

# SCOTT M. PIKE

Texas A&M University  
Computer Science & Engineering  
TEES Research Assistant Professor  
<http://faculty.cse.tamu.edu/pike>

4901 Cole Lane  
College Station, TX 77845  
Phone: +1.979.776.2162  
[pike@cse.tamu.edu](mailto:pike@cse.tamu.edu)

---

**Research:** Foundations, algorithms, and oracles for adaptive and decentralized computing systems.

## Academic Preparation

- Yale University                      Philosophy                      B.A.              1996
- Ohio State University              Computer & Information Science              M.S.              2000
- Ohio State University              Computer Science & Engineering              Ph.D.              2004
  - Dissertation: *Distributed Resource Allocation with Scalable Crash Containment*

## Professional Appointments

- 2009-present, TEES Research Assistant Professor, Texas Engineering Experiment Station, Department of Computer Science & Engineering, Texas A&M University.
- 2004–2008, Assistant Professor, Department of Computer Science, Texas A&M University.
- 1998–2004, Graduate Research Associate, Ohio State University, concurrent with below.
- 1998–2004, Graduate Teaching Associate, Ohio State University, concurrent with above.

---

## Research Honors & Awards

- **Best Paper Award** at IPDPS 2009
  - Paper: “Crash Fault Detection in Celerating Environments”
- **Best Paper Award** at ICDCS 2004
  - Paper: “Dining Philosophers with Crash Locality 1”
- **Doctoral Symposium Invitee** (OOPSLA 2002)
  - Thesis: “Encapsulating Concurrency with Early-Reply”
- **Third Place Finalist**, ACM Graduate Research Competition (SIGCSE 2001)
  - Thesis: “A Distributed Resource-Allocation Algorithm with Failure Locality 1”

## Teaching & Service Awards

- **Graduate Associate Teaching Award** (OSU 2004)
  - Ohio State’s highest recognition for exceptional graduate student teaching.
  - Awarded to only 10 out of 3000+ annual graduate instructors at Ohio State.
- **Eleanor Quinlan Memorial Award** (OSU 2004)
  - Outstanding graduate teaching award of the CSE department at Ohio State.
- **Outstanding Graduate Student Award** (43rd Annual Leadership Awards, OSU 2004)
  - Among the highest awards conferred on graduate students at Ohio State.
  - Recognizes outstanding contributions in leadership, scholarship, and service.
- **Distinguished Service Award** (OSU 2002)
  - Recognizes leadership, excellence, and dedication to CSE departmental service.

