



## **PROGRAM**

The 12th International Workshop on  
**SEquences and Their Applications (SETA)**



<https://seta-2024.github.io>

**July 1-5, 2024**

University of Essex, Essex, United Kingdom.

## SETA2024 - Schedule (July 01-05, 2024)

Monday	Tuesday	Thursday	Friday
08:30-09:50  Registration Coffee & Tea	08:30-09:00 Coffee & Tea	08:30-09:00 Coffee & Tea	08:30-09:00 Coffee & Tea
	09:00-10:00 <a href="#">Invited Talk 2</a> <b>Pingzhi Fan</b>	09:00-10:00 <a href="#">Invited Talk 4</a> <b>Christos Masouros</b>	09:00-10:00 <a href="#">Invited Talk 5</a> <b>Nam Yul Yu</b>
09:50-10:00 Opening	10:00-10:30 Break	10:00-10:30 Break	10:00-10:30 Break
10:00-11:00			
<a href="#">Invited Talk 1</a> <b>Sihem Mesnager</b>	10:30-12:10 <b>Session 3</b> 4 papers	10:30-12:10 <b>Session 5</b> 4 papers	10:30-12:10 <b>Session 7</b> 4 papers
11:00-11:20 Break			
11:20-12:10 <b>Session 1</b> 2 papers			
12:10-14:00 <b>Lunch</b>			
14:00-15:15 <b>Session 1 (cont.)</b> 3 Papers	14:00-15:00 <a href="#">Invited Talk 3</a> <b>Steven (Qiang) Wang</b>	14:00-15:00 <a href="#">Panel Discussion</a> TBA	Departure
15:10-15:30 Break	15:00-15:30 Break	15:00-15:30 Break	
15:30-16:45 <b>Session 2</b> 3 papers	15:30-16:45 <b>Session 4</b> 3 papers	15:30-16:45 <b>Session 6</b> 3 papers	
		18:30 Banquet at Wivenhoe House	
Session Topics			
<b>Session 1:</b> Boolean Functions and Algebraic Codes		<b>Session 5:</b> Freq.-hopping Sequences, Randomness Test	
<b>Session 2:</b> Autocorrelation of Sequences		<b>Session 6:</b> Linear Complexity and de Bruijn Sequences	
<b>Session 3:</b> Complementary Sequences I		<b>Session 7:</b> Complementary Sequences II	
<b>Session 4:</b> Permutations over Finite Fields			

- Brief introductions of the invited speaks can be found at the conference link
- The arrangement on Wednesday can be found at the conference link

## SETA2024 Program (Monday)

08:30-9:50	Registration Break  Coffee & Tea		
09:50-10:00	Conference Opening  Maria Fasli, Dean of the School of Computer Science and Electronic Engineering, University of Essex		
10:00-11:00	Sihem Mesnager <a href="#">Invited Talk</a>	On algebraic problems on finite fields and their importance more than ever in the study of S-boxes in block ciphers	abstract
11:00-11:20	Break		
Session 1: Boolean Functions and Algebraic Codes			
11:20-11:45	Ana Salagean	Bounds for the average degree- $k$ monomial density of Boolean functions	paper
11:45-12:10	Yongbo Xia	A direct method for calculating the differential spectrum of an APN power mapping	paper
12:10-14:00	Lunch		
14:00-14:25	Zepeng Zhuo	Two constructions of Boolean functions with a few Walsh transform values	paper
14:25-14:50	Guangkui Xu	Optimal few-weight codes from projective spaces	paper
14:50-15:15	Huan Sun	AMDS symbol-pair cyclic codes of length $4p$	paper
15:15-15:30	Coffee & Tea Break		
Session 2: Autocorrelation of Sequences			
15:30-15:55	Daniel Katz	Moments of autocorrelation demerit factors	paper
15:55-16:20	Gangsan Kim	Balanced binary sequences with favorable autocorrelation from cyclic relative difference sets	paper
16:20-16:45	Susanta Samanta	On the counting of involutory MDS matrices	paper
End of Program			

## SETA2024 Program (Tuesday)

08:30-09:00	Coffee & Tea		
09:00-10:00	Pingzhi Fan Invited Talk	Recent advances in signal design for integrated sensing & communications	abstract
10:00-10:30	Coffee & Tea Break		
Session 3: Complementary Sequences I			
10:30-10:55	Avik Ranjan Adhikary	Circular quasi-Florentine rectangles and its application in designing optimal polyphase sequence sets	paper
10:55-11:20	Rajen Kumar	Multiple spectrally null constrained complete complementary codes of various lengths over small alphabet	paper
11:20-11:45	Kai Liu	Construction of cross Z-complementary sequence set with large CZC ratio	paper
11:45-12:10	Kai Liu	New constructions of two-dimensional binary Z-complementary array pairs	paper
12:10-14:00	Lunch		
14:00-15:00	Steven (Qiang) Wang Invited Talk	A survey of compositional inverses of permutation polynomials over finite fields	paper
15:00-15:30	Coffee & Tea Break		
Session 4: Permutations over Finite Fields			
15:30-15:55	Pantelimon Stănică	A proof of a conjecture on trivariate permutations	paper
15:55-16:20	Zuling Chang	An effective approach to enumerate universal cycles for $k$ -permutations	paper
16:20-16:45	Anna-Maurin Graner	On the bijectivity of the map $\chi$	paper
End of Program			

## SETA2024 Program ( Thursday)

08:30-09:00	Coffee & Tea		
09:00-10:00	Christos Masouros <a href="#">Invited Talk</a>	Sustainable and multifunctional wireless networks	abstract
10:00-10:30	Coffee & Tea Break		
Session 5: Frequency-Hopping Sequences, Randomness Test			
10:30-10:55	Qi Zeng	Hierarchical frequency hopping technique for heterogeneous multi-tier networks	paper
10:55-11:20	Melis Aslan	Observations on NIST SP 800-90B entropy estimators	paper
11:20-11:45	Muhiddin Uğuz	RW-9: A Family of Random Walk Tests	paper
11:45-12:10	Michael Vielhaber	Two pattern properties of binary sequences invariant under the continued fraction operator $K$ (the Berlekamp-Massey Algorithm)	paper
12:10-14:00	Lunch		
14:00-15:00	Panel Discussion		
15:00-15:30	Coffee & Tea Break		
Session 6: Linear Complexity and De Bruijn Sequences			
15:30-15:55	Domingo Gomez	On the linear complexity of shrunken sequences	paper
15:55-16:20	Kalikinkar Mandal	Filtering modified de Bruijn sequences with designated linear complexity	paper
16:20-16:45	Martianus Frederi Ezerman	New successor rules to efficiently produce exponentially many binary de Bruijn sequences	paper
End of Program			

## SETA2024 Program (Friday)

08:30-09:00	Coffee & Tea		
09:00-10:00	Nam Yul Yu <a href="#">Invited Talk</a>	Pseudorandom sequences for grant-free access in massive machine-type communications	abstract
Session 7: Complementary Sequences II			
10:00-10:30	Coffee & Tea Break		
10:30-10:55	Chunlei Xie	New constructions of cross Z-complementary sequence sets based on Boolean functions for training in generalized spatial modulation	paper
10:55-11:20	Dian Li	On average zero-correlation zone of Golay complementary pairs	paper
11:20-11:45	Tao Yu	A construction of optimal Z-complementary code sets on partially $m$ -shift orthogonal complementary codes	paper
11:45-12:10	Yushu Tian	Construction of multiple quasi-complementary sequence sets with low inter-set cross-correlation	paper
12:10-14:00	Lunch		
End of SETA-2024			