

# MATHEMATICS COLLOQUIUM

Friday, April 5<sup>th</sup> @ 4:00 pm

PHYSICAL SCIENCE BUILDING ROOM 308

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## Embedded constant mean curvature hypersurfaces on spheres

In this talk we will explain the construction of all hypersurfaces with cmc and exactly two principal curvatures immersed on the unit  $n$ -dimensional sphere. All the immersed examples turned out to be invariant under a cyclic group  $Z_m$ . For each  $m$ , we will provide explicit bounds for  $H$  that warranty the existence of an embedded hypersurface with constant mean curvature  $H$  that contains the group  $Z_m$  in its group of isometries.

Recently, Ben Andrews and Haizhong Li showed that the only embedded surfaces in the three dimensional sphere are those described in this talk. Their theorem extended the proof of Lawson conjecture given by Simon Brendle. Lawson conjecture, now a theorem, states that the only minimal compact surfaces in the three dimensional sphere is the Clifford torus.

*Refreshments in PS 317 at 3:30 PM.*