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 Keynote Talk 2 **Pingzhi Fan**	09:00-10:00 Keynote Talk 4 **Christos Masouros**	09:00-10:00 Keynote Talk 5 **Nam Yul Yu**
09:50-10:00 Opening			
10:00-11:00 Keynote Talk 1 **Sihem Mesnager**	10:00-10:30 Break	10:00-10:30 Break	10:00-10:30 Break
11:00-11:20 Break	10:30-12:10 **Session 4** 4 papers	10:30-12:10 **Featured Talk** 10:30-11:20 Pantelimon Stănică 11:20-12:10 Wai-Ho Mow	10:30-12:10 **Session 7** 4 papers
11:20-12:10 **Session 1** 2 papers			
			Closing
12:10-14:00 **Lunch**			
14:00-15:15 **Session 2** 3 Papers	14:00-15:00 Keynote Talk 3 **Steven (Qiang) Wang**	14:00-15:00 Panel Discussion Future Researches on Sequences	Departure
15:15-15:30 Break	15:00-15:30 Break	15:00-15:30 Break	
15:30-17:10 **Session 3** 4 papers	15:30-16:45 **Session 5** 3 papers	15:30-16:45 **Session 6** 3 papers	
		18:30 Banquet at Wivenhoe House	

Session Topics	
Session 1: Autocorrelation of Sequences	**Session 5**: Permutations over Finite Fields
Session 2: DeBruijn Sequences and Linear Complexity	**Session 6**: Randomness of Sequences
Session 3: Crypt. Functions and Algebraic Codes	**Session 7**: Low-Correlation Sequences
Session 4: Complementary Seq. and Arrays	

- Brief introductions of the invited speakers can be found at this link

- The arrangement on Wednesday can be found at this link

SETA2024 Program (Monday)

08:30-9:50	**Registration Break**		
	Coffee & Tea		
09:50-10:00	**Conference Opening**		
	Maria Fasli		
	Dean of the Faculty of Science and Health, the University of Essex		
10:00-11:00	Sihem Mesnager Keynote Talk *Chair: Daniel Katz*	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: Autocorrelation of Sequences (*Chair: Avik Ranjan Adhikary*)

11:20-11:45	Gangsan Kim	Balanced binary sequences with favorable autocorrelation from cyclic relative difference sets	paper
11:45-12:10	Daniel Katz	Moments of autocorrelation demerit factors	paper
12:10-14:00	**Lunch**		

Session 2: De Bruijn Sequences and Linear Complexity (*Chair: Chunlei Li*)

14:00-14:25	Guang Gong	Filtering modified de Bruijn sequences with designated linear complexity	paper
14:25-14:50	Martianus Frederic Ezerman	New successor rules to efficiently produce exponentially many binary de Bruijn sequences	paper
14:50-15:15	Domingo Gomez	On the linear complexity of Shrunken sequences	paper
15:15-15:30	**Coffee & Tea Break**		

Session 3: Cryptographic Functions and Algebraic Codes
(*Chair: Constanza Riera*)

15:30-15:55	Yongbo Xia	A direct method for calculating the differential spectrum of an APN power mapping	paper
15:55-16:20	Ana Salagean	Bounds for the average degree-k monomial density of Boolean functions	paper
16:20-16:45	Guangkui Xu	Optimal few-weight codes from projective spaces	paper
16:45-17:10	Susanta Samanta	On the Counting of Involutory MDS Matrices	paper

SETA2024 Program (Tuesday)

08:30-09:00	**Coffee & Tea**		
09:00-10:00	Pingzhi Fan Keynote Talk *Chair: Tor Helleseth*	Recent advances in signal design for integrated sensing & communications	abstract
10:00-10:30	**Coffee & Tea Break**		
Session 4: Complementary Sequences and Arrays (*Chair: Qi Zeng*)			
10:30-10:55	Kai Liu	Construction of cross Z-complementary sequence set with large CZC ratio	paper
10:55-11:20	Tao Yu	A construction of optimal Z-complementary code sets on partially m-shift orthogonal complementary codes	paper
11:20-11:45	Rajen Kumar	Multiple spectrally null constrained complete complementary codes of various lengths over small alphabet	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 Keynote Talk *Chair: Ana Salagean*	A survey of compositional inverses of permutation polynomials over finite fields	paper
15:00-15:30	**Coffee & Tea Break**		
Session 5: Permutations over Finite Fields (*Chair: Domingo Gomez*)			
15:30-15:55	Mohit Pal	A proof of a conjecture on trivariate permutations	paper
15:55-16:20	Lucas Krompholz	On the bijectivity of the map χ	paper
16:20-16:45	Steven Wang	An effective approach to enumerate universal cycles for k-permutations	paper
End of Program			

SETA2024 Program (Thursday)

08:30-09:00	**Coffee & Tea**		
09:00-10:00	Christos Masouros Keynote Talk *Chair: Zilong Liu*	Sustainable and multifunctional wireless networks	abstract
10:00-10:30	**Coffee & Tea Break**		
	Poster Preparation		
Featured Talk (*Chair: Chunlei Li*)			
10:30-11:20	Pantelimon Stănică	Threshold implementations and permutations' decompositions: a number theoretical approach	abstract
11:20-12:10	Wai-Ho Mow	Bus coding for low-power on-chip interconnects	abstract
	Poster Session		
12:10-14:00	**Lunch**		
14:00-15:00	**Panel Discussion** **Opportunity and Challenges for Next-Generation Sequences** Pingzhi Fan, Guang Gong, Tor Helleseth and Christos Masouros		
15:00-15:30	**Coffee & Tea Break**		
Session 6: Randomness of Sequences (*Chair: Chaoyun Li*)			
15:30-15:55	Melis Aslan	Observations on NIST SP 800-90B entropy estimators	paper
15:55-16:20	Michael Vielhaber	Two pattern properties of binary sequences invariant under the continued fraction operator K (the Berlekamp-Massey Algorithm)	paper
16:20-16:45	Muhiddin Uğuz	RW-9: A family of random walk tests	paper
End of Program			

SETA2024 Program (Friday)

08:30-09:00	Coffee & Tea		
09:00-10:00	Nam Yul Yu Keynote Talk *Chair: Guang Gong*	Pseudorandom sequences for grant-free access in massive machine-type communications	abstract
10:00-10:30	Coffee & Tea Break		
Session 7: Low-Correlation Sequences (*Chair: Yongbo Xia*)			
10:30-10:55	Dian Li	On average zero-correlation zone of Golay complementary pairs	paper
10:55-11:20	Yubo Li	Construction of multiple quasi-complementary sequence sets with low inter-set cross-correlation	paper
11:20-11:45	Qi Zeng	Hierarchical frequency hopping technique for heterogeneous multi-tier networks	paper
11:45-12:10	Avik Ranjan Adhikary	Circular quasi-Florentine rectangles and its application in designing optimal polyphase sequence sets	paper
12:10-12:15	**Conference Closing** Tor Helleseth		
12:15-14:00	Lunch		
End of SETA-2024			