Huawei Wu

wuhuawei1996@gmail.com

Vitry-sur-Seine, Paris, France

EDUCATION

Tsinghua University, China | Ph.D.   2018 — 2024

- Major: Mathematics
- Research Interests: Algebraic Geometry and Number Theory, Coding Theory and Cryptography

Huazhong University of Science and Technology, China | B.S.   2014 — 2018

- Major: Information and Computational Science
- Relevant Coursework: Probability Theory, Stochastic Process, C++ Programming, Data Structure

EXPERIENCE

Université Paris VIII, France | Postdoctoral Fellow   2024 — present

- Advisor: Professor Sihem Mesnager
- Research Interests: Cryptographic Functions with Desirable Properties

HONORS AND AWARDS

Academic Awards

- First Place in the 'Cryptography and Mathematics' Summer School Competition, Institute of Information Engineering, Chinese Academy of Sciences, 2023
- National Second Prize of the 8th Mathematics Competition of Chinese College Students (16th Place), 2017

State-Level Awards

- National Scholarship (¥8,000), Twice
- National Encouragement Scholarship (¥5,000), 2015

Municipal Awards

- Outstanding Graduate of Wuhan, 2018

School-Level Awards

- Tsinghua University Comprehensive Scholarship, 2022
- Title of Merit Student of Huazhong University of Science and Technology, Three Times

RESEARCH

- **Wu, H.**[*], Yang, J. and Feng, K., 2023. The Weight Distributions of Two Classes of Linear Codes from Perfect Nonlinear Functions. IEEE Transactions on Information Theory (IF: 2.2).
- **Wu, H.**[*], Yang, J. and Feng, K., 2024. Circular External Difference Families: Construction and Non-Existence. Designs, Codes and Cryptography, pp.1-14.
- Xu, G., Cao, X., Luo, G.[*] and **Wu, H.**, 2024. Infinite Families of 3-Designs from Special Symmetric Polynomials. Designs, Codes and Cryptography, pp.1-23.
- Mesnager, S. and **Wu, H.**[*], 2025. On the Differential and Walsh Spectra of x^{2q+1} over $\mathbb{F}_{q^2}$. Finite Fields and Their Applications, 103, p.102576.
- Mesnager, S. and **Wu, H.**[*], 2024. The Differential and Boomerang Properties of a Class of Binomials. arXiv preprint arXiv:2409.14264.
- Mesnager, S. and **Wu, H.**[*], 2025. An In-Depth Study of the Power Function x^{q+2} over the Finite Field $\mathbb{F}_{q^2}$: the Differential, Boomerang and Walsh Spectra, with an Application to Coding Theory. arXiv preprint arXiv:2407.07710.

Remark: The asterisk * indicates the corresponding author.

SKILLS AND INTERESTS

- Technical: JavaScript, Python, Scientific Computing, Desktop Application Development
- Interests: Music (Piano & Singing), Coding, Traveling

PROGRAMS

- **TranslatorGPT**: A ChatGPT-based translation application developed using Tauri, with main features including translation by selecting, translation by screenshot, and paper proofreading. ⌗