldefense.com/v3/__https://bip.ibcs.kit.edu/foulkes.php__;!!C5qS4Y3fUGK3q55W1kh-Pj_oDRqMto0nXpKaDXVDFljXcRJYOPgF0Nir8IPutCPiVNi3A3$). This project that is supported jointly by DFG (Germany) and NSFC (China) funding involves a close collaboration with the laboratory of Prof. Han Wang at the University of Soochow, China (https://urldefense.com/v3/__https://zfin.org/ZDB-LAB--;!!C5qS4Y3fUGK3q55W1kh-Pj_oDRqMto0nXpKaDXVDFljXcRJYOPgF0Nir8IPutCPiVNi3A3$). The position is available for 1+2 years with remuneration based on the Collective Agreement for the Public Service Sector. The application process will remain open until the position is filled.

Applications from disabled persons are welcome. The successful candidate will also be enrolled in the BioInterfaces International Graduate School (BIF-IGS).

In fish, unlike mammals, direct exposure of cells, tissues and even cell cultures to visible light induces the transcription of a subset of clock genes and consequently entrains the local circadian clocks. Many genes involved in DNA repair are also induced upon direct light exposure. We have demonstrated that the expression of light-regulated genes is also induced upon exposure to UV as well as the oxidative stress associated with exposure to sunlight. Importantly, these sunlight-regulated genes all share so-called D-box enhancer elements in their promoters. We aim i) to pinpoint the D-box binding transcription factors which direct sunlight-induced gene expression in zebrafish, ii) to explore their role in regulating the circadian clock and DNA repair and iii) to understand how evolution in complete darkness has affected these factors in blind cavefish. We are currently generating a zebrafish panel where each of a set of 13 D-box-binding transcription factors is either inactivated or inducibly over-expressed as well as establishing cell cultures from each line. We will study the circadian clock, DNA repair and the light-induced transcriptome in these lines and also examine the function of key D-box-binding factors in blind cavefish.

The Institute for Biological and Chemical Systems at the Karlsruhe Institute of Technology, hosts the European Zebrafish Resource Center (https://urldefense.com/v3/__https://www.ezrc.kit.edu__;!!C5qS4Y3fUGK3q55W1kh-Pj_oDRqMto0nXpKaDXVDFljXcRJYOPgF0Nir8IPutCPiVNi3A3$). The Foulkes lab has pioneered the use of cell lines derived from various fish species including zebrafish, medaka and also blind cavefish to study the circadian clock and so represents one of the best-equipped laboratories world-wide for establishing and studying these unique cell culture models. Importantly, this collaborative project will also involve exchange visits and close cooperation with the laboratory of Prof. Han Wang at the University of Soochow. The Wang lab has considerable expertise in generating genetic models for studying the zebrafish circadian clock and has been a major player in the use of zebrafish to explore various aspects of chronobiology.

The candidate should hold an M.Sc. in biology (or equivalent) and ideally have experience in molecular biology techniques, cell and tissue culture as well as working with zebrafish. Some experience in bioinformatics would also be advantageous. The ideal candidate should be able to think independently, have excellent technical and organisational skills, have enthusiasm for team work and be fluent in English.

Please send your application to Prof. Nicholas S. Foulkes (nicholas.foulkes@kit.edu). The application should be sent as a single PDF. See https://urldefense.com/v3/__http://www.bif-igs.kit.edu/125.php__;!!C5qS4Y3fUGK3q55W1kh-Pj_oDRqMto0nXpKaDXVDFljXcRJYOPgF0Nir8IPutCPiVNi3A3$ for details about documents that will ultimately be required to complete the application.