

Cumulative Bio-Bibliography  
University of California, Santa Cruz  
Bradley R. Smith  
Adjunct Associate Professor  
Department of Computer Engineering

## EMPLOYMENT HISTORY

2014-Present Adjunct Associate Professor (July-June), Computer Engineering, UC Santa Cruz  
2012-Present Lecturer (April-June), Computer Engineering, UC Santa Cruz  
2006-2012 Adjunct Assistant Professor (July-June), Computer Engineering, UC Santa Cruz  
9/2006-Present Director Research and Faculty Partnerships, Information Technology Services, UC Santa Cruz  
12/2004-6/2007 Director Core Technologies, Information Technology Services, UC Santa Cruz  
4/2004-11/2004 Acting Assistant Dean, Jack Baskin School of Engineering, UC Santa Cruz  
1/2000-4/2004 Chief Architect, Cenus Technologies Inc.  
1996-2003 Research Staff, Computer Communications Research Group, UC Santa Cruz  
1994-1996 Computer Security and Network Consultant  
10/1990-1996 Computing Director, School of Engineering, UC Santa Cruz  
1/1990-10/1990 Unix System Administrator, Institute of Fluid Dynamics, Swiss Federal Institute of Technology  
9/1985-12/1989 Network and Unix System Administrator, Computer Engineering, UC Santa Cruz

## EDUCATION

9/2003 PhD Computer Science, UC Santa Cruz  
6/1997 MS Computer Science, UC Santa Cruz  
12/1981 BA Computer Science, UC Santa Cruz

## PROFESSIONAL COMPETENCE AND ACTIVITY

### Grant Support

1/2016-12/2017 Principal Investigator, NSF CC\*DNI Engineer: Extending the UC Cyberinfrastructure through Innovation in Engineering, \$400,000  
1/2014-12/2016 Principal Investigator, NSF CC-NIE Networking Infrastructure: 100 Gb/s Science DMZ, peer-reviewed, \$500,000  
5/2008-Present Co-Principle Investigator, Network Management & Operations (NMO) Lab gifts, Cisco Systems, \$3,140,000.  
3/2009-12/2009 Principle Investigator, Cash donation, MetaFlows, \$4,000.  
11/2007 Principle Investigator, NMO Lab Equipment Donation, Cisco Systems, \$276,000.  
10/2004 Principle Investigator, Network Lab Equipment Donation, Cisco Systems, \$450,000.

## PUBLISHED WRITINGS AND CREATIVE ACTIVITIES

### Journal Articles

(J-2) "An End-to-End Approach to Secure Routing in MANETs"; Stephen Dabideen, Bradley R. Smith, and J.J. Garcia-Luna-Aceves; Security and Communication Networks, Wiley; Vol. 3, Issue 2-3, pp. 130-149, March-June 2010.  
(J-1) "Efficient Security Mechanisms for The Border Gateway Routing Protocol"; Brad Smith and J.J. Garcia-Luna-Aceves; Computer Communications Journal (Elsevier); Vol. 21, No. 3; 3/1998; pp. 203-210.

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### Conference Papers

- (C-12) "The Cancer Genomics Hub (CGHub): overcoming cancer through the power of torrential data"; Christopher Wilks et al; Database. 2014.
- (C-11) "Practical Multipath Load Balancing with QoS"; Bradley R. Smith and Lincoln Thurlow; Proceedings International Conference on Computing, Networking and Communications; 1/2013
- (C-10) "Using Dijkstra to Compute Hop-by-Hop QoS Paths"; Bradley R. Smith; Proceedings 1st Workshop on Context-aware QoS Provisioning and Management for Emerging Networks, Applications and Services (ContextQoS), 20<sup>th</sup> International Conference on Computer Communication Networks (ICCCN '11); 8/2011.
- (C-9) "An End-to-End Solution for Secure and Survivable Routing in MANET(s)"; Stephen Dabideen, Bradley R. Smith, and J.J. Garcia-Luna-Aceves; Proceedings 7<sup>th</sup> International Workshop on the Design of Reliable Communication Networks (DRCN 2009); 10/2009.
- (C-8) "The Case for End-to-End Solutions to Secure Routing in MANETs"; Stephen Dabideen, Bradley R. Smith, and J.J. Garcia-Luna-Aceves; Proceedings International Workshop on Security, Privacy and Trust of Computer and Cyber-Physical Networks (SecureCPN), 18<sup>th</sup> International Conference on Computer Communication and Networks (ICCCN '09); 8/2009.
- (C-7) "Best Effort Policy-Based Routing"; Bradley R. Smith and J.J. Garcia-Luna-Aceves; Proceedings 17th International Conference on Computer Communication and Networks (ICCCN '08); 8/2008.
- (C-6) "Efficient Policy-Based Routing Without Virtual Circuits"; Bradley R. Smith and J.J. Garcia-Luna-Aceves; Proceedings First International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QSHINE '04); 10/2004.
- (C-5) "Policy-Aware Connectionless Routing"; Bradley R. Smith and J.J. Garcia-Luna-Aceves; Proceedings First International Workshop on QoS Routing (WQoS '04); 10/2004.
- (C-4) "Enhancing the Internet Routing Architecture"; J.J. Garcia-Luna-Aceves and Bradley R. Smith; Avances en Ciencias de la Computacion; Vol. 3 (J. Diaz de Leon, G. Gonzalez Santos, and J. Figueroa Nazuno, Eds.), Instituto Politecnico Nacional, ISBN:970-36-0098-0; 10/2003.
- (C-3) "Specification and Analysis of a Reliable Broadcasting Protocol in Maude"; Grit Denker, J.J. Garcia-Luna-Aceves, Jose Meseguer, Peter Csaba Olveczky, Jyoti Raju, Brad Smith, and Carolyn Talcott; Proc. 37th Allerton Conference on Communications, Control, and Computing; 9/1999.
- (C-2) "Securing Distance Vector Routing Protocols"; Brad Smith, Shree Murthy, and J.J. Garcia-Luna-Aceves; Proceedings Internet Society Symposium on Network and Distributed System Security; 2/1997.
- (C-1) "Securing the Border Gateway Routing Protocol"; Brad Smith and J.J. Garcia-Luna-Aceves. Proceedings Global Internet '96 Conference.

