1046-47-1763 **Richard D. Burstein*** (rburstei@uottawa.ca), Department of Mathematics and Statistics, University of Ottawa, 585 King Edward Avenue, Ottawa, Ontario K1N 6N5, Canada.
Automorphisms of planar algebras. Preliminary report.

Starting with a subfactor planar algebra, a subfactor may be constructed which has precisely that planar algebra as its standard invariant. Any sufficiently small planar subalgebra of a bipartite graph planar algebra is a subfactor planar algebra. Since the action of the planar operad on bipartite graph planar algebras is relatively simple, finding such a planar subalgebra allows a precise description of the standard invariant of the corresponding subfactor.

An invertible linear map on a planar algebra which commutes with the planar operad is an automorphism of the planar algebra. The fixed points of a group of such planar automorphisms are closed under the planar operad, and therefore constitute a planar subalgebra. A sufficiently large group acting on a bipartite graph planar algebra may have a subfactor planar algebra for its fixed points.

I will discuss several examples of this construction. Subfactor planar algebras which may produced in this way include those for all diagonal subfactors and Jones-Wassermann subfactors, as well as some examples of Bisch-Haagerup subfactors. The resulting classification of the planar algebras of diagonal subfactors provides many examples of non-isomorphic subfactors with the same standard invariant. (Received September 16, 2008)