

## **Abstract**

A  $2^n$ -periodic binary sequence is a binary de Bruijn sequence of order  $n$  if every binary  $n$ -tuple occurs exactly once within each period. As one very special nonlinear feedback shift register sequence, de Bruijn sequence has been widely used in cryptography and communication, and there are various generating methods for it. In this talk, three distinct generating methods, cycle joining method, D-homomorphism and greedy algorithm, are considered and we show they can generate a same class of de Bruijn sequences. Results in this talk can help us to efficiently generate de Bruijn sequence from greedy algorithms.