

## ABSTRACT

Wireless underwater networks are being considered for a variety of applications. To make these applications viable, there is a need to enable reliable communications among underwater sensors and devices. Wireless underwater communication is a challenging task because most of the common communication means do not work well in water. Since acoustic communication systems provide very low bandwidth and radio waves do not propagate in water, underwater optical wireless communications are being considered.

The main focus of this thesis is to understand the performance of the underwater optical wireless communications. Computational experiments are performed to study a proposed topology control scheme in preserving a full connectivity network while reducing the risk of hot spots causing congestion in the network.

