

**Cummulative Biobibliography**  
**University of California, Santa Cruz**  
**January 9, 2020**  
**DARRELL DON EARL LONG**  
**Distinguished Professor of Engineering**  
**Kumar Malavalli Endowed Chair Professor in Storage Systems Research**

**Employment History**

|         |   |
|---------|---|
| 2018–   | Distinguished Professor of Engineering, University of California, Santa Cruz  |
| 2017–18 | Distinguished Professor, Computer Engineering, University of California, Santa Cruz                                       |
| 2005–   | Kumar Malavalli Endowed Chair Professor in Storage Systems Research   |
| 2004–10 | Associate Dean for Research and Graduate Studies, Jack Baskin School of Engineering, University of California, Santa Cruz |
| 2001–   | Director, Storage Systems Research Center, University of California, Santa Cruz   |
| 1999–17 | Professor, Computer Science, University of California, Santa Cruz   |
| 1998–01 | Associate Dean, Jack Baskin School of Engineering, University of California, Santa Cruz                                   |
| 1994–99 | Associate Professor, Computer Science, University of California, Santa Cruz   |
| 1988–94 | Assistant Professor, Computer Science, University of California, Santa Cruz   |
| 1986–88 | Research Assistant, Computer Science & Engineering, University of California, San Diego                                   |
| 1985–87 | Teaching Associate, Computer Science & Engineering, University of California, San Diego                                   |
| 1984–87 | Lecturer in Mathematics, Department of Mathematical Sciences, San Diego State University                                  |
| 1981–84 | Systems Programmer, University Computer Center, San Diego State University  |

**Visitor History**

|               |  |
|---------------|--|
| 2019 (Winter) | Associate Member, European Organization for Nuclear Research (CERN)<br>Professeur Invité, Sorbonne Université  |
| 2016 (Fall)   | Associate Member, European Organization for Nuclear Research (CERN)<br>Professeur Invité, Conservatoire National des Arts et Métiers                           |
| 2014–         | Visiting Scientist, Lawrence Livermore National Laboratory   |
| 2014 (Fall)   | Professeur Invité, Conservatoire National des Arts et Métiers<br>Professeur Invité, Université Paris–Descartes   |
| 2013 (Winter) | Professeur Invité, Conservatoire National des Arts et Métiers<br>Professeur Invité, Université Paris–Descartes<br>Professeur Invité, Université Paris–Dauphine |
| 2012–2014     | Visiting Professor, United States Naval Postgraduate School  |

2011 (Winter)      Professeur Invité, Conservatoire National des Arts et Métiers  
 2010 (Winter)      Professeur Invité, Université Paris–Dauphine  
 2009 (Winter)      Professeur Invité, Université Paris–Dauphine  
 2008 (Winter)      Visiting Professor, University of Technology, Sydney  
 2007 (Winter)      Visiting Scholar, University of California, San Diego  
                             Visiting Scholar, Center for Communications Research  
 1995–2011          Visiting Scientist, IBM Almaden Research Center

## Education

Ph.D. 1988      University of California, San Diego, Computer Science  
 M.S. 1986      University of California, San Diego, Computer Science  
 B.S. 1984      San Diego State University, Computer Science

## Honors and Awards

2018          IBM Faculty Award  
 2016          Best Paper Award, “RESAR: Reliable Storage at Exabyte Scale,” *Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems*  
 2015          Best Paper Award, “Classifying Data to Reduce Long Term Data Movement in Shingled Write Disks,” *Conference on Mass Storage Systems and Technologies*  
 2013          Best Short Paper Award, “A File By Any Other Name: Managing File Names with Metadata,” *International Systems and Storage Conference*  
 2012          Certificate of Appreciation for Outstanding Service, National Research Council  
                     IEEE Certificate of Appreciation  
 2011          Chancellor’s Achievement Award for Diversity  
 2010          Professor *ad Honorem* de la Universidad Católica del Uruguay  
 2008          Fellow, American Association for the Advancement of Science  
                     Certificate of Appreciation for Outstanding Service, National Research Council  
 2006          Fellow, Institute of Electrical and Electronics Engineers  
 2005          Kumar Malavalli Endowed Chair in Storage Systems Research  
                     IBM Research Invention Achievement Award (Third Plateau)  
                     Certificate of Appreciation for Outstanding Service, National Research Council  
 2003          IBM Faculty Award  
 2002          IBM Research Invention Achievement Award (Second Plateau)  
                     IEEE Computer Society Certificate of Appreciation  
 2001          IBM Corporate Accomplishment Award for Adaptive Differential Back-up in the Tivoli Storage Manager

