

Publications

Refereed Journal Publications (“*” = published when at UMD)

- [1] M. Cukier, D. Powell and J. Arlat, *Coverage Estimation Methods for Stratified Fault-Injection*, *IEEE Transactions on Computers*, vol. 48, no. 7, July 1999, pp.707-723. (Also published in *Year 1 Report*, Esprit Project 20072: Design for Validation, pp.559-591, 1996.) (Impact Factor: 2.419)
- [2] J. Ren, M. Cukier, and W. H. Sanders, *An Adaptive Algorithm for Tolerating Value Faults and Crash Failures*, *Special Issue on Dependable Network Computing in the IEEE Transactions on Parallel and Distributed Systems*, vol. 12, no. 2, February 2001, pp.173-191. (Impact Factor: 1.190)
- [3]* J. Ren, T. Courtney, M. Cukier, C. Sabnis, W. H. Sanders, M. Seri, D. A. Karr, P. Rubel, and R. E. Schantz, *AQuA: An Adaptive Architecture that Provides Dependable Distributed Objects*, *IEEE Transactions on Computers*, vol. 52, no. 1, January 2003, pp. 31-50. (Impact Factor: 2.419)
- [4]* S. Krishnamurthy, W. H. Sanders, and M. Cukier, *An Adaptive Quality of Service Aware Middleware for Replicated Services*, *IEEE Transactions on Parallel and Distributed Systems*, vol. 14, no. 11, November 2003, pp. 1112-1125. (Impact Factor: 1.190)
- [5]* H. V. Ramasamy, M. Cukier, and W. H. Sanders, *Formal Verification of a Intrusion-Tolerant Group Membership Protocol*, *IEICE Transactions on Information and Systems* special issue on Dependable Computing, vol. E86-D, no. 12, December 2003, pp. 2612-2622. (Impact Factor: 0.274)
- [6]* R. Chandra, R. M. Lefever, K. Joshi, M. Cukier, and W. H. Sanders, *A Global-State-Triggered Fault Injector for Distributed System Evaluation*, *IEEE Transactions on Parallel and Distributed Systems*, vol. 15, no. 7, July 2004, pp. 593-605. (Impact Factor: 1.190)
- [7]* P. Pal, P. Rubel, M. Atighetchi, F. Webber, W. H. Sanders, M. Seri, H. Ramasamy, J. Lyons, T. Courtney, A. Agbaria, M. Cukier, J. Gossett, and I. Keidar, *An Architecture for Adaptive Intrusion-Tolerant Applications*, *Software: Practice and Experience*, to appear.

Refereed Conference Publications (“*” = published when at UMD)

- [8] M. Kaâniche, K. Kanoun, M. Cukier and M. Bastos Martini, *Software Reliability Analysis of Three Successive Generations of a Switching System*, in *Proc. 1st European Dependable Computing Conference (EDCC-1)*, (Berlin, Germany), LNCS 852, pp.473-490, Springer Verlag, October 1994. (Also published in *2nd Year Report*, Esprit Project N°6362, Predictably Dependable Computing Systems 2, pp.573-592, September 1994.) (**32% acceptance rate**, 106 submitted papers, 34 accepted papers)
- [9] D. Powell, M. Cukier and J. Arlat, *On Stratified Sampling for High Coverage Estimations*, in *Proc. 2nd European Dependable Computing Conference (EDCC-2)*, (A. Hlawiczka, J. G. Silva and L. Simoncini, Ed.), (Taormina, Italy), LNCS 1150, pp.37-54, Springer Verlag, October 1996. (**39% acceptance rate**, 66 submitted papers, 26 accepted papers)

