Erich C. Jauch* (ecjauch@iastate.edu), 396 Carver Hall, 411 Morril Rd, Ames, IA 50011. An Alternating Analogue of $U(\mathfrak{gl}_n)$ and Its Representations. Preliminary report.

The universal enveloping algebra of a Lie algebra $\mathfrak{g}$ is of utmost importance when studying representations of $\mathfrak{g}$. In 2010, V. Futorny and S. Ovsienko gave a realization of $U(\mathfrak{gl}_n)$ as a subalgebra of the ring of invariants of a certain noncommutative ring with respect to the action of $S_1 \times S_2 \times \cdots \times S_n$ where $S_j$ is the symmetric group on $j$ variables. With some connections to Galois Theory, an interesting question is what would a similar object be in the invariant ring with respect to a product of Alternating groups? We will discuss such an object and some results about its representations. In particular, how its representations relate to those of $\mathfrak{gl}_n$, that the category of finite dimensional modules is not semi-simple, and how to construct so-called canonical Gelfand-Tsetlin modules. (Received July 15, 2019)