

Curriculum Vitae

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University of California's San Diego Supercomputer Center (SDSC)
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Education

- Ph.D. 1994. Computer Science and Engineering, UCSD (Advisor: Dr. George Polyzos)
 - M.S. 1991. Computer Science and Engineering, UCSD
 - B.S. 1989. Symbolic Systems, Stanford University
 - **Dissertation topic:** Internet traffic characterization: a methodology to support more accurate workload characterization in the face of increasing diversity in Internet traffic types and qualities
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Professional Positions

- **Principal Investigator (PI), CAIDA, UCSD/SDSC (1997-present)**
 - Chartered to foster development of tools and analysis methodologies for promoting the engineering and maintenance of a robust, scalable global Internet infrastructure.
- **Instructor, UCSD Computer Science and Engineering (1996)**
- **Research Coordinator, National Laboratory and Applied Network Research (NLANR), SDSC (1995-1998)**
 - Chartered to provide technical, engineering, and traffic analysis support of NSF High Performance Connections sites.
- **Associate Staff Scientist, SDSC (1994-present)**
- **Student Fellow, SDSC (1991-1994)**
- **Research Assistant, Computer Science and Engineering, UCSD (1989-1994)**
- **Visiting Researcher, Sony Computer Science Laboratory, Tokyo, Japan (1991)**
 - Network protocol research and design; wide area network statistical modeling, measurement, and analysis
- **Summer Research Intern, Monetary Affairs, Monetary Studies Section, Federal Reserve Board (1989)**
 - Econometric research and programming for the development of a non-linear modeling application for the simulation of macroeconomic indicators

- **Summer Research Intern, Artificial Intelligence Principles Research, AT&T Bell Laboratories (1987)**
 - Knowledge based user interfaces using plan recognition techniques
 - **Summer Research Intern, Advanced Sensor Systems, Harry Diamond Laboratories (1986-1987)**
 - Natural language processing research; design of extensive Backus Naur grammar in MRS (language written at Stanford) and later in Symbolics Prolog and Lisp
 - **Summer Research Intern, Counter Measures, Harry Diamond Laboratories (1985)**
 - Graphics programming and debugging for aircraft simulation graphics interface programs
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Publications

D. Krioukov, k. claffy, K. Fall, and A. Brady, ``[On Compact Routing for the Internet](#),", ACM SIGCOMM Computer Communications Review (CCR), vol. 37, no. 3, Jul 2007.

k. claffy, S. Meinrath, S. Bradner, "[The \(un\)Economic Internet?.](#)" IEEE Internet Computing, May/June 2007.

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D. Krioukov, F. Chung, k. claffy, M. Fomenkov, A. Vespignani, W. Willinger, "[The Workshop on Internet Topology \(WIT\) Report](#)," ACM SIGCOMM Computer Communications Review (CCR), v.37, n.1, pp. 69-73, 2007.

X. Dimitropoulos, D. Krioukov, M. Fomenkov, B. Huffaker, Y. Hyun, k. claffy, G. Riley, "[AS Relationships: Inference and Validation](#)," ACM SIGCOMM Computer Communications Review (CCR), v.37, n.1, pp. 29-40, 2007.

B. Donnet, B. Huffaker, T. Friedman, k. claffy, "[Approche Récursive d'Etiquetage des Chemins Alternatifs au Niveau IP](#)," Colloque Francophone d'Ingénierie des Protocoles (CFIP), November 2007.

B. Donnet, B. Huffaker, T. Friedman, k. claffy, "[Evaluation of a Large-Scale Topology Discovery Algorithm](#)," Workshop on IP Operations & Management, October 2007.

A. Broido, H. Shang, M. Fomenkov, Y. Hyun, k. claffy, "[The Windows of Private DNS Updates](#)," ACM SIGCOMM Computer Communications Review (CCR), July 2006.

B. Donnet, B. Huffaker, T. Friedman, k. claffy, "[Implementation and Deployment of a Distributed Network Topology Discovery Algorithm](#)," arXiv cs.NI/62, 2006.

X. Dimitropoulos, D. Krioukov, G. Riley, k. claffy, "[Revealing the Autonomous System Taxonomy: The Machine Learning Approach](#)," Passive and Active Network Measurement Workshop (PAM), March 2006.

P. Mahadevan, D. Krioukov, M. Fomenkov, B. Huffaker, X. Dimitropoulos, k. claffy, A. Vahdat, "[The Internet AS-Level Topology: Three Data Sources and One Definitive Metric](#)," ACM SIGCOMM Computer Communications Review (CCR), January 2006.

k. claffy, M. Crovella, T. Friedman, C. Shannon, N. Spring, "[Community-Oriented Network Measurement Infrastructure](#) (CONMI) Workshop Report," CONMI, v.36, n.2, pp. 41-48, 2006.

