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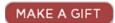UNDERGRADUATE STUDIES

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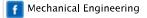
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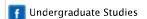
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Cukier, Michel

Associate Professor of Reliability Engineering
Director, Advanced Cybersecurity Experience for Students (ACES)
3419 A.V. Williams Building
University of Maryland
College Park, MD 20742
Email: mcukier@umd.edu
Phone: 301-314-2804
Fax: 301-314-9477
Website

Research Interests

Fault tolerance

Intrusion tolerance

Dependability and security evaluation

Background

From 1996 to 2001, Michel Cukier was a researcher at the University of Illinois, Urbana-Champaign. He joined the University of Maryland in 2001 as Assistant Professor.

His research covers dependability and security issues. His latest research focuses on the empirical quantification of computer security. He has published over 60 papers in journals and refereed conference proceedings in those areas.

Education

Ph.D., Computer Science, National Polytechnic Institute of Toulouse, France, 1996

B.S. Physics Engineering, Free University of Brussels, Belgium, 1991

Honors and Awards

National Science Foundation (NSF) Faculty Early Career Development (CAREER) Award (2003); Best Paper Award, Pacific Rim International Symposium on Dependable Computing (2002).

Professional Memberships and Service

Member, IEEE

Conference program committee of the Performance and Dependability Symposium of the International Conference on Dependable Systems and Networks (DSN-2008), June-July 2008.

Conference program committee of the 5th European Performance Engineering Workshop (EPEW 2008), September 2008.

Conference program committee of the 19th IEEE International Symposium on Software Reliability Engineering (ISSRE 2008), November 2008.

Student program committee of the 19th IEEE International Symposium on Software Reliability Engineering (ISSRE 2008), November 2008.

Conference program committee of the 11th IEEE High Assurance Systems Engineering Symposium (HASE'08), December 2008.

Conference program committee of the 11th Annual International Conference on Information Security and Cryptology (ICISC 2008), December 2008.

Conference program committee of the Performance and Dependability Symposium of the International Conference on Dependable Systems and Networks (DSN-2009), June-July 2009.

Workshop program committee of Workshop on Sharing Field Data and Experiment Measurements on Resilience of Distributed Computing Systems (held in conjunction with the 27th IEEE International Symposium on Reliable Distributed Systems (SRDS 2008)), October 2008.

Conference program committee of the Latin-American Symposium on Dependable Computing (LADC 2009), September 2009.

Conference program committee of the 5th European Performance Engineering Workshop (EPEW 2009), July 2009.

Conference program committee of the International Conference on Risks and Security of Internet and Systems (CRiSIS 2009), October 2009.

Conference program committee of the Dependable Computing and Communication Symposium of the International Conference on Dependable Systems and Networks (DSN-2010), June-July 2010.

Selected Publications

2009

R. Berthier, and M. Cukier, "An Evaluation of Connection Characteristics for Separating Network Attacks," *International Journal of Security and Networks*, Vol. 4, No. 1/2, 2009, pp. 110-124.

M. Cukier, and S. Panjwani, "Prioritizing Vulnerability Remediation by Determining Attacker-Targeted Vulnerabilities," *IEEE Security & Privacy*, Vol. 7, No. 1, Jan./Feb. 2009, pp. 42-48.

R. Berthier, J. Arjona, and M. Cukier, "Analyzing the Process of Installing Rogue Software," Proc. International Conference on Dependable Systems and Networks (DSN-2009), June-July 2009.

2008

H. V. Ramasamy, P. Pandey, M. Cukier, and W. H. Sanders, "Experiences with Building an Intrusion-tolerant Group Communication System," *Software: Practice and Experience*, Vol. 38, No.6, May 2008, pp. 639-666.

E. Condon, Angela He, and M. Cukier, "Analysis of Computer Security Incident Data Using Time Series Models" Proc. 19th IEEE International Symposium on Software Reliability Engineering (ISSRE 2008), Seattle/Redmond, WA, November 11-14, 2008, pp. 77-86.

