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EDUCATION

New Mexico State University Ph.D. in Computer Science	1994
The University of Texas at El Paso M.S. in Computer Science	1990
The University of Texas at El Paso B.S. in Mathematics/Biology	1970

PROFESSIONAL EXPERIENCE

University of Texas at El Paso Professor and Chair, Computer Science	2012-
University of Texas at El Paso Associate Vice-President of Research and Sponsored Projects	2008-2012
University of Texas at El Paso Professor and Chair, Computer Science	2005-2008
University of Texas at El Paso Associate Professor, Associate Chair, Computer Science	2001-2005
University of Texas at El Paso Assistant Professor, Computer Science	1995-2001

HONORS

2014 The University of Texas at El Paso Distinguished Achievement Award for Research
2010 Anita Borg Institute Social Impact Award
2010 New Mexico State University Outstanding Alumnus, College of Arts and Sciences
2009 Tapia Achievement Award for Scientific Scholarship, Civic Science, and Diversifying Computing
McDonald's 2007 Hispanos Triunfadores for Recognition in Science
Hispanic Business Magazine 2006 100 Influential Hispanics
El Paso Hispanic Chamber of Commerce 2006 Paradigm Award for Serving as a Model of

Innovation

IEEE-CS Golden Core Award

2005 University of Texas at El Paso Chancellor Council's Award for Outstanding Teaching

2003 YWCA El Paso Del Norte Region Recognized Achievement Award for Outstanding Achievement in Education

2003 Best Paper Award (co-authored paper with O. Mondragon and F. Kassem), International Conference on Software Engineering and Knowledge Engineering

2000 Best Paper Award (co-authored paper with P.J. Teller), Frontiers in Education 2000

1998 Best Paper Award (co-authored paper with P.J. Teller, A. Bernat, N. Delgado, and

C. Della-Piana), Frontiers in Education 1998

GE Foundation Faculty for the Future Fellowship, 08/90–08/91

State of New Mexico Commission for Higher Education Fellowship, 08/91–05/93

State of New Mexico Commission for Higher Education Project Award, 09/93

MEMBERSHIPS AND CERTIFICATIONS

Phi Kappa Phi Honor Society

Institute of Electrical and Electronic Engineers Inc. (IEEE), Senior Member

IEEE Computer Society

Society of Hispanic Professional Engineers (SHPE)

Society of Mexican American Engineers and Scientists (MAES)

Society Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)

Sigma Xi

CERTIFICATION

Secondary Teacher Certification Mathematics/Psychology

IEEE Computer Society Certified Software Development Professional (CSDP)

SERVICE

AAAS Committee on Opportunities in Science (2014-2016)

Computer Science Accreditation Board (2011-2013)

Texas Higher Education Coordinating Board, HB51 Interim Select Committee Regarding Research, 2010

Founding Member, NSF Advisory Committee for Cyberinfrastructure, National Science Foundation, 2006-2008

NSF Committee of Visitors: Division of Engineering Education and Centers, Directorate of Engineering, Office of Cyberinfrastructure, Division of Graduate Education

NSF Committee of Visitors: Office of Cyberinfrastructure

NSF Committee of Visitors: Course, Curriculum, and Laboratory Improvement (CCLI) program

IEEE Awards Planning and Policy Committee, 2010-2011

Vice-Chair, IEEE Technical Field Awards Council, 2009-2010
Member, IEEE Computer Society Constitution and By Laws Committee, 2009-2010
Member, IEEE Computer Society Educational Activities Board (IEEE-CS EAB), Chair of the Diversity Committee, 1997-present
Member, Board of Governors, IEEE-Computer Society, 2004-2009
Chair, IEEE-CS Awards Committee, 2005-2007
Member, Executive Committee, IEEE-Computer Society, 2006-2007
IEEE Technical Activities Board (TAB) Awards and Recognition Committee, 2005-2007
Secretary, IEEE Computer Society Educational Activities Board, 1997-2003
Committee member, Cyber Careers for the Net-Generation: An Information Technology Career Education Video in collaboration with Northwest Center for Emerging Technologies and IEEE, IEEE-CS EAB, 1998-2000