C. Shannon, D. Moore, K. Keys, M. Fomenkov, B. Huffaker, k. claffy, "[The Internet Measurement Data Catalog](#)," ACM SIGCOMM Computer Communications Review, October 2005.

P. Mahadevan, D. Krioukov, B. Huffaker, k. claffy, A. Vahdat, "[Impact of Degree Correlations on Topology Generators](#)," SIGCOMM Poster, August 2005.

X. Dimitropoulos, D. Krioukov, G. Riley, k. claffy, "[Classifying the Types of Autonomous Systems in the Internet](#)," SIGCOMM Poster, August 2005.

P. Mahadevan, D. Krioukov, M. Fomenkov, B. Huffaker, X. Dimitropoulos, k. claffy, A. Vahdat, "[Lessons from Three Views of the Internet Topology: Technical Report](#)," Cooperative Association of Internet Data Analysis (CAIDA), 2005.

X. Dimitropoulos, D. Krioukov, B. Huffaker, kc claffy, and G. Riley, "[Inferring AS Relationships: Dead End or Lively Beginning?](#)" 4th Workshop on Efficient and Experimental Algorithms (WEA) in May 2005.

T. Kohno, A. Broido and kc claffy, "[Remote physical device fingerprinting](#)," to be presented at the IEEE Symposium on Security and Privacy, May 2005.

A. Broido, Y. Hyun, and kc claffy, "[Spectroscopy of traceroute delays](#)" PAM 2005, March 2005.

A. Shriram, M. Murray, Y. Hyun, N. Brownlee, A. Broido, M. Fomenkov, and kc claffy, "[Comparison of Public End-to-End Bandwidth Estimation Tools on High-Speed Links](#)," PAM 2005, March 2005.

S. Shakkottai, N. Brownlee, k. claffy, "[A Study of Burstiness in TCP Flows](#)," Passive and Active Network Measurement Workshop (PAM), March 2005.

T. Karagiannis, A. Broido, N. Brownlee, k. claffy, and M. Faloutsos, "[Is P2P dying or just hiding?](#)", in Globecom 2004. Nov-Dec 2004, Globecom 2004.

T. Karagiannis, A. Broido, Michalis Faloutsos, and k. claffy, "[Transport Layer Identification of P2P Traffic](#)", October 2004, Internet Measurement Conference 2004.

D. Wessels, M. Fomenkov, N. Brownlee, and k. claffy, "[Measurements and Laboratory Simulations of the Upper DNS Hierarchy](#)", in PAM 2004. Apr 2004, PAM 2004.

A. Broido, Y. Hyun, R. Gao, and k. claffy, "[Their share: diversity and disparity in IP traffic](#)", in PAM 2004. April 2004, PAM 2004.

P. Verkaik, A. Broido, k. claffy, R. Gao, Y. Hyun, and R. van~der Pol, "[Beyond CIDR Aggregation](#)", Tech. rep., Cooperative Association for Internet Data Analysis (CAIDA), Feb 2004.

S. Shakkottai, R. Srikant, A. Broido, and k. claffy, "[The RTT Distribution of TCP Flows in the Internet and its Impact on TCP-based Flow Control](#)", Tech. rep., Cooperative Association for Internet Data Analysis (CAIDA), Feb 2004.

C. Dovrolis, R. Prasad, M. Murray, and k. claffy, "[Bandwidth estimation: metrics, measurement techniques, and tools](#)", in IEEE Network 2003. Nov-Dec 2003, IEEE Network.

A. Broido, E. Nemeth, and k. claffy, "[Spectroscopy of DNS Update Traffic](#)", in WIAPP 2003. June 2003, WIAPP.

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D. Wessels, M. Fomenkov, and k. claffy, "[Wow, That's a lot of packets](#)", in PAM 2003. Apr 2003, PAM.

T. Lee, B. Huffaker, M. Fomenkov, and k. claffy, "[On the problem of optimization of DNS root servers' placement](#)", in PAM 2003. Apr 2003, PAM.

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M. Fomenkov, K. Keys, D. Moore, and k. claffy, "[Longitudinal study of Internet traffic from 1998-2003](#)", Cooperative Association for Internet Data Analysis (CAIDA), Apr 2003.

Y. Hyun, A. Broido, and k. claffy, "[Traceroute and BGP AS Path Incongruities](#)", Tech. rep., Cooperative Association for Internet Data Analysis (CAIDA), Mar 2003.

A. Broido, R. King, E. Nemeth, and k. claffy, "[Radon Spectroscopy of Inter-Packet Delay](#)", in IEEE HSN 2003. March 2003, IEEE.

