

# Lori Flynn, PhD

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**POSITION DESIRED:** Network researcher, information security, or software development job

**TECHNICAL SKILLS:** Routing protocols for mobile adhoc networks, information security, penetration testing, system analysis, performance analysis, business analysis, network testbed setup including configuration of routers, switches, firewalls, other hardware, and computers (including VMWare virtual machines and networks), reverse engineering-based virus detection, static program analysis using control flow graphs, ISO 27001 and 3GPP experience, project management, publishing and presenting research results.

**PROGRAMMING LANGUAGES:** C, C++, Java, Perl, Tcl, Bash and limited experience with many more

**OS PLATFORMS:** Microsoft Windows (7, XP, 2000), Linux (Debian, Ubuntu, Knoppix, etc.), Unix, Macs

**SOFTWARE EXPERIENCE:** Visual C++, Netbeans IDE, network simulators including ns2 and CSIM, VMWare, IdaPro, PhotoRec, penetration testing tools including Wireshark, Nessus, Nmap, Snort, Netcat, John the Ripper, and more, Excel, PowerPoint, and Microsoft Project.

## CAREER HIGHLIGHTS

**Network research, information security, and project management experience.** Experience includes network security research with Bell Labs, work with core system architecture team on multibillion-dollar SBInet network integration project, and network security consulting for global Network Operations Center of Lucent Technologies. Project management experience includes founding and directing a technology company.

## EXPERIENCE

**Peak Transit Advertisement System, LLC** (*April 2010 to December 2010*)

### Founder and Director

Founded and directed internet ad company for mass transit applications. Created long-form business plan and business proposal. Performed detailed market analysis, created strategic sales plan, analyzed costs and projected income over time. Website: <http://www.peaktransitads.com/>

**Appropriate Infrastructure Development Group (AIDG)** (*November 2008 to November 2009*)

### Water Systems Group Leader

Led water systems group, which evaluated potential of AIDG-incubated businesses to succeed in Guatemalan water system markets. Worked with team to create business-training workshop content and evaluation tools for base of all AIDG's international business incubation competitions. Assisted IT staff with software installs, network issues, automated backups, security policies, and user training. Frequently worked in Spanish.

## LGS Innovations

**Network Researcher** (*January 2007 to May 2008*)

Research included network security protocol innovation, software and network prototyping, and research paper publication. Consulted for core Boeing system architecture team on multibillion-dollar SBInet network integration project. With team, created architecture products specifying communications requirements, for use by all network communications working groups. Traced network control messages and video streams, analyzed performance latency. Documentation and presentation of analysis. Met with specialists and groups throughout project, to gather and distribute information.

## Bell Laboratories, Lucent Technologies

**Network Security Researcher** (*June 2004 to December 2006*)

Network security research, prototyping, publishing research results, writing grant proposals, and IETF, ITU, and ISO standards work. Research included virus detection, mobile ad-hoc network routing, secure multicast,

penetration testing, static program analysis methods, QoS routing for wireless applications, automated web server interactions, MIMO MANET routing protocols for layers 1-3, and serial port handling. One project involved detection of viruses using novel static program analysis techniques and analysis of programs using reverse engineering, resulting in a patent. Authored IETF Draft standards document, and performed work implementing standards-based security according to ISO 27001, ITU X.805, and 3GPP for Lucent's Global Network Operation Center. Founded penetration-testing group and physical testing network, within Bell Labs Internet Research Lab.

## **EDUCATION**

Ph.D. Computer Science - 2004

**University of California, Santa Cruz**

B.S. Molecular Biology, minor Chemistry - 1994

**University of Wisconsin, Parkside**

## **PUBLICATIONS**

L. Flynn and C. Chan, "AIDG's GuateVerde Supports 'Green Culture' in Guatemala", *EntreMundos Magazine*, Quetzaltenango, Guatemala, November 2009.

L. Flynn, J. Duncan, A. McIlvain, B. Lengacher, L. Garcia Coyoy, N. Bonilla Maldonado, D. Leavitt, K. Metzelaar, S. Crowe, C. Laine, and C. Watkins, "Water Business Plan Research Document", *Appropriate Infrastructure Development Group*, [www.aidg.org](http://www.aidg.org), 2009.

G. Thompson and L. Flynn, "Polymorphic Code Detection via Context-Free Grammar Homomorphism", *Research in America Summit*, July 2008.

A.R. McGee, F.A. Bastry, U. Chandrashekar, S. R. Vasireddy, and L.A. Flynn, "Using the Bell Labs Security Framework to Enhance the ISO-17799/27001 Information Security Management System", *Bell Labs Technical Journal*, March 2007.

G. Thompson and L. Flynn, "Polymorphic Malware Detection and Identification via Context-Free Grammar Homomorphism", *Bell Labs Technical Journal*, March 2007.

L. Flynn, H.P. Dommel, and R. Townsend, (IETF Draft) "Limited Core Fix (LCF) Multicast", draft-flynn-rtgwg-lcf-00.txt, <http://www.ietf.org/internet-drafts/draft-flynn-rtgwg-lcf-00.txt>, August, 2005.

L. Flynn and H.P. Dommel, "The QuORRUM Protocol - Efficient Tree Repair for Qualification-Based Multicast", *Proc. International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QShine)*, August, 2005.

L. Flynn and H.P. Dommel, "Multicast Support for Collaborative Networking", *The 2005 International Symposium on Collaborative Technologies and Systems*, May 2005.

L. Flynn, R. Vullikanti, M. Carvalho, and R. Balakrishnan. "Yo G-Money: Y(ireless) O(pen) G(PS-oriented advertised ways to make) Money", *Wireless Personal Multimedia Communications 2002, International IEEE Symposium*, September 2002.

L. Flynn and J.J. Garcia-Luna-Aceves, "A Protocol for Building and Repairing Secure and Qualified Multicast Trees", *SCI2000/ISAS2000*, July 2000.

## **PATENT AND PATENT APPLICATIONS**

"Method of Polymorphic Detection", United States Patent 8046834, issued October 25, 2011.

"Mobility Access Gateway", Application No. 11/735,664, continuation-in-part to Patent 7562393, filed April 16, 2007.

**OTHER INTERESTS:** Leading bicycle rides, international travel, and gardening.