

---

**STEVEN WANG**, Carleton University

*On interleaved sequences of Legendre sequences*

Families of pseudorandom sequences with low cross correlation and/or high linear complexity have important applications in communications and cryptography. Among several known constructions of sequences with low cross correlations, interleaved constructions proposed by Gong uses two sequences of the same period with two-level autocorrelation. In this talk, we construct some low cross correlation interleaving sequences such that the base sequences may not have the same period, or they may not have two-level autocorrelation. In particular, we present some results on the cross correlation magnitude and linear complexity of the interleaved sequences of Legendre sequences of periods  $p$  and  $q$ , respectively, where  $p$  and  $q$  are odd prime numbers.

This talk is based on joint work with J. He, D. Panario, and A. Winterhof.