

## Julian L. Rrushi

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CONTACT INFORMATION	University of Illinois at Urbana-Champaign Department of Computer Science 201 N. Goodwin Avenue Office 3215 at Siebel Center Urbana, IL 61801-2302, USA.	<i>Phone:</i> +1 (217) 265-8468 <i>E-mail:</i> jrrushi@uiuc.edu <i>GPG:</i> <a href="http://www.cs.uiuc.edu/homes/jrrushi/jrrushi.gpg">http://www.cs.uiuc.edu/homes/jrrushi/jrrushi.gpg</a>
PERSONAL INFORMATION	Date of Birth: 08/16/1979 Place of Birth: Lushnje, Albania Nationality: Albanian Marital Status: Married Wife's Name: Ronilda US Immigration Status: J1	
RESEARCH INTERESTS	System and network security, cryptology	
EDUCATION	<b>University of Milan, Milan, Italy</b> Ph.D. Candidate, Computer Science, October 2005 - Current <ul style="list-style-type: none"><li>• Dissertation: Construction and Validation of Intrusion Detection Mechanisms for Digital I&amp;C Systems in a Nuclear Power Plant</li><li>• Advisors: Carlo Bellettini (Univ. of Milan), Roy H. Campbell (Univ. of Illinois at Urbana-Champaign)</li></ul> <b>University of Milan, Milan, Italy</b> MS in Information and Communication Technology, July 2005 Dissertation: Vulnerability Analysis of Authentication Protocols Advisor: Emilia Rosti <b>University of Milan, Milan, Italy</b> BS in Computer Science, December 2003 Dissertation: Study and Analysis of the Java Security Architecture Advisor: Emilia Rosti	
HONORS AND AWARDS	Research scholarship, International Information Systems Security Certification Consortium, 2007 Academic reward, ISU (Italian Graduate and Undergraduate Fellowships Institute), 2006 Research internship, Joint Research Center of the European Commission, 2005 Research scholarship, International Information Systems Security Certification Consortium, 2005	
ACADEMIC EXPERIENCE	<b>University of Illinois at Urbana-Champaign, Illinois, USA</b> <i>Research scholar</i> Advisor: Roy H. Campbell	<b>May, 2007 - Current</b>
	<b>University of Milan, Milan, Italy</b> <i>Teaching Assistant</i> Algorithms and data structures	<b>October, 2006 - January, 2007</b>
	<b>University of Milan, Milan, Italy</b>	

