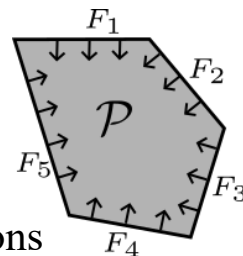# Postdoc positions

in

Theoretical Quantum Physics

We are seeking highly motivated Postdocs to join our Emmy-Noether research group in Theoretical Quantum Physics. Candidates for these 2-year positions are expected to have either outstanding analytical skills, ideally with a background in fermionic quantum systems and reduced density matrices, or a strong expertise in numerical methods used in quantum chemistry. 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:

- A unifying perspective on fermionic entanglement & correlation
- Geometry of density matrices and its role in functional theory
- Entanglement in quantum phase transitions and area laws
- DMRG in Quantum Chemistry: Understanding its success & limitations
- Quantum Computing for Quantum Chemistry

required documents:

- CV including a list of publications and contact details of two referees
- (link to) PhD thesis
- Outline of the future research plans (max. 2 pages)
- Cover letter

complete applications as a single PDF to (state "Postdoc position" in the subject):

✉ c.schilling@lmu.de

deadline: 30 Sept. 2021