- [10] M. Cukier, J. Arlat and D. Powell, *Frequentist and Bayesian Coverage Estimations for Stratified Fault-Injection*, in *Proc. 6th IFIP Working Conf. on Dependable Computing for Critical Applications (DCCA-6)*, (M. Dal Cin, C. Meadows and W. H. Sanders, Eds.), Dependable Computing and Fault-Tolerant Systems, 11, pp.43-61, IEEE Computer Society Press, 1998 (Proc. IFIP 10.4 Work. Conf. held in Grainau, Germany, March 1997). (**35% acceptance rate**, 40 submitted papers, 14 accepted papers)
- [11] D. Powell, M. Cukier, J. Arlat and Y. Crouzet, *Estimation of Time-Dependent Coverage*, in *Proc. 8th European Workshop on Dependable Computing (EWDC-8)*, Goteborg, Sweden, April 1997, (20 pages). (Also published in *Year 2 Report, Part 2 (Papers)*, Esprit Project 20072: Design for Validation, pp.541-560, 1997.)
- [12] H. S. Duggal, M. Cukier, and W. H. Sanders, *Probabilistic Verification of a Synchronous Round-Based Consensus Protocol*, in *Proc. 16th IEEE Symposium on Reliable Distributed Systems (SRDS-97)*, (Durham, NC, USA), pp.165-174, IEEE Computer Society Press, October 1997.
- [13] M. Cukier, J. Ren, C. Sabnis, D. Henke, J. Pistole, W. H. Sanders, D. E. Bakken, M. E. Berman, D. A. Karr, and R. E. Schantz, *AQuA: An Adaptive Architecture That Provides Dependable Distributed Objects*, in *Proc. 17th IEEE Symposium on Reliable Distributed Systems (SRDS-98)*, (West Lafayette, IN, USA), pp. 245-253, IEEE Computer Society Press, October 1998. (**34% acceptance rate**)
- [14] C. Sabnis, M. Cukier, J. Ren, P. Rubel, W. H. Sanders, D. E. Bakken, and D. A. Karr, *Proteus: A Flexible Infrastructure to Implement Adaptive Fault Tolerance in AQuA*, in *Proc. 7th IFIP Working Conf. on Dependable Computing for Critical Applications (DCCA-7)*, (San Jose, CA, USA), pp. 137-156, IEEE Computer Society Press, January 1999. (**32% acceptance rate**, 62 submitted papers, 20 accepted papers)
- [15] M. Cukier, J. Ren, P. Rubel, D. E. Bakken, and D. A. Karr, *Building Dependable Distributed Objects with the AQuA Architecture*, in *Digest of FastAbstracts presented at the 29th Annual International Symposium on Fault-Tolerant Computing (FTCS-29)*, (Madison, WI, USA), pp. 17-18, June 1999.
- [16] M. Cukier, R. Chandra, D. Henke, J. Pistole, and W. H. Sanders, *Fault Injection Based on the Partial Global State of a Distributed System*, in *Proc. 18th IEEE Symposium on Reliable Distributed Systems (SRDS-99)*, (Lausanne, Switzerland), IEEE Computer Society Press, pp. 168-177, October 1999. (**43% acceptance rate**, 60 submitted papers, 26 accepted papers)
- [17] J. Ren, M. Cukier, P. Rubel, W. H. Sanders, D. E. Bakken, and D. A. Karr, *Building Dependable Distributed Applications Using AQuA*, in *Proc. 4th IEEE Symposium on High Assurance Systems Engineering (HASE'99)*, (Washington D.C., USA), pp. 189-196, November 1999. (**61% acceptance rate**, 44 submitted papers, 27 accepted papers)
- [18] R. Chandra, R. M. Lefever, M. Cukier, and W. H. Sanders, *Loki: A State-Driven Fault Injector for Distributed Systems*, in *Proc. International Conference on Dependable Systems and Networks (FTCS-30 and DCCA-8)*, (New York City, New York, USA), pp. 237-242, June 2000. (**43% acceptance rate**, 131 submitted papers, 56 accepted papers, 4.64 reviews per paper)
- [19] R. Chandra, M. Cukier, R. M. Lefever, and W. H. Sanders, *Dynamic Node Management and Measure Estimation in a State-Driven Fault Injector*, in *Proc. 19th IEEE Symposium on Reliable Distributed Systems (SRDS-2000)*, (Nürnberg, Germany), pp. 248-257, October 2000. (**26% acceptance rate**, 85 submitted papers, 22 accepted papers, 3.7 reviews per paper)

