Muslum Ozgur Ozmen

Education

Jan 2020 — Present	**Ph.D. in Computer Science**
	4.00/4.00
	Dr. Z. Berkay Celik
	Purdue University West Lafayette, IN, USA
Sept 2016 — June 2018	**MSc in Computer Science**
	3.96/4.00
	Dr. Attila Altay Yavuz
	Oregon State University Corvallis, OR, USA
Sept 2012 — June 2016	**BS in Electrical and Electronics Engineering**
	3.49/4.00
	Bilkent University Ankara, Turkey

Teaching Experience

Guest Lecturer:

- CS426 Computer Security, Purdue University, Spring 2023
- CS590 IoT & CPS Security, Purdue University, Spring 2022

Teaching Assistant:

- CS496 - Mobile and Cloud Software Development, Oregon State University, Winter 2018
- CS261 - Data Structures, CS/ECE578 - Cyber-security, Oregon State University, Fall 2017
- CS492 - Mobile Software Development, Oregon State University, Winter 2017

Publications

Peer-reviewed conference publications:

C21 **Muslum Ozgur Ozmen**, Ruoyu Song, Habiba Farrukh and Z. Berkay Celik. *Evasion Attacks on Smart Home Physical Event Verification and Defenses.* Network and Distributed System Security Symposium (NDSS) 2023.

C20 Habiba Farrukh*, **Muslum Ozgur Ozmen***, Kerem Ors and Z. Berkay Celik. *One Key to Rule Them All: Secure Group Pairing for Heterogeneous IoT Devices.* IEEE S&P 2023. – equally contributed.

C19 **Muslum Ozgur Ozmen***, Habiba Farrukh*, Hyungsub Kim, Antonio Bianchi and Z. Berkay Celik. *Rethinking Secure Pairing in Drone Swarms.* VehicleSec 2023. – equally contributed.

C18 Hyungsub Kim, **Muslum Ozgur Ozmen**, Z. Berkay Celik, Antonio Bianchi and Dongyan Xu. *PatchVerif: Discovering Faulty Patches in Robotic Vehicles.* Usenix Security 2023.

C17 Khaled Serag, Khaled Serag, Rohit Bhatia, Akram Faqih, **Muslum Ozgur Ozmen**, Vireshwar Kumar, Z. Berkay Celik, Dongyan Xu. *ZBCAN: A Zero-Byte CAN Defense System.* Usenix Security 2023.

C16 **Muslum Ozgur Ozmen**, Xuansong Li, Andrew Chu, Z. Berkay Celik, Bardh Hoxha and Xiangyu Zhang. *Discovering IoT Physical Channel Vulnerabilities.* ACM Conference on Computer and Communications Security (ACM CCS) 2022.

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C15 Hyungsub Kim, **Muslum Ozgur Ozmen**, Z. Berkay Celik, Antonio Bianchi and Dongyan Xu. *PGPATCH: Policy-Guided Logic Bug Patching for Robotic Vehicles.* IEEE S&P 2022.

C14 Andrew Chu, Arjun Arunasalam **Muslum Ozgur Ozmen** and Z. Berkay Celik. *Behind the Tube: Exploitative Monetization of Content on YouTube.* Usenix Security 2022.

C13 Hyungsub Kim, **Muslum Ozgur Ozmen**, Antonio Bianchi, Z. Berkay Celik and Dongyan Xu. *PGFUZZ: Policy-Guided Fuzzing for Robotic Vehicles.* Network and Distributed System Security Symposium (NDSS) 2021.

C12 Furkan Goksel*, **Muslum Ozgur Ozmen***, Michael Reeves, Basavesh Shivakumar and Z. Berkay Celik. *On the Safety Implications of Misordered Events and Commands in IoT Systems.* IEEE Workshop on the Internet of Safe Things (SafeThings) 2021. – equally contributed.

C11 Rouzbeh Behnia, Attila A. Yavuz, **Muslum Ozgur Ozmen** and Tsz Hon Yuen. *Compatible Certificateless and Identity-Based Cryptosystems for Heterogeneous IoT.* International Conference on Information Security (ISC) 2020.

C10 Efe U. A. Seyitoglu, Attila A. Yavuz and **Muslum Ozgur Ozmen**. *Compact and Resilient Cryptographic Tools for Digital Forensics.* IEEE Conference on Communications and Network Security (IEEE CNS) 2020. **(Best Paper Award Finalist)**

C9 **Muslum Ozgur Ozmen**, Attila A. Yavuz and Rouzbeh Behnia. *Energy-Aware Digital Signatures for Embedded Medical Devices.* IEEE Conference on Communications and Network Security (IEEE CNS) 2019.

C8 Rouzbeh Behnia, **Muslum Ozgur Ozmen** and Attila A. Yavuz. *ARIS: Authentication for Real-Time IoT Systems.* International Conference on Communications (IEEE ICC) 2019.

C7 **Muslum Ozgur Ozmen**, Rouzbeh Behnia and Attila A. Yavuz. *Fast Authentication from Aggregate Signatures with Improved Security.* Financial Cryptography and Data Security (FC) 2019.

C6 Rouzbeh Behnia, **Muslum Ozgur Ozmen**, Attila A. Yavuz and Mike Rosulek. *TACHYON: Fast Signatures from Compact Knapsack.* ACM Conference on Computer and Communications Security (ACM CCS) 2018.