Member, National Academy of Engineering Committee on Engineering Education, 2003-2005
Program Evaluator, Computing Accreditation Commission (CAC) of the Accreditation Board For Engineering and Technology (ABET)

Founding member and lead of the Computing Alliance of Hispanic Serving Institutions (CAHSI), 2004-present
Founding member, Faculty Alliance of National Center of Women in Information Technology, 2004-present

IEEE-CS Item Reviewer, Software Development Professional Exam, 2009
Member, IEEE Computer Society Certified Software Development Professional (CDSP) Committee, 2003-2005
IEEE-CS Item Reviewer, Software Development Professional Exam, November 2000
IEEE-CS Item Reviewer, Software Development Professional Exam, July 2000
Member, Software Engineering Practitioner Test Specifications Committee, October 1999

Program Committee, 2008 AAAI Spring Symposium Series Workshop, Semantic Scientific Knowledge Integration
Program Committee, Workshop on Runtime Verification 2004 (affiliated with European Joint Conferences on Theory and Practice of Software 2004)
Steering Committee Member, IEEE-CS representative, Frontiers in Education, 1999-2005
Program Committee, Workshop on Runtime Verification 2003 (affiliated with Conference on Automated Verification)
Program Committee Co-Chair, Frontiers in Education 2001, Reno, NV
Program Committee Member, Fifth IEEE International High-Assurance System Engineering Symposium, Albuquerque, NM, November 2000
Student Volunteers Committee Member, Supercomputing 1999, Portland, OR, Nov 1999

RESEARCH FUNDING

NCWIT Extension Services Undergraduate Programs (ES-UP) Mini-Grant

11/1/13-10/31/14 \$8000

PI

NSF Broadening Participation Research in STEM Education Program

9/1/13-8/31/15 (\$297,550)

Increasing STEM Participation and Success Rates of Latino Youth Using Culturally Relevant Immersive Technologies

PI with D. Tillman and A. Song

NSF Centers of Research Excellence in Science and Technology

9/12-8/17 (\$5,000,000)

CREST-CyberShARE Center of Excellence: A Center for Sharing Cyber-Resources to Advance Research and Education

PI with V. Kreinovich, P. Pinheiro da Silva, C. Tweedie, L. Velazquez, A. Velasco

National Science Foundation

5/11-4/16 (\$3,500,00)

BPC-AE: Computing Alliance of Hispanic-Serving Institutions (CAHSI) Renewal

PI

National Science Foundation

8/10-7/11 (\$100,000)

CREST Partnership Supplement: Establishment of a Collaboration on Digital Curation between the CyberShARE Center of Excellence and the University of Michigan Schools of Information's Collaboratory for Research on Electronic Work

PI

National Science Foundation

10/10-9/14 (\$1,000,000)

I3: A Cyberinfrastructure and Communication-Based Model to Foster Innovation that Broadens Participation in STEM Fields through Institutional Integration

Co-PI with D. Natalicio (PI), P. Witherspoon, B. Flores, E. Freudenthal, and A. Pennathur

Lumina Foundation for Education

10/09-09/12 (\$500,000)

A Proposal to Increase Degree Completion Rates at UTEP and Other Minority-Serving Institutions

PI with D. Ekal and R. Mathew

Kauffman Foundation

07/08-08/09 (\$703,036)

Kauffman Campus Initiative

Co-PI with R. Jarvis, I. Coronado, and S. Ibarreche

NSF Course, Curriculum, and Laboratory Improvement

09/09-08/12 (\$399,457)

CCLI Phase 2: Building Support Structures for Full Adoption of the Affinity Research Group Model

Co-PI with E. Villa, S. Roach, and K. Kephart

NSF CISE Broadening Participation in Computing

11/08-11/11 (\$1,732,474)

BPC-AE: CAHSI: Computing Alliance of Hispanic-Serving Institutions

PI with J. Fernandez (Texas AM-Corpus Christi); K. Villaverde (New Mexico State University); M. Beheshti (California State University-Dominguez Hills); N. Rodriguez (University of Puerto Rico Mayaguez)

NSF Centers of Research Excellence in Science and Technology

9/07-8/12 (\$5,000,000)

CREST-CyberShARE Center of Excellence: A Center for Sharing Cyber-Resources to Advance Research and Education

