

TETAM

Disiplinler Arası Araştırma Çalıştayı 3

**Formal Modeling of Computer
Security, Privacy and Trust**

Dr. Mehmet Ufuk Çağlayan

Department of Computer Engineering

Boğaziçi University

21 Şubat 2014

Overall Motivation

- **Formal modeling and analysis is very, very important, given the current complexity of hardware/software systems and importance of Internet services in our daily life**
- **Trust modeling is a new research area that has emerged recently**
- **Formal security policy modeling in multi-domain networks with mobility and location dependency is also an important research area**
- **Formal modeling and analysis of security aspects hopefully easier than modeling and analysis of general software systems**

Recently Completed PhD Research Work - 1

- **A Formal Specification and Verification Framework for Security Policies in Multi-Domain Mobile Networks**
PhD Research of Devrim Ünal, October 2011, currently in TÜBİTAK, Gebze
- **Core-Crust Modeling Approach for Formal Representation of Trust in Relation to Computer Security**
PhD Research of Şerif Bahtiyar, December 2011, currently in Provus, İstanbul
(TAM Project Full Support during PhD study)

Recently Completed PhD Research Work - 2

- **A Formal Trust Model Based on Recommendations**

PhD Research of Mahir Kutay (Dokuz Eylül Üniversitesi, Elektrik-Elektronik Mühendisliği, Advisor: Zafer Dicle), January 2013, currently in Yaşar Üniversitesi, İzmir

Ongoing PhD Research Work - 1

- **Model Driven Security Framework for Software Design and Verification**
PhD Research of Engin Deveci, currently in Ericsson, İstanbul
- **Formal Specification and Verification of RFID Security and Privacy**
PhD Research of Mete Akgün, currently in TUBITAK, Gebze, Turkey

Ongoing PhD Research Work - 2

- **Formal Modeling and Analysis of Credit Card Fraud**
PhD Research of Yiğit Kültür, currently in Banksoft, İstanbul
- **Group Key Agreement Protocols for Dynamic Groups**
PhD Research of Orhan Ermiş, currently “gönüllü”
Research Assistant, Computer Engineering, Boğaziçi U.

Ongoing PhD Research Work - 3

- **Formal Modeling and Analysis of Secure Routing in Ad Hoc Networks**
PhD Research of Burak Gürdağ, currently in Argela, İstanbul
- **Software Design and Software Product Verification From Security Point of View (earlier)**
Modeling of MOOC Effectiveness (now)
PhD Research of Albert Özkohen, Instructor, MIS
- **Cyber-Physical Systems and Energy Based Side Channel Attacks**
PhD Research of Murat Cihan (currently God knows where)

For Further Communications

Prof. Dr. Mehmet Ufuk Çağlayan

Department of Computer Engineering

Boğaziçi University

Bebek, Istanbul 34342

Phone : +90 (212) 359 6698

Fax: +90 (212) 287 2461

E-mail : caglayan@boun.edu.tr

Web: <http://www.cmpe.boun.edu.tr/~caglayan>