

Meeting: 1003, Atlanta, Georgia, MAA CP X1, MAA General Contributed Paper Session, I

1003-X1-321 **Kent M. Neuerburg*** (kneuerburg@selu.edu), Department of Mathematics, SLUBox 10687,
Hammond, LA 70402. *Seminearrings of bivariate polynomials over a ring*. Preliminary report.

We consider bivariate polynomials, $f(x, y)$, with coefficients from a ring R . We define three root-based composition operations for polynomials $f(x, y)$ that split as polynomials in y over $R[x]$. Under certain combinations of these root-based composition operations, these polynomials form seminearrings. We will investigate the properties of these seminearrings; in particular, we look at how the ideal structures of the rings R and $R[x]$ are reflected in the ideal structure of the seminearrings. Extensions to the case of polynomials $f(x, y)$ that do not split over $R[x]$ are also discussed. (Received September 09, 2004)