PI with V. Kreinovich, P. Pinheiro da Silva, C. Tweedie, L. Velazquez, A. Velasco

NSF Course, Curriculum, and Laboratory Improvement

10/07-9/10 (\$346,364)

CCLI Phase 2: Increasing Attractiveness of Computing: The Design and Evaluation of Introductory Computing Coursework that Elicits Creativity

Co-PI with F. Freudenthal and J. Fernandez (Texas A&M-Corpus Christi)

NSF CISE Broadening Participation in Computing

3/06-2/09 (\$2,000,000)

BPC: Computing Alliance for Hispanic-Serving Institutions

PI with D. Ranjan (New Mexico State University), N. Rodriguez (University of Puerto Rico Mayaguez); M. Adjouadi (Florida International); and M. Beheshti (California State University-Dominguez Hills)

NSF Course, Curriculum, and Laboratory Improvement

5/05-5/08 (\$285,000)

Affinity Research Groups: Developing Students Beyond Academe

PI with S. Roach and E. Villa

NSF ADVANCE Program

9/03-8/08 (\$3,500,000)

ADVANCE Institutional Transformation Award: An Initiative for Transforming Climate and Opportunities to Foster Academic Diversity

Co-PI with E. Posey, C. Reimers, E. Anthony, and P. Witherspoon

NSF CISE Minority Institutions Infrastructure Program

9/00 – 9/05 (\$1,250,000)

Graduate Education for Minority Students in Computer Science and Engineering: Extending the Pipeline

Co-PI with D. Novick, S. Cabrera, M. Shadaram, and P. Teller

NASA Minority University Research Centers

9/95 – 9/05 (\$11,000,000)

The Pan American Center for Earth and Environmental Studies

Co-PI with S. Starks, R. Keller, and V. Kreinovich

NSF RI Program

9/03-9/04 (\$232,776)

Acquisition of Equipment to Support Collaborative, Multi-Disciplinary Research and Development of Reliable Software

Co-PI with S. Roach, and V. Kreinovich

NSF ITR Collaborative Research

8/01 -8/04 (UTEP-\$892,437; Total-\$11,000,000)

GEON: A Research Project to Create Cyberinfrastructure for the Geosciences

Co-PI with G. R. Keller and V. Kreinovich

NSF EAR ITR

8/01 -8/04 (\$249,381)

Collaborative Project-Creation of a Geospatial Data System for the Transition Zone Between the Colorado Plateau and Basin and Range Provinces (Geoinformatics in Action)

Co-PI with G. R. Keller and V. Kreinovich; Arizona State University

Army Research Laboratory

8/01 -8/03 (\$64,475)

Development and Research Support of the Scene and Countermeasures Integration for Munition Interaction with Targets (SCIMITAR)Tool

PI

Army Research Laboratory

12/01 -1/02 (\$2,348)

Software Requirements Specifications of the Scene and Countermeasures Integration for Munition Interaction with Targets (SCIMITAR) Tool

PI

NSF CISE Minority Institutions Infrastructure Program

9/95 – 9/02 (extension) (\$1,200,000)

Building Affinity Groups to Enable and Encourage Student Success in Computing

PI with P. Teller and S. Cabrera

Department of Energy, HICREST

1/98 – 5/02 (extension) (\$150,000)

Building the Professor/Student Cooperative Research Group: Adapting the Affinity Group

Model to Meet the Needs of Individual Investigator
Co-PI with C. Kubo Della Piana

Sandia National Laboratories

6/00 – 8/00 (\$20,000)

A Functional Parallel Discrete Event Simulation of a Snoopy Coprocessor for Software Monitoring with Integrity Constraints

PI with P. Teller

Sandia National Laboratories

5/99 – 8/99 (\$24,978)

Design of a Prototypical Snoopy Coprocessor for DynaMICs Software-Fault Monitoring with Integrity Constraints

PI with P. Teller

Sandia National Laboratories

1/99 – 12/31/99 (\$29,331)

A Traceability Tool, Integrity Constraint Approach

PI

NSF CISE CDA/NSF Instrumentation Grants for Research

12/97 – 11/98 (\$71,261)

