

1116-08-2411 **Emily Gunawan*** (egunawan@umn.edu). *Notched Arcs of Cluster Algebras from Punctured Surfaces*. Preliminary report.

Cluster algebras, introduced by Sergey Fomin and Andrei Zelevinsky in 2000, are commutative algebras which are defined combinatorially by an iterated process. The notion of cluster algebra links together diverse fields of study, e.g. discrete dynamical systems, Riemann surfaces and Teichmüller theory, algebraic geometry, and representation theory of quivers. An important class of cluster algebras arise from triangulations of surfaces with marked points. We generalize Ralf Schiffler and Hugh Thomas' combinatorial T-path formula for arcs of unpunctured surfaces to tagged arcs (possibly with decorations called notchings at their endpoints) of punctured surfaces, and use this to investigate the existence of atomic bases for cluster algebras arising from punctured surfaces. (Received September 22, 2015)