## SCOTT M. PIKE — CURRICULUM VITAE

### Publications (student co-authors denoted by \*)

- Srikanth Sastry\*, Scott M. Pike, and Jennifer L. Welch, “Crash fault detection in celerating environments,” *Proceedings of the 23rd IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, pp. 1–12, 2009. **Best Paper Award.**
- Srikanth Sastry\*, Scott M. Pike, and Jennifer L. Welch, “Crash-quiescent failure detection,” *Proceedings of the 23rd International Symposium on Distributed Computing (DISC)*, Springer LNCS 5805, pp. 326–340, 2009.
- Srikanth Sastry\*, Scott M. Pike, and Jennifer L. Welch, “The weakest failure detector for wait-free dining under eventual weak exclusion,” *Proceedings of the 21st ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pp. 111–120, 2009.
- Scott M. Pike, Wayne D. Heym, Bruce Adcock\*, Derek Bronish\*, Jason Kirschenbaum\*, and Bruce W. Weide, “Traditional assignment considered harmful,” *Proceedings of the 24th ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pp. 909–916, 2009.
- Scott M. Pike, Yantao Song\*, and Srikanth Sastry\*, “Wait-free dining under eventual weak exclusion,” *Proceedings of the 9th International Conference on Distributed Computing and Networking (ICDCN)*, Springer LNCS 4904, pp. 135–146, 2008.
- Yantao Song\* and Scott M. Pike, “Eventually  $k$ -bounded wait-free distributed daemons,” *Proceedings of the 37th IEEE/IFIP International Conference on Dependable Systems and Networks (DSN)*, pp. 645–655, 2007.
- Srikanth Sastry\* and Scott M. Pike, “Eventually perfect failure detectors using ADD channels,” *Proceedings of the 5th International Symposium on Parallel and Distributed Processing and Applications (ISPA)*, Springer LNCS 4742, pp. 483–496, 2007.
- Stephen W. Cook\*, Scott M. Pike, and Bjarne Stroustrup, “An early-reply based framework: reliable concurrency that is verifiable,” *Proceedings of the 10th IEEE High Assurance Systems Engineering Symposium (HASE)*, pp. 405–406, 2007.
- Paolo A.G. Sivilotti and Scott M. Pike, “A collection of kinesthetic learning activities for a course on distributed computing,” *ACM SIGACT News* 38(2), Distributed Computing Column, pp. 56–74, 2007.
- Paolo A.G. Sivilotti and Scott M. Pike, “The suitability of kinesthetic learning activities for teaching distributed algorithms,” *Proceedings of the 38th Technical Symposium on Computer Science Education (SIGCSE)*, pp. 362–366, 2007.
- Scott M. Pike, Yantao Song\*, and Kaustav Ghoshal\*, “Brief Announcement: Wait-Free Dining for Eventual Weak Exclusion,” *Proceedings of the 8th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS)*, Springer LNCS 4280, pp. 578–579, 2006.
- Jianer Chen and Scott M. Pike, “Limits of Computation,” *Encyclopedia of Human Geography*, edited by Barney Warf, pp. 277–278, SAGE Publications, 2006.

## SCOTT M. PIKE — CURRICULUM VITAE

- Scott M. Pike and Paolo A.G. Sivilotti, “Dining philosophers with crash locality 1,” *Proceedings of the 24th IEEE International Conference on Distributed Computing Systems (ICDCS)*, pp. 22–29, 2004. **Best Paper Award.**
- Santosh Kumar, Bruce W. Weide, Paolo A.G. Sivilotti, Nigamanth Sridhar, Jason O. Hallstrom, and Scott M. Pike, “Encapsulating concurrency as an approach to unification,” *Proceedings of the 3rd Workshop on Specification and Verification of Component-Based Systems*, pp. 10–17, 2004.
- Scott M. Pike “Distributed resource allocation with scalable crash containment,” Ph.D. Dissertation, Ohio State University, Department of Computer Science & Engineering, 2004.
- Nigamanth Sridhar, Scott M. Pike, and Bruce W. Weide, “Dynamic module replacement in distributed protocols,” *Proceedings of the 23rd IEEE International Conference on Distributed Computing Systems (ICDCS)*, pp. 620–627, 2003.
- Scott M. Pike, “Encapsulating concurrency with early-reply,” *Companion of the 17th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, Doctoral Symposium, pp. 18–19, 2002.
- Scott M. Pike and Nigamanth Sridhar, “Early-reply components: concurrent execution with sequential reasoning,” *Proceedings of the 7th International Conference on Software Reuse (ICSR-7)*, Springer LNCS 2319, pp. 46–61, 2002.
- Jason O. Hallstrom, Scott M. Pike, and Nigamanth Sridhar, “Iterators reconsidered,” *Proceedings of the 5th ICSE Workshop on Component-Based Software Engineering (CBSE-5)*, 2002.
- Bruce W. Weide, Scott M. Pike, and Wayne D. Heym, “Why Swapping?,” *Proceedings of the 2002 RESOLVE Workshop*, Virginia Tech, Department of Computer Science TR-02-11, pp. 72–78, 2002
- Scott M. Pike, “Binary trees: a challenge problem for separating concerns,” *Proceedings of the 4th ICSE Workshop on Advanced Separation of Concerns in Software Engineering (ASoC)*, 2001.
- Paolo A.G. Sivilotti, Scott M. Pike, and Nigamanth Sridhar, “A new distributed resource allocation algorithm with optimal failure locality,” *Proceedings of the 12th International Conference on Parallel and Distributed Computing and Systems (PDCS)*, vol.2, pp. 524–529, ACTA Press, 2000.
- Murali Sitaraman, Steven Atkinson, Gregory Kulczycki, Bruce W. Weide, Timothy J. Long, Paolo Bucci, Wayne D. Heym, Scott M. Pike, and Joseph E. Hollingsworth, “Reasoning about software-component behavior,” *Proceedings of the 6th International Conference on Software Reuse (ICSR-6)*, Springer LNCS 1844, pp. 266–283, 2000.
- David S. Gibson, Bruce W. Weide, Scott M. Pike, Stephen H. Edwards, “Toward a normative theory for component-based system design and analysis,” *Foundations of Component-Based Systems*, Gary Leavens and Murali Sitaraman, Eds., Chapter 10, pp. 211–230, Cambridge University Press, 2000.
- Scott M. Pike, Bruce W. Weide, and Joseph E. Hollingsworth, “Checkmate: cornering C++ dynamic memory errors with checked pointers,” *Proceedings of the 31st Technical Symposium on Computer Science Education (SIGCSE)*, pp. 352–356, 2000.

