

# AVVISO DI SEMINARIO

Silvia Bonomi

## Optimal Distributed Storage with Mobile Byzantine Failures

Lunedì 10 ottobre 2016 - 14:30, Aula Magna

### Descrizione

Silvia Bonomi, vincitrice di procedura valutativa di chiamata per un posto RTDB per il SSD ING-INF/05, terrà presso questo dipartimento un seminario su attività di ricerca svolte e in corso di svolgimento. Il seminario avrà luogo lunedì 10 ottobre 2016 alle 14:30 in Aula Magna, DIAG, via Ariosto 25.

**Abstract:** To ensure high availability, storage services are usually implemented by replicating data at multiple locations and maintaining such data consistent. Thus, replicated servers represent today an attractive target for attackers that may try to compromise replicas correctness for different purposes. Some example are: to gain access to protected data, to interfere with the service provisioning (e.g. by delaying operations or by compromising the integrity of the service), to reduce service availability with the final aim to damage the service provider (reducing its reputation or letting it pay for the violation of service level agreements) etc.

A compromised replica is usually modeled through an arbitrary failure (i.e. a Byzantine failure) that is made transparent to clients by employing Byzantine Fault Tolerance (BFT) techniques. However, attackers are becoming smarter and are able to propagate infections very fast. To better model this emerging trend, in addition to classical Byzantine behaviors, it is worth to consider mobile adversaries.

This talk will present the Mobile Byzantine Failure model and will discuss how it is possible to build an optimal distributed storage service that is able to resist Mobile Byzantine Failures.

**Short Bio:** Silvia Bonomi got the Ph.D. in Computer Science Engineering at Sapienza University of Rome in 2010. She is currently a research fellow at DIAG - Sapienza University of Rome. She is member of Cyber Intelligence and Information Security research group (CIS-Sapienza) of the Department of Computer, Control, and Management Engineering "Antonio Ruberti" since 2012 and of the Midlab research group since 2006. She has been and is currently involved in several National (ESTEEM and TENACE) and EU projects (SemanticGov, ReSIST, GreenerBuildings, eDIANA, PANOPESEC).

Her main research interests are in the context of dynamic distributed systems, dependability and security. In particular, she targets topics like fault tolerance (also considering malicious faults) and management of autonomic process behaviors in unmanaged environment (e.g. peer-to-peer systems). Other research interests are: information dissemination systems, event-based systems, data dissemination in sensors networks.