1083-53-133     **Charles P Boyer\*** (`cboyer@math.unm.edu`), Department of Mathematics and Statistics, Science and Mathematics Learning Center, Albuquerque, NM 87107. *Contact Structures of Sasaki type on $S^3$-bundles over Riemann Surfaces.* Preliminary report.

My talk is based on joint ongoing work with Christina Tønnesen-Friedman. I begin the talk by giving a brief general discussion about contact structures of Sasaki type. Sasakian structures within such contacts structures occur in bouquets of Sasaki cones. The cones arise from maximal tori in the Sasakian automorphism group, whereas, different cones in a bouquet correspond to distinct conjugacy classes of tori (sometimes maximal) in the contactomorphism group. A fairly explicit description is given in the case of $S^3$-bundles over Riemann surfaces of arbitrary genus $g$. In this case the work of Buşe on equivariant Gromov-Witten invariants is used to distinguish the conjugacy classes of tori. We are also interested in determining the space of extremal Sasakian structures within a fixed isotopy class of contact structures, and in particular those of constant scalar curvature. (Received August 25, 2012)