

PhD position in Frankfurt/Germany

Complex Dynamical Systems – Machine Learning

At the Institute for Theoretical Physics
Goethe University Frankfurt

Applications are invited for a PhD position at the Institute for Theoretical Physics, Frankfurt University, Germany, within the INAC initiative (a LOEWE project):

Initiative for Natural and Artificial Consciousness (INAC)

Centered at Goethe University Frankfurt, INAC is an interdisciplinary collaborative research project aiming to study the development of consciousness in infants, both experimentally and via modelling.

Within INAC, the lab of C. Gros will study the complexity of dynamical brain states, in particular via EEG recordings obtained by experimental groups. The research will be done in collaboration with B. Sándor (Babeş-Bolyai University in Cluj-Napoca, Romania). Tools from complex systems theory will be used, together with machine learning approaches. The research involves method development, in particular with regard to complexity measures. The position announced is subject to the funding of INAC, which is expected for summer 2025.

Applicants should have a physics background, an excellent track record, experience in complex systems theory and machine learning modelling. The degree of scientific research experience has to be on the level of a German Diploma/Master.

The appointment will start Jan. 1st, 2026, provided the project will be funded (within the LOEWE-program of the Hessian state). Interested applicants should submit a curriculum vitae and a list of publications, and arrange for letters of reference to be sent to the address below. Send everything to [Click to show email](#)

[Prof. Claudius Gros](#)

Institute for Theoretical Physics
Goethe University Frankfurt
Max-von-Laue-Str. 1
60438 Frankfurt am Main
Germany
cgr@itp.uni-frankfurt.de

[General information on the University of Frankfurt and its employment policy](#)

Johann Wolfgang Goethe University Frankfurt am Main is with over 46,000 students and around 4,600 employees one of the largest universities in Germany. Founded in 1914 by Frankfurt citizens and again in the legal form of a foundation since 2008, the Goethe University has a high level of independence, modernity and professional diversity. As a comprehensive university, the Goethe University Frankfurt offers and has 100 degree programs on five campuses in a total of 16 departments an outstanding research strength.

The time limit for academic staff is based on the provisions of the Academic Term Contract Act in conjunction with the Hessian Higher Education Act. The university advocates equal rights for women and men and therefore encourages women to apply. Disabled applicants with equal qualification will be given preferential consideration.