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Undergraduate Research Program

Project Name	Indefinite Causal Order in Quantum Teleportation: theoretical proposals before its experimental deployment
Campus & Location in Mexico	Estado de México
Faculty	Engineering and Sciences
Research Area	Physics and Mathematics Department: Photonics and Quantum Systems
Research Responsible	Francisco Javier Delgado-Cepeda
Description of the Project	Indefinite Causal Order in Quantum Teleportation has been recently analyzed to improve the imperfections being present in such communication process. The identification of notable imperfect quantum entangled states in order to improve such communication have been identified together with a complementary strategy based on post-measurement and weak-measurement. In the current stage of the Project, we are depicting how to traduce such entire strategy into an experimental proposal based on some quantum foundations paradigm.
Training Provided	We will begin with an introduction to the topic in order to understand the further development. Quantum physics knowledge in quantum information is required.

Offered during:

SUMMER

WINTER

SEMESTER

Student

Tasks/Responsibilities	Theoretical analysis, development of proposals and some computer modelling (possible).
Required Language Proficiency	English
Required Skills and Abilities	Wide knowledge and dominon on Quantum Information theory.
Other Documents	<ol style="list-style-type: none"> 2) Accumulative grade point average (GPA) 2.5 3) Official Transcript 4) 2 letters of recommendation of faculty members 5) Resume 6) Letter of intention explaining the reason why you would like to participate in the research program