

# ORTHOGONAL RATIONAL FUNCTIONS AND RATIONAL KRYLOV SUBSPACES

**Miroslav Pranic**

*University of Banja Luka, Banja Luka, Bosnia and Herzegovina*

*e-mail:* pranic77m@yahoo.com

Joint work with Lothar Reichel

## **Abstract**

We present three types of recurrence relations for orthogonal rational functions, analogous to the three-term recurrence relation for orthogonal polynomials. The number of terms in these recursions depends both on the number of distinct poles and on the order in which the poles enter the sequence of orthogonal rational functions. The matching moment properties of corresponding rational Krylov subspaces, and the link with the rational Gauss quadrature will be discussed.