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Brief Summary

Roughly one third of known impact structures on Earth hold economic resources. The world's largest gold deposit is a Precambrian impact structure in South Africa (Vredefort) and Canada's largest nickel deposit is a Precambrian impact structure (Sudbury). Despite vast tracts of similar-aged Precambrian rocks (~2.5 – 3.5 Ga) in Australia, no comparable economic impact structures have yet been reported. One factor may be the lack of systematic study using modern methods. Few Australian impact structures have been studied in detail using accessory mineral approaches (zircon, monazite, etc.), numerical shock physics modelling, along with integration of geophysical data (seismic, gravity, magnetotellurics). I propose to study the record of known and suspect impact structures of significant size (>10 km) in Australia. The broad objective is to better understand and expand the Australian impact crater record, and to apply modern methods to constrain formation processes, level of exposure, and determine if any known sites are likely to have economic potential.

Education: MS Geology – University of Wisconsin, Madison, USA
BS Geology – University of Puerto Rico, Mayaguez, USA

Research interests: Impact cratering, shocked metamorphism, economic geology

Thesis title: Economic potential of Australian impact structures

Supervisors: Dr. Aaron Cavosie and Dr. Katarina Miljkovic

Publications: (Reference to publications) Insert text here

Conferences: (Give titles of any presentations here) Insert text here

Links: https://www.linkedin.com/in/raiza-quintero-31b6563b/