

**David Chadwick, Ilsun You and Hang Bae Chang (Eds.)**

**The 1st International Workshop on  
Managing Insider Security Threats  
(MIST 2009)**



**Online Proceedings**

**Purdue University, West Lafayette, USA**

**June 15-19, 2009**

**(In Conjunction with IFIPTM 2009)**

# Preface

As the use of information technology continues to rapidly expand, so do the opportunities for attacking an organization's digital information. During the past decade, information security has primarily focused on preventing illegal attacks by outsiders. However, statistics reveal that organizations lose more resources from insider attacks than from external ones. Consequently organizations are shifting a greater proportion of their security activities from the reduction of external risks to the reduction of internal risks, whether they be from malicious or simply negligent acts.

The first international workshop on Managing Insider Security Threats (MIST 2009) is aimed at providing a showcase for the latest developments in protecting against insider attacks and mistakes, and a forum for discussing the latest research and best practice, as well as an opportunity for determining where future research is still needed. These proceedings will be of interest to information security officers, security researchers, security consultants and enterprise decision makers with security or risk management responsibilities.

We would like to thank all the authors for their submissions, our Program Committee for performing their detailed reviews and feedback to the authors, and our Organizing Committee for their assistance in preparing for this event.

June 2009

**David Chadwick and Ilun You** - General Co-Chairs

**Hang Bae Chang** - Publicity and Web Chair

# Organization

## *General Co-Chairs*

**David Chadwick** (University of Kent, UK)

**Ilson You** (Korean Bible University, South Korea)

## *Publicity and Web Chair*

**Hang Bae Chang** (Daejin University, South Korea)

## *Program Committee*

**Gail-Joon Ahn** (Arizona State University, USA)

**Matt Bishop** (University of California, Davis, USA)

**Klemens Bohm** (University of Karlsruhe, German)

**Dawn M. Cappelli** (Carnegie Mellon University, USA)

**Fariborz Farahmand** (Purdue University, USA)

**Carrie Gates** (CA Labs, USA)

**Arif Ghafoor** (Purdue University, USA)

**Yong Guan** (Iowa State University, USA)

**Sushil Jajodia** (George Mason University, USA)

**Byoung-Soo Koh** (DigiCAPS Co., Ltd, South Korea)

**Dong Seong Kim** (Duke University, USA)

**Kwangjo Kim** (Information and Communications University, South Korea)

**Yang Hoon Kim** (Daejin University, South Korea)

**Hong Joo Lee** (Yonsei University, South Korea)

**Chu-Hsing Lin** (Tunghai University, Taiwan)

**Tom Longstaff** (Carnegie Mellon University, USA)

**Chris Mitchell** (University of London, UK)

**Peter G. Neumann** (SRI, USA)

**Gunther Pernul** (University of Regensburg, Germany)

**Stelios Sidiroglou-Douskos** (MIT, USA)

**Eugene Spafford** (Purdue University, USA)

**Shambhu Upadhyaya** (SUNY Buffalo, USA)

**Michael Wellman** (University of Michigan, USA)

**Seong-Moo Yoo** (University of Alabama In Huntsville, USA)

**Meng Yu** (Western Illinois University, USA)

# Table of Contents

Insider Theft of Intellectual Property in Organizations: A Preliminary Model .....	1
<i>Andrew P. Moore, Dawn M. Cappelli, Thomas C. Caron, Eric Shaw and Randall F. Trzeciak</i>	
Insider Behavior: An Analysis of Decision under Risk .....	22
<i>Fariborz Farahmand and Eugene H. Spafford</i>	
Accumulating Evidence of Insider Attacks .....	34
<i>Howard Chivers, Philip Nobles, Siraj A. Shaikh, John A. Clark and Hao Chen</i>	
A Exploratory Study on R&D Strategies in Industrial Technology Security .....	51
<i>Hangbae Chang, Jonggu Kang, Hyukjun Kwon and Ilsun You</i>	
A Method to Evaluate Uncertain and Conflicting Trust and Authenticity Statements ...	62
<i>Andreas Gutscher</i>	
Manual vs. Automated Vulnerability Assessment: A Case Study .....	83
<i>James A. Kupsch and Barton P. Miller</i>	