- 1997 IBM Research Invention Achievement Award (First Plateau)
- 1996 IBM Research Invention Achievement Award  
IEEE Computer Society Certificate of Appreciation
- 1995 Honorable mention, 1994–95 Excellence in Teaching Award  
Best Paper Award, “A Longitudinal Study of Internet Host Reliability,” *Symposium on Reliable Distributed Systems*
- 1994 Senior Member, Institute of Electrical and Electronics Engineers
- 1993 IEEE Computer Society Certificate of Appreciation
- 1992 Regents Junior Faculty Fellow
- 1991 Student Alumni Council Favorite Professor Award
- 1989 Regents Junior Faculty Fellow
- 1988 Regents Junior Faculty Fellow

## Grants

- 2018–21 *A Multi-Layered Deniable Steganographic File System*, National Science Foundation, \$500,000. **Peer Reviewed.**
- 2017–20 *Integrated End-to-end Performance Prediction and Diagnosis for Extreme Scientific Workflows*, Department of Energy, Office of Science, \$300,000. **Panel Reviewed**
- 2015–17 *Automatic Tuning and Contention Management for Lustre*, Intel Corporation, \$187,024. **Panel Reviewed.**
- 2015–18 *Automatic Storage and Network Contention Management for Large-scale High-Performance Computing Systems*, National Science Foundation, \$450,000. **Peer Reviewed.**
- 2013–18 *I/UCRC: A Single-Site I/UCRC Center for Research in Storage Systems (CRSS)*, National Science Foundation, \$468,850 (with E. Miller). **Peer Reviewed.**
- 2012–13 *Better File System Management Through Rich Metadata and Provenance*, NASA, \$40,000. **Panel Reviewed.**
- 2012–15 *RESAR: Robust, Efficient, Scalable, Autonomous Reliable Storage for the Cloud*, National Science Foundation, \$374,700. **Peer Reviewed.**
- 2011–12 *Reducing Fragmentation in Deduplicated Storage Systems*, Hewlett-Packard Laboratories, \$50,000. **Panel Reviewed.**  
*Better File System Management Through Rich Metadata and Provenance*, NASA, \$40,000. **Panel Reviewed.**  
*Improving Automated Metadata Extraction, Analysis and Reporting*, United States Navy, \$150,000. **Panel Reviewed.**
- 2010–11 *Metadata Exploration in Digital Forensics*, United States Navy, \$196,156. **Panel Reviewed.**
- 2010–13 *Dynamic Non-Hierarchical File Systems for Exascale Storage*, Department of Energy, Office of Science, \$1,462,106. **Peer Reviewed.**

- 2010–13 *LockBox: Enabling Users to Keep Data Safe*, National Science Foundation, \$499,907 (with E. Miller). **Peer Reviewed.**
- 2009–14 *Collaborative Research: A Multi-University IIUCRC Center on Intelligent Storage*, National Science Foundation, \$275,000 (with E. Miller). **Peer Reviewed.**
- 2009–12 *Scalable Data Management Using Metadata and Provenance*, National Science Foundation, \$553,000 (with E. Miller, in collaboration with Margo Seltzer, Harvard University). **Peer Reviewed.**
- 2010–11 *Trading Storage for Computation*, NASA, \$61,000. **Panel Reviewed.**
- 2009–10 *Development of a Collaborative Project for Remotely Sensed Science and Technology*, NASA, \$300,000 (with Raphael Kudela, Ethan Miller, Roberto Manduci, Donald Potts, Eli Silver, Michael Loik and Chris Wilmers). **Panel Reviewed.**
- 2007 *ViewFS: Dynamic Name-Spaces for Metadata-Rich File Systems*, Lawrence Livermore National Laboratory, \$74,994 (with E. Miller). **Panel Reviewed.**
- 2006–09 *End-to-End Performance Management for Large Distributed Storage*, National Science Foundation, \$956,647 (with S. Brandt). **Peer Reviewed.**
- 2006–11 *Petascale Data Storage Institute*, Department of Energy, Office of Science, \$11,250,000 (in collaboration with Carnegie-Mellon University, University of Michigan, and the Department of Energy National Laboratories). **Peer Reviewed.**
- 2005–10 *Institute for Scalable Scientific Data Management*, Department of Energy, Los Alamos National Laboratory, \$4,750,000 (with S. Brandt and E. Miller). **Panel Reviewed.**
- 2005–06 *Scalable File Systems for High Performance Computing*, Department of Energy, Defense Programs Laboratories, \$250,000 (with S. Brandt, E. Miller, M. Abadi and C. Maltzahn). **Peer Reviewed.**
- 2003 *A Scalable On-Line Associative Deep Store*, University of California, Microelectronics Electronics Innovation and Computer Research Opportunities Program (MICRO), \$27,000. **Panel Reviewed.**
- 2003–06 *A Scalable On-Line Associative Deep Store*, National Science Foundation, \$294,012. **Peer Reviewed.**
- 2002–07 *Applications of Data Grouping for Effective Mobility*, National Science Foundation, \$338,130. **Peer Reviewed.**
- 2002–05 *Scalable File Systems for High Performance Computing*, Department of Energy, Defense Programs Laboratories, \$900,000 (with S. Brandt, E. Miller and K. Obraczka). **Panel Reviewed.**
- 2001–02 *Building a High-Performance Storage Systems from Commodity Components*, Department of Energy, Lawrence Livermore National Laboratory, \$65,000. **Panel Reviewed.**
- 2000–01 *Application of Probe-based Storage to High Performance Computing*, Department of Energy, Lawrence Livermore National Laboratory, \$39,239. **Panel Reviewed.**
- 2000–03 *Architectures and Algorithms to Exploit Probe-Based Storage*, National Science Foundation, \$345,191 (with S. Brandt and T. Madhyastha). **Peer Reviewed.**
- 2000–02 *An Experimental Study of Broadcasting Protocols for Video-on-Demand*, National Science Foundation, \$100,000. **Peer Reviewed.**
- 1999–01 *High Performance Integration of Advanced Tertiary Stores*, National Science Foundation, \$170,353. **Peer Reviewed.**
- 1998 *Real-Time Environmental Information Network and Analysis System (REINAS)*, Office of Naval Research, \$100,000. **Panel Reviewed.**

