

The Rheinische Friedrich-Wilhelms-Universität Bonn is an international research university that offers a wide range of degree programs. Some 35,000 students and more than 6,000 employees study and work on the foundation of a 200-year tradition. Awarded the status of a University of Excellence, the University of Bonn is one of the leading universities in Germany and enjoys an excellent international reputation

The new Argelander professorship Integrated System Modeling for Sustainability Transitions, chaired by Jun.-Prof. Dr. Wolfram within the Transdisciplinary Research Area “Sustainable Futures” ([TRA 6](#)) is looking for a

Post-doc Researcher (m/f/m) **(100% working time limited for 24 months) or a** **Doctoral student (m/f/d)** **(65% working time limited for 36 months)**

funded by the Cooperative AI Foundation. Cooperation at scale is vital for a sustainable future, yet unresolved. Specifically, how can large collectives of intelligent actors, coupled with dynamic environments, seek ways to improve their joint well-being? To move forward with this challenge, we develop mathematical models of collective learning, bridging ideas from complex systems science, multi-agent reinforcement learning, and social-ecological resilience.

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| Your tasks: | <ul style="list-style-type: none"> • Develop, implement, and analyze mathematical models to answer which features make large collectives of self-interested, individually learning agents cooperative, • Disseminate research outcomes in peer-reviewed publications and scientific conferences. |
| Your profile: | <ul style="list-style-type: none"> • Master's degree (for doctoral position) or a doctorate (for post-doctoral position) in computer science, mathematics, physics, or a related quantitative subject, • Proficiency in reinforcement learning in multi-agent systems, • Proficiency in scientific computing with Python, • Prior knowledge of evolutionary game theory and/or mean-field games is desirable, • Proficiency in English, • Committed, flexible, team-oriented, interested in advanced training. |
| We offer: | <ul style="list-style-type: none"> • A diverse and challenging job to grow in an interdisciplinary and transdisciplinary research environment with one of the largest employers in the region. • As part of the doctoral position the opportunity to obtain a PhD, • Participation in the university-wide pension system (VBL), • Access to the extensive university sports program, • An excellent transport infrastructure due to the central location in Bonn and the possibility to use assigned, affordable parking, • A salary based on the 13 TV-L scale. |

The University of Bonn is committed to diversity and equal opportunity. It is certified as a family-friendly university and aims to increase the proportion of women employed in areas where women are under-represented and to promote their careers. To that end, it urges women with relevant qualifications to apply. Applications will be handled in accordance with the *Landesgleichstellungsgesetz* (State Equality Act). Applications from suitable candidates with a certified disability or equivalent status are particularly welcome.

If you are interested in this position, please send your application documents including cover letter, curriculum vitae and certificates **by 22.03.2024 with the application code 3.2-24-13** and **only in single a PDF file** by e-mail to Professor Dr. Wolfram Barfuss w.barfuss@uni-bonn.de. Please address any questions regarding the position described to Prof. Dr. Barfuss (email: wbarfuss@uni-bonn.de, phone: +49 228 73 1835).