- [20] S. Krishnamurthy, W. H. Sanders, and M. Cukier, *A Dynamic Replica Selection Algorithm for Tolerating Time Faults in a Replicated Service*, in *Proc. International Conference on Dependable Systems and Networks (DSN-2001)*, (Göteborg, Sweden), pp. 107-116, July 2001. (**35% acceptance rate**, 153 submitted papers, 53 selected papers, about 5 reviewers per paper)
- [21] M. Cukier, J. Lyons, P. Pandey, H. V. Ramasamy, W. H. Sanders, P. Pal, F. Webber, R. Schantz, J. Loyall, R. Watro, M. Atighetchi, and J. Gossett, *Intrusion Tolerance in ITUA*, in *Digest of FastAbstracts presented at the International Conference on Dependable Systems and Networks (DSN-2001)*, (Göteborg, Sweden), pp. B-64 to B-65, July 2001.
- [22] P. Pal, F. Webber, R. Schantz, J. Loyall, R. Watro, W. Sanders, M. Cukier, and J. Gossett, *Survival by Defense-Enabling*, in *Proc. of the New Security Paradigms Workshop 2001*, (Cloudcroft, New Mexico, USA), September 11-13, 2001, pp. 71-78.
- [23] M. Seri, T. Courtney, M. Cukier, and W. H. Sanders, *An Overview of the AQUA Gateway*, in *Proc. of the 1st Workshop on The ACE ORB (TAO)*, (St. Louis, MO, USA), August 5-6, 2001, to appear.
- [24]* S. Krishnamurthy, W. H. Sanders, and M. Cukier, *An Experimental Evaluation of the Responsiveness of Replica Selection Algorithms*, in *Proc. of the Seventh IEEE International Workshop on Object-oriented Real-time Dependable Systems (WORDS 2002)*, (San Diego, CA) January 7-9, 2002, pp. 119-127.
- [25]* S. Krishnamurthy, W. H. Sanders, and M. Cukier, *An Adaptive Framework for Tunable Consistency and Timeliness Using Replication*, in *Proc. International Conference on Dependable Systems and Networks (DSN-2002)*, (Washington, DC, USA), June 23-26, 2002, pp. 17-26. (**31% acceptance rate**, 156 submitted papers, 48 accepted papers, 4.16 reviews per paper)
- [26]* H. V. Ramasamy, P. Pandey, J. Lyons, M. Cukier, and W. H. Sanders, *Quantifying the Cost of Providing Intrusion Tolerance in Group Communication Systems*, in *Proc. International Conference on Dependable Systems and Networks (DSN-2002)*, (Washington, DC, USA), June 23-26, 2002, pp. 229-238. (**31% acceptance rate**, 156 submitted papers, 48 accepted papers, 4.16 reviews per paper) and in *Foundations of Intrusion Tolerant Systems* (Jay Lala, ed.), pp. 251-260. Los Alamitos, CA: IEEE Computer Society, 2003.
- [27]* M. Cukier and C. S. Smidts, *Using Bayesian Theory for Estimating Dependability Benchmark Measures*, in *Supplemental Volume of the 2002 International Conference on Dependable Systems & Networks (DSN-2002)*, Washington, DC, June 23-26, 2002.
- [28]* S. Krishnamurthy, W. H. Sanders, and M. Cukier, *Performance Evaluation of a QoS-Aware Framework for Providing Tunable Consistency and Timeliness*, in *Proc. Tenth International Workshop on Quality of Service (IWQoS 2002)*, (Miami Beach, FL, USA), May 15-17, 2002, pp. 214-223.
- [29]* M. Seri, T. Courtney, M. Cukier, V. Gupta, S. Krishnamurthy, J. Lyons, H. Ramasamy, J. Ren, and W. H. Sanders, *A Configurable CORBA Gateway for Providing Adaptable System Properties*, in *Supplemental Volume of the 2002 International Conference on Dependable Systems & Networks (DSN-2002)*, Washington, DC, June 23-26, 2002, pp. G-26 to G-30.
- [30]* T. Courtney, J. Lyons, H. V. Ramasamy, W. H. Sanders, M. Seri, M. Atighetchi, P. Rubel, C. Jones, F. Webber, P. Pal, R. Watro, M. Cukier, and J. Gossett, *Providing Intrusion Tolerance with ITUA*, in *Supplemental Volume of the 2002 International Conference on Dependable Systems & Networks (DSN-2002)*, Washington, DC, June 23-26, 2002, pp. C-5-1 to C-5-3.

