

# TJITSKE KOSTER

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



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 cybersecurity group of the TU Delft to develop my skills in cryptography further.

## PHD

**PhD Cryptography TU Delft**  
October 2024- expected October 2028

## VOLUNTEER WORK

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

## RESEARCH

Bandwidth Efficient Partial Authorized PSI  
**TU Delft**

2025

- [Eprint](#).
- 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 Private Set Intersections  
**TU Delft**

2024

- [Eprint](#).
- Identifies flaws in the proofs of Bloom filter-based PSI protocols.
- Formally proves new bounds on parameters.

Young Talents 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?"

## STRENGTHS

Proactive   Collaborative   Persevering

Rust   C++   Magma   Python

## AWARD

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

## BEST EXPERIENCE

**Gap 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.

B.Sc. in Mathematics

**Radboud University**

September 2018 - January 2022

## WORK EXPERIENCE

Student assistant

**Radboud university**

September 2022 - July 2023

- Introduction to Mathematics, Geometry, and Cryptography

Retail assistant

**Bever**

April 2016 - December 2024

- Acting store manager

## LANGUAGES

Dutch



English



French

