1128-49-144 **Jean E Taylor*** (`jtaylor@cims.nyu.edu`). *Almgren Almost Minimal Sets.* Preliminary report.
This talk concerns what Fred Almgren called (F, ϵ, δ) minimal sets but people are now calling Almgren (almost) minimal sets. It will be for geometric measure theory enthusiasts. These sets take some effort just to define, but when $F \equiv 1$ they are the right concept for proving the structure of compound soap bubbles and of bubble-film surfaces on wire frame boundaries, as I did over 40 years ago. Instead of being constant, F can be a function of tangent plane direction (and perhaps position in space) and so gives an anisotropic surface energy function. The (F, ϵ, δ) condition can be thought of as the right codification of local stable force balance. The function ϵ and the positive parameter δ allow the minimization to be subject to various possible constraints. As the (F, ϵ, δ) condition can be expressed for all dimensions and co-dimensions, Almgren minimal sets continue to be a subject of active research. (Received February 22, 2017)