*Research Assistant*  
Mobile code and security implications on servers

2004 - 2005

**University of Milan**, Milan, Italy

*Research Assistant*  
IPv6 security

2003 - 2004

PUBLICATIONS

1. *Operation Aware Detection of Attacks on Digital I&C Systems in Nuclear Power Plants Using Stochastic Activity Networks with Activity-Marking Reward Structures*, with Roy H. Campbell, In Proceedings of 2nd Annual IFIP Working Group 11.10 International Conference on Critical Infrastructure Protection, George Mason University, Arlington, Virginia, USA, March 2008, to appear.
2. *Enforcing Logical Boundaries on Potentially Hostile Data to Defend Against Memory Corruption Attacks*, with Carlo Bellettini, In Proceedings of 2nd Annual IFIP Working Group 11.10 International Conference on Critical Infrastructure Protection, George Mason University, Arlington, Virginia, USA, March 2008, to appear.
3. *Using Deception to Facilitate Intrusion Detection in Nuclear Power Plants*, with Roy H. Campbell, In Proceedings of 3rd International Conference on Information Warfare and Security, Peter Kiewit Institute, University of Nebraska Omaha, USA, April 2008, to appear.
4. *Detecting Attacks in Power Plant Interfacing Substations through Probabilistic Validation of Attack-Effect Bindings*, with Roy H. Campbell, In Proceedings of the SCADA Security Scientific Symposium, Miami, USA, January 23-24, 2008.
5. *Low-level Coding Vulnerabilities: Research on Attack, Defense and Evasion*, with Carlo Bellettini, Handbook of Research on Information Security and Assurance, editors Jatinder Gupta (guptaj@uah.edu) and Sushil Sharma (ssharma@bsu.edu), publisher Idea Group, Inc., to appear in Spring 2008.
6. *Vulnerability Analysis of SCADA Protocol Binaries through Detection of Memory Access Taintedness*, with Carlo Bellettini, In Proceedings of the 8th IEEE SMC Information Assurance Workshop, United States Military Academy, West Point, New York, USA, June 2007.
7. *SCADA Protocol Obfuscation: A Proactive Defense Line in SCADA Systems*, with Carlo Bellettini, In Proceedings of the SCADA Security Scientific Symposium, Miami, USA, January 2007.
8. *Protecting Distributed Object Applications from Corruption of Class Bytecodes on Client Side*, In Proceedings of the 1st European Conference on Computer Network Defence, University of Glamorgan, UK, December 2005.
9. *Function Call Tracing Attacks to Kerberos 5*, with Emilia Rosti, Conference on Detection of Intrusions and Malware & Vulnerability Assessment, Vienna, Austria, July 2005.
10. *Securing IPv6-based Mobile Ad Hoc Networks Through An Artificial Immune System*, In Proceedings of the International Workshop on Natural and Artificial Immune Systems, Vietri sul Mare, Italy, June 2005.
11. *IPv6 Neighbor Discovery Protocol: A Security Case Study*, with Emilia Rosti, In Proceedings of the IADIS Applied Computing Conference, Algarve, Portugal, February 2005.

POSTERS

12. *An Intrusion Detection System for Operation in Nuclear Power Plants*, with Roy H. Campbell, Presented at the 4th ITI Workshop on Dependability and Security, Coordinated Science Laboratory,

University of Illinois, Urbana, USA, November 30, 2007.

TECHNICAL  
REPORTS

**13.** *Acquiring Intrusion Intelligence Through Honeypot Systems*, Internal Report, Joint Research Center of the European Commission, September 2005.

OTHER WRITINGS

**14.** *Employing IPv6 to Improve Layer 3 Defence in SCADA Systems*, In the Newsletter of the European Coordination Project on Critical Information Infrastructure, February 2006.

PAPERS IN  
PREPARATION OR  
UNDER REVIEW

*Probabilistic Deductive Analysis of the Physical Impact of Cyber Attacks on Nuclear Power Plants*, with Roy H. Campbell, submitted to the International Topical Meeting on Probabilistic Safety Assessment and Analysis, American Nuclear Society, Knoxville, Tennessee, USA, September 2008.

*A Product Machine Model for Anomaly Detection of Interposition Attacks on Cyber-Physical Systems*, with Carlo Bellettini, submitted to the 23rd International Information Security Conference, Milan, Italy, September 2008.

*Parallel Discrete Simulation of Nuclear Power Plants for Deception-based Cyber Attack Detection*, in preparation for submission to the 27th International Conference on Computer Safety, Reliability and Security, Newcastle upon Tyne, UK, September 2008.

*Probabilistic Estimation of IEC 61850 Logical Node Activity for Intrusion Detection in Electrical Substations*, in preparation for submission to the 27th International Conference on Computer Safety, Reliability and Security, Newcastle upon Tyne, UK, September 2008.

REVIEWING  
ACTIVITIES

**Year 2007**

Event Type: Workshop

Title: Workshop on Privacy in the Electronic Society

Editors: Vijay Atluri & Ting Yu

Reviewer as non-PC

Event Type: Journal

Title: Official Journal of the International Information Systems Security Certification Consortium

Editors: Kamesh Namuduri

Publisher: Taylor & Francis

Event Type: Book

Title: Handbook of Research on Information Security and Assurance

Editors: Jatinder N.D. Gupta, Sushil K. Sharma

Publisher: Idea Group