A Multiprocessor Platform for Cross-Disciplinary Research in Parallel Systems

Co-PI with P. Teller and D. Cooke

U.S. Army Engineering District, Ft. Worth, Texas

5/97 – 5/98 (\$40,715)

Install, Configure and Migrate Data for DOE/DPTMS ORACLE Network Database

PI

NASA Partnership Award

6/97 – 9/99 (\$196,130)

Verification of NASA Mission-Critical Software Without Sacrificing Performance

Co-PI with P. Teller

NASA Faculty Award for Research

8/95 – 8/98 (\$180,072)

Monitoring Software Through Integrity Constraints

PI

PUBLICATIONS

BOOKS AND BOOK CHAPTERS

Gates, A., Villa, E., and S. Salamah, "Developing Communities of Practice to Prepare Software Engineers with Effective Team Skills," in *Overcoming Challenges in Software Engineering Education: Delivering Non-Technical Knowledge and Skills*, (L. Yu, ed.), IGI Global, to appear 2014.

Gates, A., Pinheiro da Silva, P., Salayandia, L., Ochoa, O., Gandara, A., and N. Del Rio, "Use of Abstraction to Support Geoscientists' Understanding and Production of Scientific Artifacts," in *Geoinformatics: Cyberinfrastructure for Solid Earth Sciences*, (G. R. Keller and C. Baru, eds.), Cambridge Press, 2011, pp. 252-256.

Gates, A., Roach, S., Villa, E., Kephart, K., Della Piana, C. and G. Della Piana, *The Affinity Research Group Model: Creating and Maintaining Effective Research Teams*, Los Alamitos, CA: Computer Society Press: 2008.

Roach, S. and A. Q. Gates, "Teaching Software Engineering in a Computer Science Program Using the Affinity Research Group Philosophy," in *Software Engineering: Effective Teaching and Learning Approaches and Practices* (H. Ellis, S. Demurjian, and F. Naveda, eds.), New York: Information Science Reference, 2008, pp. 136-156.

Salayandia, L., Huang, Y., Gates, A.Q., and S. Roach, "GeoNet: Use of Grid Technologies in Geoinformatics for the Transition Zone between the Colorado Plateau and the Basin & Range Province," in *Geoinformatics: Data to Knowledge*, (A.K. Sinha, ed.), Geological Society of America, 2006.

JOURNAL PUBLICATIONS

Villa, E., Gates, A., Kephart, K., Hug, S., and H. Thirty, "Affinity Research Groups in Practice: Apprenticing Students in Research," *Journal of Engineering Education*, July 2013, 102(3), pp. 444-466. DOI 10.1002/jee.20016

Salamah, S., Gates, A., and Kreinovich, V., "Validated Templates for Specification of Complex LTL Specifications" *Journal of Systems and Software*, 85(2012), 1915-1929.

Salamah, S., "Validation of Software Property Specification Using the TV Tool." *Journal of Communication and Computer*, Volume 8, Number 4, April 2011.

Gates, A., Romero, R., Alonso, M., Klett, F., Naveda, J., and D. Requena, "Cultivating Entrepreneurial Thinking through IEEE-CS Student Chapters," *Computer*, April 2011, 44(4): 60-67.

Salamah, S., Gates, A., Roach, S., and M. Engskow, "Towards Support for Software Model Checking: Improving the Efficiency of Formal Specifications," *Advances in Software Engineering*, vol. 2011, Article ID 869182, 13 pages, 2011. doi:10.1155/2011/869182.

Gates, A., Hug, S., Thiry, H., Adjouadi, M., Beheshti, M., Alo, R., and J. Fernandez, "The Computing Alliance of Hispanic-Serving Institutions: Supporting Hispanics at Critical Transition Points," *ACM Transactions of Computing Education*, 11(6), October 2011.

Gates, A., "Broadening Participation in Computing: The Role of Hispanic-Serving Institutions in Contributing to an Educated Workforce," *Communications of the ACM*, 53(1), pp. 31-33, 2010.

Gates, A., "Discovery, Innovation, and Creativity: The Core of Computing," *Computer*, February 2010, pp. 94-96.

Pinheiro da Silva, P., Salayandia, L., Gandara, A., and A. Q. Gates, "CI-Miner: Semantically Enhancing Scientific Processes", *Earth Science Informatics*, 2(4), 2009.

