1164-13-193 **Eliana Duarte*** (eliana.duarte@ovgu.de) and **Alexandra Seceleanu** (aseceleanu@unl.edu).

Residual resultants in $\mathbb{P}^1 \times \mathbb{P}^1$ via virtual resolutions.

The classical multivariate resultant of a system of polynomial equations provides information about when the system of equations has nontrivial solutions. In the work of Busé, Elkadi and Mourrain a more general residual resultant in projective n-space is defined that captures the condition when the system has a solution outside a prescribed variety. In general it is an interesting question in elimination theory to provide effective methods to calculate these resultants. In this talk I will define a residual resultant for $\mathbb{P}^1 \times \mathbb{P}^1$ and show that it can be computed using virtual resolutions. Many examples and concrete computations will be presented. This is joint work with Alexandra Seceleanu. (Received January 18, 2021)