## External Funding

- *Increasing the Longevity of Power-Constrained Sensor Networks*, Project Number 000512-0007-2006, Norman Hackerman Advanced Research Program of the Texas Higher Education Coordinating Board, Principle Investigator: Scott M. Pike, Co-PI: Jennifer L. Welch. Dates: May 2006 → April 2008. Total dollar value: \$99,100, with \$49,550 pro-rated for Pike.

## Synergistic Activities

- Developed a suite of *kinesthetic learning activities* with curricular materials for teaching research topics on concurrency to high-school students, undergrads, non-science majors, and grad students. These materials are in use at Ohio State and Texas A&M for both undergraduate and graduate courses, as well as for engineering summer camps for middle-school girls and other such outreach programs. Transferred knowledge of kinesthetic teaching methods to broader audiences by co-authoring two educationally-oriented publications; each presents modular activities that can be selectively integrated into existing teaching curricula, either as primary materials or as enrichment activities. ACM metrics recorded well over 100 downloads (combined) for these two papers in 2009.
  - Paolo A.G. Sivilotti and Scott M. Pike, “[The suitability of kinesthetic learning activities for teaching distributed algorithms](#),” *Proceedings of the 38th Technical Symposium on Computer Science Education (SIGCSE)*, pp. 362–366, 2007.
  - Paolo A.G. Sivilotti and Scott M. Pike, “[A collection of kinesthetic learning activities for a course on distributed computing](#),” *ACM SIGACT News* 38(2), pp. 56–74, 2007.
- Partnered with publisher *John Wiley & Sons* in 2008-09 to develop an extensive database of interactive tutorial materials for the well-known “*dinosaur book*” on operating systems by Silberschatz, et al. Created the storyboards, tutorials, specifications, and data sets for over 1150 quantitative questions on CPU scheduling, page replacement, disk scheduling, virtual memory, and deadlock avoidance. These interactive problem-solving questions provide the core algorithmic content of the [WileyPlus](#) online supplement to this widely-adopted textbook, which is used by thousands of students world-wide.

## Current & Former Students

Name	Year	Degree	Current Affiliation
Srikanth Sastry	<i>current</i>	Ph.D.	Texas A&M University
Yantao Song	2008	Ph.D.	Microsoft Corporation
Stephen W. Cook	2007	MSCS	Southwest Research Institute
Patrick N. Merrill	2007	M.Eng	Fresno County Office of Education
Kaustav Ghoshal	2007	MCS	9Star Research, Inc
Vijay Idimadakala	2006	MSCS	Seismic Micro-Technology
Saurin Shah	2006	MSCS	Microsoft Corporation