Kephart, K., Villa, E., Gates, A., and S. Roach. "The Affinity Research Group Model: Creating and Maintaining Dynamic, Productive and Inclusive Research Groups," *Council on Undergraduate Research (CUR)-Quarterly*, 2008, pp. 13-24.

Salayandia, L., and A. Gates, "Towards a Workflow Management System for Service Oriented Modules," *International Journal of Simulation and Process Modeling*, 3(1-2), 2007.

Mondragon, O., Gates, A., Roach, S., and O. Sokolsky, "Generating Properties for Runtime Monitoring from Software Specification Patterns," in *International Journal of Software Engineering and Knowledge Engineering*, 17(1): 107-126 (2007).

Delgado, N., Gates, A. Q. Gates, and S. Roach, "A Taxonomy and Catalog of Runtime Software-Fault Monitoring Tools," *IEEE Transactions on Software Engineering*, 30(12), December 2004, 859-872.

Mondragon, O. and A. Q. Gates, "Supporting Elicitation and Specification of Software Properties through Patterns and Composite Propositions," *International Journal on Software Engineering and Knowledge Engineering*, 14(1):21-41, February 2004.

Gates, A.Q., Mondragon, O., "FastTLInC: A Constraint-based Tracing Approach," *The Journal of Systems and Software*, 63(2002): 241-258.

Teller, P. and A. Q. Gates, "Using the Affinity Research Group Model to Involve Undergraduate Students in Computer Science," *Journal of Engineering Education*, 549-555, October 2001.

Gates, A. Q, and V. Kreinovich, "Strassen's Algorithm Made (Somewhat) More Natural: A Pedagogical Remark," *Bulletin of the European Association for Theoretical Computer Science*, 73:142-145, February 2001.

Bernat, A., Teller, P., Gates, A., Delgado, N., and Kubo Della-Piana, C., "Structuring the Student Research Experience," *ACM SIGCSE Education*, 32(3) (Sept 2000), pp. 17-20.

Gates, A. and V. Kreinovich, "Why is a Function Defined as a Set of Ordered Pairs?" *SIGSCE Bulletin*, 29(4): 57, December 1997. Gates, A.Q. and Teller,

Gates, A. and P. J. Teller, "An Integrated Design of a Dynamic Software-Fault Monitoring System," *Transactions of the SDPS: Journal of Integrated Design & Process Science*, 14(3): 63-78, September 2000.

Gates, A.Q., Teller, P.J., Bernat, A., Delgado, N., and Kubo Della-Piana, C., "Expanding Participation in Undergraduate Research Using the Affinity Group Model," *Journal of Engineering Education*, 88(4):409-414, October 1999.

Subbaramu, S., Gates, A. Q., and Kreinovich, V., "Application of Kolmogorov Complexity to Image Compression: It Is Possible to Have a Better Compression, But It Is Not Possible to Have the Best One," *Bulletin of the European Association of Theoretical Computer Science*, 69: 145-150, October 1999.

Gates, A. Q., Kreinovich, V., and Longpré, L., "Kolmogorov Complexity Justifies Software Engineering Heuristics," *Bulletin of the European Association for Theoretical Computer Science*, 66: 150-154, October 1998.

Cooke, D. E., Gates, A., Demirors, O., Demirors, E., Tanik, M. and Kramer, B., "Languages for the Functional Specification of Software," *The Journal of Systems and Software*, 32:269-

308, March 1996.

Cooke, D. E., R. Duran, A. Gates, and V. Kreinovich, "Geombinatoric Problems of Environmentally Safe Manufacturing and Linear Logic," *Geombinatorics*, 4(2):3647, October 1994.

Cooke, D. E. and A. Gates, "On the Development of a Method to Synthesize Programs from Requirements Specifications," *International Journal of Software Engineering and Knowledge Engineering*, 1(1): 21-38, 1991.

CONFERENCE PUBLICATIONS

Salayandia, L., Pennington, D., Gates, A., and F. Osuna, "MetaShare: From Data Management Plans to Knowledge Base Systems," *Proceedings of the AAAI Fall Symposium Series Workshop on Discovery Informatics*, November 15-17, 2013, Arlington, VA.

