1078-14-294 **Dagan Karp*** (dk@math.hmc.edu) and **Dhruv Ranganathan** (dhruv_ranganathan@hmc.edu).
Gromov-Witten theory of $\mathbb{P}^1 \times \mathbb{P}^1 \times \mathbb{P}^1$.

We prove equality between sectors of the all-genus Gromov-Witten theories of $\mathbb{P}^1 \times \mathbb{P}^1 \times \mathbb{P}^1$ and $\mathbb{P}^3$ and various of their toric blowups. These spaces are either related via birational map, such as the base spaces, or crepant birational map, such as their blowups at points, or simply via blowup, as $\mathbb{P}^1 \times \mathbb{P}^1 \times \mathbb{P}^1$ and the permutohedral variety. As a result, we also prove a nontrivial toric symmetry of $\mathbb{P}^1 \times \mathbb{P}^1 \times \mathbb{P}^1$ which descends from the permutohedral variety. This is joint work with Dhruv Ranganathan. (Received December 12, 2011)