- 1998–99 *Tactical Environmental Data System/Real-time (TEDS/RT)*, Naval Research Laboratory, \$75,000. **Panel Reviewed**
- 1997–02 *National Partnership for Advanced Computing Infrastructure (NPACI)*, National Science Foundation, \$819,000 (with P. Mantey, A. Pang and S. Flatté). **Panel Reviewed.**
- 1997–99 *Predictive Power Conservation*, National Science Foundation, \$122,011 (with D. Helmbold). **Peer Reviewed.**
- 1997–99 *Improving Cache Performance by Predicting I/O System Actions*, National Science Foundation, \$136,647. **Peer Reviewed.**
- 1996–97 *Efficient Back-up and Restore Using Differential Files*, International Business Machines Corporation, \$79,864.
- 1995–98 *Instant Infrastructure and Distributed Resource Management*, Office of Naval Research, \$90,911. **Panel Reviewed.**
- 1995–96 *Efficient Resource Utilization Through Idle-Time Prediction*, University of California Seed Funds, \$15,000 (with D. Helmbold).
- 1993–94 *Global-scale Distributed Data Base Management*, Academic Senate Committee on Research, \$1,500.
- 1993–95 *Integration of Heterogeneous Real-time Data Repositories for Scientific Use*, Office of Naval Research, \$219,164. **Panel Reviewed.**
- 1992–93 *Estimating Host Reliability Using the Internet*, University of California, Microelectronics Electronics Innovation and Computer Research Opportunities Program (MICRO), \$5,481. **Panel Reviewed.**
- 1992 University of California, Regents Junior Faculty Fellowship, \$700.
- 1992–97 *Real-time Environmental Information Network and Analysis System (REINAS)*, Office of Naval Research, \$4,767,112 (with P. Mantey *et al.*). **Peer Reviewed.**
- 1992–93 University of California, Regents Junior Faculty Fellowship, \$750.
- 1992–93 *Estimating Reliability Using the Internet*, University of California Seed Funds, \$10,000.
- 1992–93 *Estimating Host Reliability Using the Internet*, Sun Microsystems, Incorporated, \$16,590. **Panel Reviewed.**
- 1991–92 *A Distributed Architecture for High-speed I/O*, Department of Energy, Lawrence Livermore National Laboratory, \$15,183. **Panel Reviewed.**
- 1991–93 *High-speed Distributed Storage Management*, National Science Foundation, \$68,955. **Peer Reviewed.**
- 1991–92 *A High-speed System to Support Multimedia*, Academic Senate Committee on Research, \$1,500.
- 1991–92 *Instructional Improvement Grant*, Academic Senate Committee on Teaching, \$200.
- 1990–91 *Concurrent Systems Laboratory*, University of California Seed Funds, \$12,500.
- 1989–90 *Fault-tolerant Operating System Techniques*, University of California, Microelectronics Electronics Innovation and Computer Research Opportunities Program, (MICRO) \$4,000. **Panel Reviewed.**
- 1989 University of California, Regents Junior Faculty Fellowship, \$500.
- 1988–89 *Modeling Fault-tolerant Computations*, Academic Senate Committee on Research, \$1,500.
- 1988 University of California, Regents Junior Faculty Fellowship, \$1,000.

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