



COLLEGE OF
**ENGINEERING &
APPLIED SCIENCE**

UNIVERSITY OF WYOMING

COMPUTER SCIENCE DEPARTMENT

www.uwyo.edu/cosc

Cybersecurity Education And Research Lunch and Learn Series

Tuesday, October 17th @ 12:00 noon

Engineering Building, Room 1062

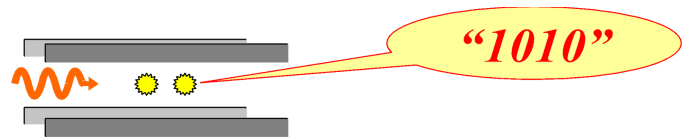
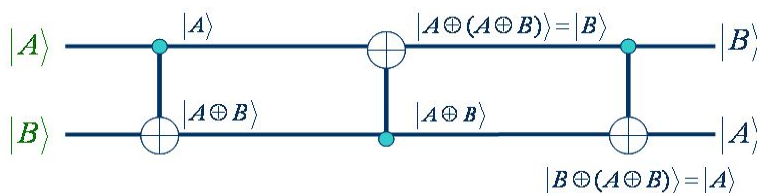
Pizza and drinks provided.

A GENTLE INTRODUCTION TO QUANTUM COMPUTING

Dr. Mark Coffey

Research Professor at the Colorado School of Mines

Quantum computing has the potential to revolutionize computations in certain application areas - especially those requiring lots of computational power.



This informal presentation will be an introduction to the subject of quantum computing and its various implementations. This is a highly multidisciplinary subject, drawing from many aspects of physics, mathematics, computer science, and engineering. However, much of quantum computing can be comprehended simply on the basis of linear algebra.

Quantum computing offers the possibility of quickly computing answers to larger problems than are currently feasible. Questions such as these will be addressed in the talk:

- Will it be possible to factor a 200-digit number in less than one minute? If so, current cryptographic methods will no longer be secure.
- Will it be possible to develop an algorithm to solve very large instances of the traveling salesman problem?

About the speaker. Dr. Mark W. Coffey is a physics professor at the Colorado School of Mines who performs research in both mathematics and physics, including quantum computing. He has given numerous talks to a variety of audiences on engineering, science, and mathematical subjects. He teaches selected topics in physical science, mathematics, and engineering. He holds two doctorates, one in mathematics from New York University, and the other in theoretical physics from Iowa State University. He has also been a Fulbright Specialist scholar who has given multiple presentations abroad. He believes in connecting with community and communicating recent (and not so recent!) scientific advances.

