



Mark Saffman



We know from the DiVincenzo criteria that quantum computers need to have many qubits working together, upwards of millions—we call this **scalability**. One major challenge that the field of quantum computing faces today is how exactly to do this. Using neutral atoms for qubits has its advantages because every atom is the exact same and can be put into large arrays, held in place with lasers. Mark Saffman and his team are on a mission to solve the problem of scalability. They have been able to make arrays containing more than 800 neutral atom qubits at the same time, and are working to achieve arrays with thousands of qubits! Saffman collaborates with other quantum physicists around the United States as part of a research institute called Hybrid Quantum Architectures and Networks (HQAN). In a time when universities and companies are racing to find the best type of quantum computer, collaborations like HQAN are critical. These collaborations bring together scientists who test the advantages of all different types of qubits.