

WOMEN IN SECURITY AND CRYPTOGRAPHY



SEPTEMBER 21-23, 2021



The first **Women in Security and Cryptography (WiSC) Workshop** of the Cluster of Excellence “CASA - Cyber Security in the Age of Large-Scale Adversaries” at Ruhr-Universität Bochum took place from 21-23 September 2021. International female* doctoral candidates and outstanding female* students from the field of IT security participated in the inspiring digital workshop.

The WiSC is a sister event of the renowned computer security conference “Women in Theory” (WIT) and will be held every two years from now on.



GOALS of the workshop:

- Creating a forum for scientific exchange, professional development, and networking - exclusively for women*
- Offering top-class lectures by leading female* scientists in the field of IT security
- Enabling new insights into the industry
- Establishing long-lasting connections with key players in the scientific community
- Female Empowerment

THE PARTICIPANTS

The participants of the WISC were female* researchers, doctoral candidates and outstanding students from the field of IT security and came from all over the world.

Some FACTS and FIGURES:

- The very first WISC
- 3 Exciting days
- 50 Participants from 12 different home countries: Austria, Denmark, France, Germany, India, Ireland, Luxembourg, New Zealand, Norway, Switzerland, United Kingdom, USA.

THE CENTERPIECE OF THE PROGRAM WERE THE TALKS BY THESE EXCELLENT SPEAKERS:



Tal Rabin
University of Pennsylvania & Algorand Foundation, USA
MPC in the YOSO (You Only Speak Once) Model



Michelle Mazurek
Institute for Advanced Computer Studies, University of Maryland, USA
Investigating Secure Development in Practice: A Human-Centered Perspective

TEAMS-need DIVERSITY



Elette Boyle
FACT Research Center, IDC Herzliya, Israel
Pseudorandom Correlation Generators



Adrienne Porter Felt
Director of Engineering, Google, USA
An Industry Career Path, in Security and Beyond

NETWORKING creates OPPORTUNITIES



Kenza Ait Si Abbou
Senior Manager for Robotics and Artificial Intelligence, Germany
Artificial intelligence needs more women!



Carmela Troncoso
École polytechnique fédérale de Lausanne, Switzerland
Why Synthetic Data Is Not a Solution to Any Machine Learning Problem

THE PROGRAM

The conference program of the WISC focused on top-class lectures by leading female* scientists in the field of IT security. These enabled the participants to gain relevant insights into the industry, to get to know role models and to establish lasting connections with important players in the scientific community.

Always ASK!

Tuesday, September 21, 2021	Wednesday, September 22, 2021	Thursday, September 23, 2021
Welcome & Introduction	Welcome to Day 2	Welcome to Day 3
Tal Rabin "MPC in the YOSO (You Only Speak Once) Model"	„Moving Start“ (Yoga Session)	Carmela Troncoso "Why Synthetic Data Is Not a Solution to Any Machine Learning Problem"
Break	Kenza Ait Si Abbou "Artificial intelligence needs more women!" (incl. plenary discussion)	Break
Elette Boyle "Pseudorandom Correlation Generators"	Break	Open Space: Participants Can Propose Topics They Want To Discuss in Break-Out Sessions.
Networking Break	Michelle Mazurek "Investigating Secure Development in Practice: A Human-Centered Perspective"	Break
Break	Break	Virtual Pub Quiz
Lightning Talks: Short Presentations by Participants Followed by Discussions in Break-out Sessions	Break	Common End (Official End of Day 3)
Common End (Official End of Day 1)	Adrienne Porter Felt "An Industry Career Path, in Security and Beyond"	Common End (Official End of Day 2)
Get-Together	Common End (Official End of Day 2)	Get-Together

Topics discussed in the OPEN SPACE:

- How to Discuss 'Womens Issues' in Research With Men/Others
- Career Paths
- Narrowing Down a Topic to a Research Question
- How to Balance Work and Personal Life?
- Ethics
- Trust in Cryptography

"you need friends in the research community"

In addition to the scientific presentations, WISC offered a diverse program of lightning talks, open space discussions, games, a yoga session, a quiz, and – above all – many opportunities to ask questions.

LIGHTNING TALKS

Some Topics of the LIGHTNING TALKS:

- Malware
- The Design of a Common Lightweight Cryptoprocessor for Post-Quantum Schemes
- Detection of Bypass Frauds in Cellular Network Datasets
- Why Should We Care About "Cryptoagility"?
- Feminist Reading Circle for Computer Scientists
- Memristive Devices for Hardware Security Applications: Physical Unclonable Functions And True Random Number Generators
- Privacy-Preserving Image Moderation Through Similarity-Based Bucketization
- Internet of Medical Things: A Future Smart Connected Healthcare
- Data Protection in Machine Learning

The teams of the VIRTUAL PUB QUIZ:

The Quizhackers (the winners!), the Quantum-Resistance, WISC-Masters, Team No Eye Dear, the Quiz-attackers, the Interdisciplinary's, the Interdisciplinary Team, the Quiz Snowdens, the Quiz-IT's, the Winner, Opportunity, the Cyber-Winners, the Quiz-Security.

The winning team of the Pub Quiz got to spend a digital coffee break with Carmela Troncoso.



EXPERIENCES, INSIGHTS & FINDINGS

A few INSIGHTS that the participants took away from the first WISC:

- Exciting scientific topics
- The importance of networking
- It is possible to change directions in your career path, so do not be afraid of trying new things
- It's okay to fail
- Be clear with yourself
- Know your worth and your values
- You have to put yourself out there
- Learn from everyone around you who is doing something well
- Do something meaningful!



A few words from Johanna, our WISC 2021 organizer ...

“ Finding your own values, building a network and being active - these are probably a few of the main messages I personally take away from WISC 2021. I believe that the helpful and practical tips from the speakers were very valuable for the participants and left a lasting impact. The positive, powerful and motivating atmosphere during the three days as well as the interest and commitment of all WISC participants made a strong impression on me. The diversity of participants and topics also made the event very colorful and lively. Therefore, I'm looking forward even more to the next WISC in 2023! ”

WE ARE LOOKING FORWARD TO THE NEXT WISC 2023!

About CASA:

CASA is the only German Cluster of Excellence in the field of cybersecurity and is funded by the DFG (German Research Foundation) with 30 million Euros over seven years. This funding ensures excellent research conditions and allows us to support the needs and ambitions of our scientists. CASA encourages talented female* scientists to pursue careers in academia and industry and supports them in achieving a work-life balance. Our goal is to implement lasting and effective measures to promote equal opportunities.

Contact

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* In case of using gender-assigning attributes we include all those who consider themselves in this gender regardless of their own biological sex.

