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Susan Cooper, Sabine El Khoury, Sara Faridi* (faridi@dal.ca), **Sarah Mayes-Tang, Susan Morey, Liana Sega** and **Sandra Spiroff**. *Simplicial resolutions of powers of monomial ideals*. Preliminary report.

The thesis of Diana Taylor in 1966 established a way to construct a free resolution of an ideal I generated by p monomials using the simplicial chain maps of a simplex on p vertices. Work of Bayer, Peeva and Sturmfels in 1998 showed that Taylor's theorem can be extended to all simplicial complexes on p vertices: as long as such a simplicial complex satisfies certain homological conditions, it can "support" a free resolution of I .

The purpose of this talk is to construct a combinatorial class of simplicial complexes indexed by the positive integers, where the n -th complex in this class supports a free resolution of the n -th power I^n . (Received January 14, 2020)