

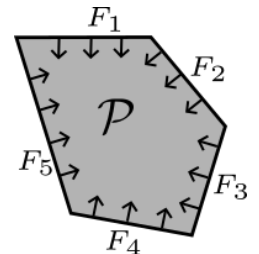
# PhD/Postdoc positions in Theoretical Quantum Physics

We are seeking a highly motivated postdoc and PhD student to join our Emmy-Noether research group in Theoretical Quantum Physics, starting



off on 1 August at the LMU Munich. Candidates are expected to have strong analytic skills, ideally with a background in fermionic quantum systems and reduced density matrices. Mathematical Physicists are encouraged to apply as well. Our projects are concerned with the interface of Quantum Information Theory and Quantum Many-Body Physics. We resort to analytic approaches partly complemented/guided by computational studies to gain universal insights into interacting quantum many-body systems. A particular emphasis lies on the concept of reduced density matrices and the ground state problem. Possible projects among others would be:

- Dynamic interpretation of Pauli's exclusion principle
- A unifying perspective on fermionic correlation
- Geometry of density matrices and its role in functional theory
- Entanglement estimates for confined fermions
- DMRG in Quantum Chemistry: Understanding its success & limitations
- Applications of generalized Pauli constraints



## required documents:

- CV including a list of publications and contact details of two referees
- postdoc candidates: + brief outline of research plans & (link to) PhD thesis
- PhD candidates: + (link to) Bachelor/Master thesis & academic transcript

inquiries and applications to (please state "postdoc" or "PhD" in the subject):

✉ [christian.schilling@physics.ox.ac.uk](mailto:christian.schilling@physics.ox.ac.uk)

Review of applications will begin on **15 July**, and continue until the positions are filled; starting date: 1 August or later in 2019

