



Our group explores under which conditions individuals cooperate. To this end, we translate social interactions into mathematical games. These games can then be explored analytically, with computer simulations, and with behavioral experiments.

We are looking for motivated researchers to join us.

Post Doc Position (2 years) **Modeling reciprocity in changing environments**

Typical models of reciprocity assume that individuals interact in the very same game over and over again. In such setups, already simple strategies like “Tit-for-Tat” suffice to enforce cooperation. However, in many natural applications, such as the management of natural resources, individual actions today can alter the entire strategic situation in future rounds. Such scenarios with environmental feedback can be described by stochastic games. The project aims to characterize how environmental feedback affects cooperation, and what strategies the individuals adopt.

Applicants should have a strong quantitative background; ideally they already have experience in using classical or evolutionary game theory to analyze social behavior. The position requires a sound mathematical background, programming skills (Matlab, Python,...), and experience in scientific writing. Experience with behavioral experiments is an advantage, but not necessary.

Working environment

The Max Planck Research Group “Dynamics of Social Behavior” has been established in October 2019, and is led by Dr. Christian Hilbe. The group is a part of the Max Planck Institute for Evolutionary Biology in Plön, Germany. The institute has three departments (Evolutionary Theory, Microbial Population Biology, Evolutionary Genetics) and several additional research groups. It hosts several workshops per year and continuously welcomes international short-term and long-term visitors, creating a stimulating and positive research environment.

In addition, the research group maintains strong collaborations with external researchers, including researchers from Harvard University, IST Austria, and the University of Exeter.

Plön

Plön is a small town close to the Baltic Sea, embedded into a beautiful landscape with innumerable lakes. The area provides ample opportunity for free time activities such as swimming, canoeing, or biking in a stunning environment. The cities of Kiel and Lübeck ($\geq 200,000$ inhabitants) are only half an hour train ride away. Hamburg (Germany’s second largest city) can be reached within 1.5h by train.

Application

Interested students and Post Docs should send their application (motivation letter, CV, copies of certificates, contact details of two references) by email to hilbe@evolbio.mpg.de. Please use the code PostDoc2019 in the subject line.

The Max Planck Society strives for gender and diversity equality. We welcome applications from all backgrounds. The Max Planck Society is committed to employing more disabled individuals and especially encourages them to apply. The Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply.

For further questions, please get in contact with Dr. Christian Hilbe. The application deadline is December 15, 2019. However, the positions will remain open until filled by qualified candidates.

Contact:

Dr. Christian Hilbe

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