1135-16-2951 **Grant James Keane*** (keanegj2903@uwec.edu), Grant Keane, Department of Mathematics, 105 Garfield Avenue, Eau Claire, WI 54702, **Haotian Wu** (wuh6709@uwec.edu), Wu Haotian, Department of Mathematics, 105 Garfield Avenue, Eau Claire, WI 54729, and **Alice Ching** (chinga1167@uwec.edu), Alice Ching, Department of Mathematics, 105 Garfield Avenue, Eau Claire, WI 54702. *The Moduli Space of 5-dimensional Non Nilpotent Complex Associative Algebras.*

In this talk, we discuss the construction of the moduli space of 5-dimensional complex associative algebras which are not nilpotent. This consists of the equivalence classes of such algebras under isomorphism, and the construction uses a type of bootstrap method, by considering extensions of semisimple algebras by nilpotent algebras of lower dimension. We find that the space is stratified by some simple projective orbifolds of the form $\mathbb{CP}^1/G$ where G is a subgroup of the symmetric group Σ_2 acting on $\mathbb{P}^1$ by permuting the projective coordinates. This stratification is consistent with deformation theory in the sense that every deformation of one of these algebras is either a smooth deformation along the stratum, or factors through a jump deformation to another stratum. This verifies a conjecture of Fialowski-Penkava for this moduli space. (Received September 26, 2017)