C5 **Muslum Ozgur Ozmen** and Attila A. Yavuz. *Dronecrypt-An Ultra-Low Energy Cryptographic Framework for Small Aerial Drones.* Military Communications Conference (IEEE MILCOM) 2018.

C4 **Muslum Ozgur Ozmen** and Attila A. Yavuz. *Compact Energy and Delay-Aware Authentication.* IEEE Conference on Communications and Network Security (IEEE CNS) 2018.

C3 **Muslum Ozgur Ozmen**, Thang Hoang and Attila A. Yavuz. *Forward-Private Dynamic Searchable Symmetric Encryption with Efficient Search.* International Conference on Communications (IEEE ICC) 2018.

C2 **Muslum Ozgur Ozmen** and Attila A. Yavuz. *Low-Cost Standard Public Key Cryptography Services for Wireless IoT Systems.* Workshop on Internet of Things Security and Privacy (IoT S&P) 2017 (Affiliated with ACM CCS).

C1 Rouzbeh Behnia, Attila A. Yavuz and **Muslum Ozgur Ozmen**. *High-Speed High-Security Public Key Encryption with Keyword Search.* IFIP Annual Conference on Data and Applications Security and Privacy (DBSec) 2017.

Peer-reviewed journal publications:

J3   Attila A. Yavuz and **Muslum Ozgur Ozmen**. *Ultra Lightweight Multiple-time Digital Signature for the Internet of Things Devices.* IEEE Transactions on Services Computing (IEEE TSC), 2019.

J2   Thang Hoang, **Muslum Ozgur Ozmen**, Yeongjin Jang and Attila A. Yavuz. *Hardware-Supported ORAM in Effect: Practical Oblivious Search and Update on Very Large Dataset.* Proceedings on Privacy Enhancing Technologies (PoPETS), 2019.

J1   Rouzbeh Behnia, **Muslum Ozgur Ozmen** and Attila A. Yavuz. *Lattice-Based Public Key Encryption with Keyword Search from Experimental Perspectives.* IEEE Transactions on Dependable and Secure Computing (IEEE TDSC), 2018.

PATENTS

P3   Rouzbeh Behnia, **Muslum Ozgur Ozmen** and Attila A. Yavuz. *Efficient Identity-Based and Certificateless Cryptosystems*, US Patent 10,673,625

P2   Attila A. Yavuz, **Muslum Ozgur Ozmen** and Rouzbeh Behnia. *Energy-aware Digital Signatures*, US Patent 10,547,455

P1   Thang Hoang, **Muslum Ozgur Ozmen**, and Attila A. Yavuz *Forward-Private Dynamic Searchable Symmetric Encryption with Efficient Search*, US Patent 10,922,273

PRESENTATIONS

Invited Talks:

I2   *Compositional Safety and Security Reasoning in IoT Environments.* University of California Santa Cruz. Virtual, February 2023.

I1   *Lightweight, Delay-Aware and Scalable Cryptographic Services for Smart-Grid Systems.* Cyber Resilient Energy Delivery Consortium (CREDC) Pacific Northwest Industry Workshop. Richland, WA, USA, November 2017.

Conference and Workshop Talks:

T7   *Evasion Attacks on Smart Home Physical Event Verification and Defenses.* Network and Distributed System Security Symposium (NDSS). San Diego, CA, USA, March 2023.

T6   *Discovering IoT Physical Channel Vulnerabilities.* ACM Conference on Computer and Communications Security. Los Angeles, CA, USA, November 2022.

T5   *Energy-Aware Digital Signatures for Embedded Medical Devices.* IEEE Conference on Communications and Network Security. Washington, DC, USA, June 2019.

T4   *Fast Authentication from Aggregate Signatures with Improved Security.* Financial Cryptography and Data Security. St Kitts and Nevis, February 2019.

T3   *TACHYON: Fast Signatures from Compact Knapsack.* ACM Conference on Computer and Communications Security. Toronto, ON, Canada, October 2018.

T2   *Forward-Private Dynamic Searchable Symmetric Encryption with Efficient Search.* IEEE International Conference on Communications. Kansas City, MO, USA, May 2018.

T1   *Low-Cost Standard Public Key Cryptography Services for Wireless IoT Systems.* Workshop on Internet of Things Security and Privacy. Dallas, TX, USA, November 2017.

Program Committee Member:

- SafeThings 2023

- RICSS 2023

Reviewer:

- IEEE Internet of Things Journal - 2022

- Journal of Complex & Intelligent Systems - Springer, 2021

- IEEE Transactions on Services Computing - 2020

- IEEE Access - 2019

- Journal of Ambient Intelligence and Humanized Computing - Springer, 2018

External Reviewer:

- IEEE S&P 2023

- Usenix Security 2022, 2023

- NDSS 2022, 2023

- CCS 2021

- ACSAC 2017, 2018, 2019, 2022

- WWW 2019

- DBSec 2017, 2018, 2019

Awards and Honors

- Recipient of NDSS 2023 Travel Grant (1,550$).

- Recipient of IEEE CNS 2019 Travel Grant (1,250$).

- Sharpeye - Acoustic Localization of Gunshot, funded by The Scientific and Technological Research Council of Turkey, 2016.

- Turkish Educational Foundation, Outstanding Success Scholarship (awarded to 50 students nationwide), September 2013 — June 2016.