### Chapters in Books

- (BC-1) "A New Approach to Policy-Based Routing in the Internet"; A. Girard, B. Sanso, and F. Vazques-Abad, Eds; Performance Evaluation and Planning Methods for the Next Generation Internet; Kluwer Academic Publishers; 2005.

### Patents

- US 9,197,544 "Comprehensive multipath routing for congestion and quality-of-service in communication networks," B. Smith (November 2015)
- US 7,725,596 "System and Method for Resolving Network Layer Anycast Addresses to Network Layer Unicast Addresses," J.J. Garcia-Luna-Aceves and B. Smith.
- US 7,577,754 "System and Method for Controlling Access to Content Carried in A Caching Architecture," J.J. Garcia-Luna-Aceves and B. Smith, (August, 2009).
- US 7,565,450 "System and Method for Using a Mapping between Client Addresses and Addresses of Caches To Support Content Delivery," J.J. Garcia-Luna-Aceves and B. Smith, (June, 2009).
- US 7,552,233 "System and method for information object routing in computer networks," J. Raju, J.J. Garcia-Luna-Aceves and B. Smith, (June, 2009).

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US 7,343,422 "System and Method for Using Uniform Resource Locators to Map Application Layer Content Names to Network Layer Anycast Addresses," J.J. Garcia-Luna-Aceves and B. Smith, (March, 2008).

## **UNIVERSITY SERVICE**

### **Department**

Co-teach CMPE 151 Spring 2011 with Prof Obraczka.

Work on development of CMPE 158 for BANDIT degree program. 2011-Present.

Assist Professor Mantey and Dean Ramirez in the creation of the Industry Sponsored Senior Design Program. 2011 Present

Creation and operation of Cisco Network Management and Operations (NMO) Lab. 2008-Present.

Curriculum development for integration of \$450,000 Cisco donation for network lab into CMPE 151 (Network Administration) and CMPE 150 (Introduction to Networks). 2005-Present.

### **Other**

Director Research and Faculty Partnerships, Information Technology Services. 2006-Present.

UCSC Representative, Coordinating Council, Central Coast Broadband Consortium. 2009-Present.

## **OUTSIDE PROFESSIONAL ACTIVITIES**

### **Public Lecture or Forum Participation**

Panelist, "Broadband Summit Santa Cruz 2009 - Bandwidth Santa Cruz County and The Crescent: Trends, Opportunities, and Challenges for the Future." September 10, 2009.

### **Membership or Activities in Professional Associations**

October 2015 Review EDUCAUSE ECAR Technology Spotlight on Software Defined Networking.

Member Institute for Electrical and Electronics Engineers (IEEE).

Member Association for Computing Machinists (ACM).

Member ACM Special Interest Group on Communication (SIGCOMM).

### **Editorial or Board Service to Publications**

2010 Reviewer for IEEE Conference on Computer Communications (INFOCOM 2011)

2009 Reviewer for Elsevier Computer Networks.

2009 Reviewer for ACM International Conference on Emerging Network Experiments and Technologies (ACM CoNEXT, 2009).

2008 Reviewer for IEEE Transaction on Parallel and Distributed Systems.

2007 Reviewer for IEEE Internet Computing.

2004 Reviewer for IEEE Conference on Computer Communications (INFOCOM 2004).

2004 Reviewer for IEEE International Conference on Communications (ICC '04).

2004 Reviewer for MILCOM 2004.

2003 Reviewer for ACM Transactions on Information and System Security.

2002 Reviewer for Elsevier Computer Communications.

### **Service to Local, State, or Federal Government**

UCSC Representative to the Central Coast Broadband Consortium Coordinating Council (2009-present).