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Jack S Calcut* (jcalcut@oberlin.edu), Department of Mathematics, Oberlin College, Oberlin, OH 44074. *Artin presentations*.

Artin presentations are discrete equivalents of planar open book decompositions of arbitrary closed orientable 3-manifolds. Artin presentations characterize the fundamental groups of such 3-manifolds (a result of Gonzalez-Acuna). AP theory has a canonical knot theory which is group theoretic and completely general. AP theory also gives a nontrivial relationship between combinatorial group theory and smooth 4-dimensional topology. (Received January 16, 2012)