TJITSKE KOSTER

I walk where the beautiful views are, and the road will bring me further

@ T.O.Koster@tudelft.nl +31 6 22366750 Delft, Nederland tjitske-koster

The ongoing battle of breaking and encrypting messages in cryptography has always fascinated me. My bachelor's degree in mathematics provided a solid mathematical foundation to analyze these cryptographic systems. After completing my bachelor's degree, I chose to pursue a master's in cryptography to apply and extend the skills I had learned. Now, I'm doing a PhD at the TU Delft to develop my skills in cryptography (multi-party computation) further.

PHD

PhD Cryptography TU Delft
October 2024- expected October 2028

FOR THE COMMUNITY

Organize PhD and Postdoc lunches
2025 - ongoing.
We provide a safe space for PhDs and Postdocs to talk.

RESEARCH

Bandwidth Efficient Partial Authorized PSI - Eprint

TU Delft

2025

- PSI is the secure computation of a Private Set Intersection.
- Cryptographic design of a PSI (2PC) protocol.
- Optimizes the bandwidth and runtime of a previous protocol.
- Provides an open source implementation.

On the Insecurity of Bloom Filter-Based PSI - Eprint

TU Delft

2024

- Identifies flaws in the proofs of Bloom filter-based PSI protocols.
- Formally proves new bounds on parameters.

Young Talent Cybersecurity 2025

Institut Français-NL

2025

- Worked in a multidisciplinary team of young talents.
- Answered the question "Are organizations ready for the post-quantum era?"
- The report will be made public soon.

Currently working on

- Fuzzy PSI protocol
- PSI combined with zero-knowledge proofs and/or ZK-SNARKS

STRENGTHS

Proactive | Collaborative | Persevering

Rust | C++ | Magma | Python

AWARD

Cyber Woman Student of the World
2025, awarded by the CEFCYS

BEST EXPERIENCE

Gab year March - June 2021
Walking from Nijmegen (NL) to Santiago de Compostela (E)

EDUCATION

M.Sc. in Mathematics

Radboud university

September 2021 -August 2024

- Thesis: The Matrix Code Equivalence problem given codes with non-trivial automorphism groups.
- Explores the hardness of the Matrix Code Equivalence problem.
- Relevant for post-quantum cryptography.

B.Sc. in Mathematics

Radboud University

September 2018 - January 2022

LANGUAGES

Dutch ●●●●●

English ●●●●◐

French ●●●●○

REFEREES

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