1114-57-83 **Shelly Harvey*** (shelly@rice.edu) and **Danielle O'Donnol**. *Heegaard Floer homology of spatial graphs.*

We extend the theory of combinatorial link Floer homology to a class of oriented spatial graphs called transverse spatial graphs. To do this, we define the notion of a grid diagram representing a transverse spatial graph, which we call a graph grid diagram. We prove that two graph grid diagrams representing the same transverse spatial graph are related by a sequence of graph grid moves, generalizing the work of Cromwell for links. For a graph grid diagram representing a transverse spatial graph $f : G \to S^3$, we define a relatively bigraded chain complex (which is a module over a multivariable polynomial ring) and show that its homology is preserved under the graph grid moves; hence it is an invariant of the transverse spatial graph. In fact, we define both a minus and hat version. Taking the graded Euler characteristic of the homology of the hat version gives an Alexander type polynomial for the transverse spatial graph. Specifically, for each transverse spatial graph f, we define a balanced sutured manifold $(S^3 \setminus f(G), \gamma(f))$. We show that the graded Euler characteristic is the same as the torsion of $(S^3 \setminus f(G), \gamma(f))$ defined by S. Friedl, A. Juhász, and J. Rasmussen. (Received August 12, 2015)