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**Title: On the correspondence between entangled states and entangled measurements in quantum information theory.**

Summary: The purpose of this project is that the student can have a look into the mathematical landscape of present-day research in the field of quantum information theory. We will consider a currently open problem in this area whose formulation (but presumably not its solution!) requires only a relatively basic knowledge of linear algebra and matrix theory. The student will learn the mathematical structure of quantum theory regarding the possible states and measurements and, without aiming at fully answering the above open question, will explore potential strategies that could lead to its solution.