

2 PhD Scholarships in the NCN project  
**Interaction in Quantum Field Theory**  
(Principal Investigator: Wojciech Dybalski )

Applications are welcome for two 4 year PhD positions at the Department of Mathematics and Computer Science of the Adam Mickiewicz University of Poznań (UAM).

The successful candidates will work in the area of mathematical foundations of Quantum Field Theory. They will analyse the problem of interaction from constructive and axiomatic perspectives. On the axiomatic side the project will build on recent advances in scattering theory to formulate criteria for non-triviality of the scattering matrix. On the constructive side the focus of the project is on models with non-polynomial interaction potentials. They will be treated using recent advances in stochastic quantization.

Qualification requirements:

Candidates are expected to have a MSc in mathematics or physics and strong interest in Quantum Field Theory as well as some basic knowledge of this subject. Experience with some of the following mathematical fields is an advantage: functional analysis, operator algebra, theory of groups of isometries on Banach spaces, measure theory and probability. Familiarity with computer algebra systems and programming skills is also of advantage.

The applications should include:

- Cover letter (motivation and research interests)
- CV (education, academic work and other relevant information)
- Academic transcripts (passed courses and grades)
- Contact information of one referee (name, relation to the candidate, e-mail)

Applications are welcome until the positions are filled. To ensure full consideration the applications should be sent to the principal investigator ([dybalski@ma.tum.de](mailto:dybalski@ma.tum.de)) by July 31, 2020. The positions should start on October 30, 2020, or at a later date upon mutual agreement.

The candidates selected by the principal investigator will apply to the Doctoral School of the Adam Mickiewicz University in Poznań. This application will be prepared jointly by the applicant and the principal investigator.