- [31]* W. H. Sanders, M. Cukier, F. Webber, P. Pal, and R. Watro, *Probabilistic Validation of Intrusion Tolerance*, Fast Abstract in the *Supplemental Volume of the 2002 International Conference on Dependable Systems & Networks (DSN-2002)*, Washington, DC, June 23-26, 2002, pp. B-78 to B-79.
- [32]* K. R. Joshi, M. Cukier, and W. H. Sanders, *Experimental Evaluation of the Unavailability induced by a Group Membership Protocol*, in Proc. *4th European Dependable Computing Conference (EDCC-4)*, Toulouse, France, October 23-25, 2002, pp. 140-158. (**31% acceptance rate**, 51 submitted papers, 16 accepted papers, 4.25 reviewers per paper)
- [33]* H. V. Ramasamy, M. Cukier, and W. H. Sanders, *Formal Specification and Verification of a Group Membership Protocol for an Intrusion-Tolerant Group Communication System*, in Proc. *2002 Pacific Rim International Symposium on Dependable Computing (PRDC2002)*, Tsukuba, Japan, December 16-18, 2002, pp. 9-18. (**65% acceptance rate**, 60 submitted papers, 39 accepted papers, 3 reviewers per paper) and in *Foundations of Intrusion Tolerant Systems* (Jay Lala, ed.), pp. 251-260. Los Alamitos, CA: IEEE Computer Society, 2003.
- [34]* Y. (J.) Ren, P. Rubel, M. Seri, M. Cukier, W. H. Sanders, and T. Courtney, *Passive Replication Schemes in AQUA*, in Proc. *2002 Pacific Rim International Symposium on Dependable Computing (PRDC2002)*, Tsukuba, Japan, December 16-18, 2002, pp. 125-130. (**65% acceptance rate**, 60 submitted papers, 39 accepted papers, 3 reviewers per paper)
- [35]* S. Singh, M. Cukier, and W. H. Sanders, *Probabilistic Validation of an Intrusion-Tolerant Replication System*, in Proc. *International Conference on Dependable Systems and Networks (DSN-2003)*, San Francisco, CA, June 22-25, 2003, pp. 615-624. (**35% acceptance rate**, 79 submitted papers, 28 accepted papers, over 4 reviewers per paper)
- [36]* R. M. Lefever, M. Cukier, and W. H. Sanders, *An Experimental Evaluation of Correlated Network Partitions in the Coda Distributed File System*, in Proc. *22nd Symposium on Reliable Distributed Systems (SRDS 2003)*, Florence, Italy, October 6-8, 2003, pp. 273-282. (**29% acceptance rate**, 126 submitted papers, 36 accepted papers, about 5 reviewers per paper)
- [37]* A. Sharma, J. R. Martin, N. Anand, M. Cukier, and W. H. Sanders, *Ferret: A Host Vulnerability Checking Tool*, in Proc. *IEEE Pacific Rim International Symposium on Dependable Computing (PRDC-10)*, Papeete, Tahiti, French Polynesia, March 3-5, 2004, pp. 389-394. (**28% acceptance rate**, 105 submitted papers, 42 accepted papers, 3.5 reviewers per paper)
- [38]* S. Panjwani, S. Tan, K. Jarrin, and M. Cukier, *An Experimental Evaluation to Determine if Port Scans are Precursors to an Attack*, in Proc. *International Conference on Dependable Systems and Networks (DSN-2005)*, Yokohama, Japan, June 28-July 1, 2005, pp. 602-611. (**29% acceptance rate**, 94 submitted papers, 27 accepted papers, over 4 reviewers per paper)
- [39]* M. Tamizi, M. Weinstein, and M. Cukier, *Automated Checking for Windows Host Vulnerabilities*, in Proc. *16th IEEE International Symposium on Software Reliability Engineering (ISSRE 2005)*, Chicago, IL, November 8-11, 2005, pp. 139-148. (**32% acceptance rate**, 98 submitted papers, 32 accepted papers, over 3 reviewers per paper)
- [40]* S. N. Rosenfeld, I. Rus, and M. Cukier, *Modeling and Simulation of the Escalation Archetype in Computer Security*, in Proc. *2006 Symposium on Simulation Software Security (SSSS06)*, Huntsville, AL, April 2-6, 2006, to appear. (**50% acceptance rate**)
- [41]* R. Meyer and M. Cukier, *Assessing the Attack Threat due to IRC Channels*, in Proc. *International Conference on Dependable Systems and Networks (DSN06)*, Philadelphia, PA, June 25-28, 2006, to appear. (**24% acceptance rate**, 96 submitted papers, 23 accepted papers, over 4 reviewers per paper)

- [42]* M. Cukier, R. Berthier, S. Panjwani and S. Tan, *A Statistical Analysis of Attack Data*, in Proc. *International Conference on Dependable Systems and Networks (DSN06)*, Philadelphia, PA, June 25-28, 2006, to appear. (**24% acceptance rate**, 96 submitted papers, 23 accepted papers, over 4 reviewers per paper)
- [43]* S. N. Rosenfeld, I. Rus, and M. Cukier, *Modeling the “Symptomatic Fixes” Archetype in Enterprise Computer Security*, in Proc. *30th Annual International Computer Software and Applications Conference (COMPSAC 2006)*, Chicago, IL, September 18-21, 2006, to appear (**31% acceptance rate**, 183 submitted papers, 57 accepted papers, 3 reviewers per paper)

Technical Reports

- [44] M. Cukier, *Détermination du temps de sortie du domaine de sécurité de l'espace des états lors d'un transitoire accidentel*, Travail de Fin d'Etudes (MS thesis), Université Libre de Bruxelles, July 1991.
- [45] D. Powell, M. Cukier and J. Arlat, *On the Confidence of Very High Coverage Estimations*, Research Report N°94506, LAAS-CNRS, Toulouse, France, December 1994 (modified in March 1995), 22 pages.
- [46] M. Cukier, *Estimation de la couverture de systèmes tolérants aux fautes*, Mémoire de Doctorat (Ph.D. thesis), Institut National Polytechnique de Toulouse, N°1180, July 1996.