2007

S. N. Rosenfeld, I. Rus, and M. Cukier, "Archetypal Behavior in Computer Security," *Journal of Systems and Software*, (special issue on Methodology of Security Engineering for Industrial Security Management Systems), Vol. 80, No. 10, October 2007, pp. 1594-1606.

E. Condon, M. Cukier, and T. He, "Applying Software Reliability Models on Security Incidents" Proc. 18th IEEE International Symposium on Software Reliability Engineering (ISSRE 2007), Trollhtan, Sweden, November 5-9, 2007, pp. 159-168.

M. Cukier and S. Panjwani, "A Comparison between Internal and External Malicious Traffic" Proc. 18th IEEE International Symposium on Software Reliability Engineering (ISSRE 2007), Trollhtan, Sweden, November 5-9, 2007, pp. 109-114.

D. Ramsbrock, R. Berthier, and M. Cukier, "Profiling Attacker Behavior Following SSH Compromises," Proc. International Conference on Dependable Systems and Networks (DSN-2007), June-July 2007, pp. 119-124.

2006

P. Pal, P. Rubel, M. Atighetchi, F. Webber, W. H. Sanders, M. Seri, H. Ramasamy, J. Lyons, T. Courtney, A. Agbaria, M. Cukier, J. Gossett, and I. Keidar, "An Architecture for Adaptive Intrusion-Tolerant Applications," *Software: Practice and Experience*, Vol. 36, No. 11-12, September 2006, pp. 1331-1354.

2004

R. Chandra, R. M. Lefever, K. Joshi, M. Cukier, and W. H. Sanders, "A Global-State-Triggered Fault Injector for Distributed System Evaluation," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 15, No. 7, July 2004, pp. 593-605.

Related News

Researchers Expose the Human Side of Cybercrime
UMD's Michel Cukier and David Maimon collaborate to explore hacker behavior. April 3, 2013

Associate Professor Michel Cukier Named Inaugural Director of ACES
Cukier to direct Advanced Cybersecurity Experience for Students (ACES), the nation's first undergraduate honors program in cybersecurity October 16, 2012

Cukier, Maimon featured on *SC Magazine* podcast
The researchers discuss their collaboration correlating criminology with cybersecurity. January 3, 2012

Researchers Explore How Cyber-Attackers Think Like Regular Crooks
In unique collaboration, engineer and criminologist apply criminological concepts and research methods

to study of cybercrime. November 29, 2011

Cukier Invited to Deliver Keynote Address at WRAITS 2011
Cukier gives keynote lecture on cybersecurity research at Hong Kong conference. June 28, 2011

Apply for Summer Cybersecurity Program
Clark School and NSF offer unique undergraduate research experience, with stipend. February 8, 2011

Mechanical Engineering Students "Just Go Away" with ENES 472
While in Sydney, students learn about Australian culture in an engineering and technology context.
March 3, 2010

NSA designates University of Maryland as 'National Center of Academic Excellence'
OIT IT director and ECE/ME/ISR faculty honored for work in information assurance research. May 27,
2009

Cukier teaches new Clark School risk assessment study abroad course
ENES 458F will be offered in summer 2009 in Bourges, France. February 11, 2009

Dr. Cukier Promoted to Associate Professor
UM President Mote elevates Dr. Michel Cukier (ME) to position with tenure June 12, 2008

Cukier Advises on Wireless Security
ME professor: password protecting your network is not enough. August 22, 2007

Guardian Article Cites Maryland Research
Research conducted by Michel Cukier highlights threats to female usernames online. April 6, 2007

Study: Hackers Attack Every 39 Seconds
Clark School's Cukier stresses strong passwords as defense against harm. February 9, 2007

Study: Female-Name Chat Users Get 25 Times More Malicious Messages
According to the study female usernames, on average, received 163 malicious private messages a day.
May 15, 2006

U of M Engineer to IT Admins: Rethink Your Security Solution
Researchers Publish Data on Hackers, Create Free Windows Software to Check Vulnerabilities December
15, 2005

Reliability Engineering Program Joins ME Department
On April 16, 2003, the Reliability Engineering Program was integrated into the Department of ME. April
16, 2003

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