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- M. Murray and k. claffy, ``[Measuring the Immeasurable: Global Internet Measurement Infrastructure](#),", in PAM2001, Amsterdam, Netherlands, Apr 2001, RIPE NCC.
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- B. Huffaker, M. Fomenkov, D. Moore, and k. claffy, ``[Macroscopic analyses of the infrastructure: measurement and visualization of Internet connectivity and performance](#),", in PAM2001, Amsterdam, Netherlands, Apr 2001, RIPE NCC.
- N. Brownlee, k. claffy, M. Murray, and E. Nemeth, ``[Methodology for passive analysis of a university Internet link](#),", in PAM2001, Amsterdam, Netherlands, Apr 2001, RIPE NCC.
- M. Mathis, G. Huntoon, and k. claffy, ``[Traffic dynamics testbed](#),", in Large Scale Networking (LSN) Workshop, Virginia, Mar 2001.
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- P. Rajvaidya, K. Almeroth, and k. claffy, ``[A scalable architecture for monitoring and visualizing multicast statistics](#),", in Distributed Systems: Operations and Management, Dec 2000.
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- k. claffy and S. McCreary, ``[Internet measurement and data analysis: passive and active measurement](#),", in American Statistical Association, New Jersey, 7-10 Aug 1999.

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- B. Huffaker, k. claffy, and E. Nemeth, ``[Tools to visualize the Internet multicast backbone](#),", in INET '99, San Jose, CA, 22-25 Jun 1999, The Internet Society.
- k. claffy, ``[Internet measurement and data analysis: topology, workload, performance and routing statistics](#),", in NAE '99 Workshop, Los Angeles, CA, Mar 1999, National Academy of Engineers.
- k. claffy, T. Monk, and D. McRobb, ``[Internet Tomography](#),", Nature, Jan 1999.
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- D. Wessels and k. claffy, ``[Evolution of the NLANR cache hierarchy: Global configuration challenges](#),", Tech. rep., National Laboratory for Applied Network Research (NLANR), Nov 1996.

T. Munzner, E. Hoffman, k. claffy, and B. Fenner, ``[Visualizing the global topology of the MBone](#),", in IEEE Symposium on Information Visualization, San Francisco, CA, Oct 1996, pp. 85--92, 129.

E. Hoffman and k. claffy, ``[Address administration in IPv6](#),", in 1996 IEEE Symposium on Information Visualization, 28 Oct 1996.

D. Wessels and k. claffy, ``[Can WWW caches help to save the Internet?](#)", in Coordination and Administration of the Internet Workshop, Cambridge, MA, 8-10 Sep 1996, Kennedy School of Government, Harvard University.

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D. Mitchell, S. Bradner, and k. claffy, ``[In whose domain: name service in adolescence](#),", in Coordination and Administration of the Internet Workshop. Kennedy School of Government, Harvard University, Cambridge, MA, 8-10 Sept 1996.

k. claffy, ``"[But some data is worse than others](#)": [Measurement of the global Internet](#),", Tech. rep., National Laboratory for Applied Network Research (NLNR), Aug 1996.

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k. claffy, A Gross, and H.-W. Braun, ``[Measured interference of security mechanisms with network performance](#),", in INET '95, Honolulu, HI, 27-29 Jun 1995, The Internet Society.

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T. Asaba, k. claffy, O. Nakamura, and J. Murai, ``[An analysis of international academic research network traffic between Japan and other nations](#),", in INET '92. Jan 1992, The Internet Society.

Recent Collaborators:

Nevil Brownlee, Univ. of Auckland, NZ
Kenjiro Cho, IJ Research Laboratory
Mark Crovella, Boston University
Xenofontas Dimitropoulos, GA Tech
Constantinos Dovrolis, GA Tech
Kevin Fall, Intel Corporation
Michalis Faloutsos, UC Riverside
Marina Fomenkov, UC San Diego
Timur Friedman, Université Pierre et Marie Curie
Bradley Huffaker, UC San Diego
Young Hyun, UC San Diego
Thomas Karagiannis, Microsoft Research
Ken Keys, UC San Diego
Hyunchul Kim, ICU South Korea
Todayoshi Kohno, Univ. of Washington
Dmitri Krioukov, UC San Diego
Ziqian Liu, Beijing Jiaotong Univ.
Sascha Meinrath, CUWiN
David Moore, UC San Diego
George Riley, GA Tech
Srinivas Shakkottai, Univ of Texas
Colleen Shannon, UC San Diego
Neil Spring, Univ. of Maryland
Amin Vahdat, UC San Diego
Thomas Vest, Univ of South Carolina
Paul Vixie, Internet Systems Consortium.
Duane Wessels, The Measurement Factory