

# **Ender Yuksel**

**Postdoctoral Researcher at Technical University of Denmark**

Kongens Lyngby, , DK

Researcher, Computer Scientist

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## **Biography**

I am a computer scientist, specialized in modelling and analysis of IT systems. I also have a keen interest and academic experience in the security of systems and software.

My research is in the area of formal methods for security and more specifically on qualitative and quantitative security analyses of IT systems such as: wireless sensor networks, embedded systems, smart grid, and cyber-physical systems.

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## **Availability**

Keynote, Moderator, Panelist, Workshop, Host/MC, Author Appearance

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## **Industry Expertise**

Computer/Network Security, Computer Software, Research

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## **Areas of Expertise**

Security, Verification, Sensors

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## **Affiliations**

Technical University of Denmark, Istanbul Technical University

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## **Sample Talks**

### **Strategies for Key Updates in ZigBee: A quantitative approach to security**

ZigBee offers the advantages of simple and low-resource communication. Nevertheless, security is of particular importance in many cases such as when sensitive data is communicated or tamper-resistance is required.

Updating the security keys is one of the critical points in security, which restrict the amount of data that may be exposed when a key is compromised. In this talk, we focus on methods for key update and determining optimal key update strategies for custom network scenarios. We take...

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## **Event Appearances**

### **Smart Grid Security: A Smart Meter-Centric Perspective**

2nd General Meeting of the IDEA4CPS Project

### **Key Update Assistant for Resource-Constrained Networks**

The 17th IEEE Symposium on Computers and Communications

### **Modelling and Analysis of Smart Grid: A Stochastic Model Checking Case Study**

The 6th IEEE International Symposium on Theoretical Aspects of Software Engineering

### **Resilience Analysis of Key Update Strategies for Resource-Constrained Networks**

The 3rd International Congress on Ultra Modern Telecommunications and Control Systems

### **Characteristics of Key Update Strategies for Wireless Sensor Networks**

International Conference on Network Communication and Computer

### **Optimizing Key Updates in Sensor Networks**

IEEE Sensors Applications Symposium

### **A Secure Key Establishment Protocol for ZigBee Wireless Sensor Networks**

The 24th International Symposium on Computer and Information Sciences

### **LBTool: A Stochastic Toolkit for Leave-Based Key Updates**

The 4th IEEE International Workshop on Performance Evaluation of Communications in Distributed Systems and Web based Service Architectures

### **Quantitative Security Analysis of ZigBee Key Updates**

The 21st Nordic Workshop on Programming Theory

### **ZigBee-2007 Security Essentials**

The 13rd Nordic Workshop on Secure IT-systems

### **A Secure Simplification of the PKMv2 Protocol in IEEE 802.16e-2005**

Joint Workshop on Foundations of Computer Security and Automated Reasoning for Security Protocol Analysis

### **Telsiz Yerel Alan A?lar?nda G?venlik Sorunu**

A? ve Bilgi G?venli?i Ulusal Sempozyumu

### **Sanal ?zel A? Ger?eklemesi**

A? ve Bilgi G?venli?i Ulusal Sempozyumu

### **K?resel Ekonomide ?irketlerin Modern Fikri M?lkiyet Stratejisi Ve Say?sal M?lkiyet Hakk?n?n Korunmas?**

A? ve Bilgi G?venli?i Ulusal Sempozyumu

### **A Secure Key Establishment Protocol for ZigBee Wireless Sensor Networks**

Dagstuhl seminar Quantitative and Qualitative Analysis of Network Protocol

## **Time Management**

LBT GRUS

**Static Analysis of Cryptographic Protocols: An Application in ZigBee Wireless Network Security**  
Seminar, University of Oxford

**A Secure Simplification of the PKMv2 Protocol in IEEE 802.16e-2005**  
Seminar, Imperial College London

**Modelling and Verification of ZigBee Security Sublayer**  
Modelling and verification of security protocols, KomIalt, Alexandra Instituttet

**Timing and research**  
PhD External Research Stay Event, DTU PhD Association

**Strategies for Key Updates in ZigBee: A quantitative approach to security**  
6th European ZigBee Developers' Conference

**Life after PhD**  
Post-PhD Career Event, DTU PhD Association

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## **Education**

**Technical University of Denmark**  
PhD Computer Science

**Istanbul Technical University**  
MSc. Computer Engineering

**Istanbul Technical University**  
BSc. Computer Engineering

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## **Accomplishments**

### **Scholarships**

Scholarships:

- Erasmus Student Exchange Programme (2006).
- DTU Ph.D. Programme (2007).

### **Invited Speaker**

Invited Speaker:

- Oxford University (2008),
- Imperial College London (2008),
- Alexandra Institute (2008),
- East China Normal University (2011),
- European ZigBee Developers Conference (2012).

### **Invited Participant**

Invited Participant:

Dagstuhl Seminar “Quantitative and Qualitative Analysis of Network Protocols” (2010).

### **Award Nomination**

Award Nomination:

Nominated to the Best Ph.D. Thesis award of the European Research Consortium for Informatics and Mathematics (2012).

### **Delegate of Denmark**

Delegate of Denmark:

The European Council for Doctoral Candidates and Junior Researchers (2009-2011).

### **Vice Chairman**

Vice Chairman:

Ph.D. Association, Technical University of Denmark (2009).

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