Salayandia, L., Gates, A.Q., and P. Pinheiro, "An Approach to Evaluate Scientist Support in Abstract Workflows and Provenance Traces," *Proceedings of the Discovery Informatics Symposium: The Role of AI Research in Innovating Scientific Processes*, AAAI Fall Symposium Series, Arlington, VA, November 2012.

Gallegos, I., Goswami, S., Gates, A.Q., Tweedie, C., and J. Gamon, "Towards Near-Real Time Data Property Specification and Verification for Arctic Hyperspectral Sensor Data," in *Proceedings of North American Fuzzy Information Processing Society 2011*, March 2011.

Gallegos, I., Gates, A.Q., and C. Tweedie, "Toward Improving Environmental Sensor Data Quality: A Preliminary Property Categorization," in *Proceedings of the International Conference on Information Quality 2010*, November 2010.

Gallegos, I., Gates, A.Q., and C. Tweedie, "DaProS: A Data Property Specification Tool to Capture Scientific Sensor Data Properties," In *Proceedings of the Workshop on Domain Engineering DE@ER10*, pp. 232-241.

Pinheiro da Silva, P. Salayandia, L., Del Rio, N., and A. Q. Gates. "On the Use of Abstract Workflows to Capture Scientific Process Provenance," in *Proceedings of the 2nd Workshop on the Theory and Practice of Provenance (TaPP'10)*, San Jose, CA, February 2010.

Salamah, S., Ochoa, O., and A. Gates, "A Comparative Study of a Tool-Based Approach for Teaching Formal Methods," *Proceedings of 2010 Frontiers in Education*, October 2010, pp. S3D-1-S2D-6.

Brazier, P., Chebotko, A., Gates, A., and L. Salayandia, "GEO-SEED: A Metadata Repository for Geoscience Web Services Discovery," *Proceedings for IEEE 2009 Third International Workshop on Scientific Workflows*, 2009.

Salayandia, L., Roach, S., and Gates, A.Q., "Program Synthesis from Workflow-Driven Ontologies", (2008), *Proceedings of the 27th International Conference of the North American Fuzzy Information Processing Society (NAFIPS) 2008*, New York, New York.

Freudenthal, E., Roy, M., Ogrey, A., Terrell, S., Kosheleva, O., Gonzalez, P., and A. Gates, "Work in Progress: Initial Evaluation of an Introductory Course in Programming that Assists in Career Choices," in *Proceedings of the Frontiers in Education 2008 Conference*, Saratoga Springs, NY, October 2008.

Beheshti, M., Alo, R., Fernandez, J., Gates, A. Q., Ranjan, D., Boadi, A., Villaverde, K., "Work in Progress: CS0 Course Implementation in Computer Science," in *Proceedings of the*

Frontiers in Education 2008 Conference, Saratoga Springs, NY, October 2008.

Gallegos, I., Ochoa, O., Gates, A. Q., Roach, S., Salamah, S., and C. Vela, "A Property Specification Tool for Generating Formal Specifications: Prospec 2.0.," in *Proceedings of the Nineteenth International Conference on Software Engineering and Knowledge Engineering (SEKE-2008)*, pp. 273-278.

Salamah, S. and A. Gates, "Using Specification Patterns to Teach Black-Box Testing," in *Proceedings of the American Society for Engineering Education (ASEE) Annual conference and Exposition*, Pittsburg, PA, June 2008.

Salamah, S. and A. Gates, "A Technique for Using Model Checkers to Teach Formal Specifications," in *Proceedings of the 21st IEEE-CS International Conference on Software Engineering Education and Training (CSEET)*, Charleston, SC, April 2008.

Salamah, S., Gates, A., and S. Roach, "Improving Pattern-Base LTL Formulas For Model Checking," in *Proceedings of the 5th IEEE International Conference on Information Technology (ITNG)*, Las Vegas, NV, April 2008.

Salamah, S., Gates, A., Kreinovich, V. and S. Roach, "Verification of Automatically Generated Pattern-Based LTL Specifications," in *Proceedings of the 10th IEEE High Assurance Systems Engineering Symposium (HASE)*, Dallas, Texas, November, 2007, pp. 341-348.

Alo, R., Beheshti, M., Fernandez, J., Gates, A., and D. Ranjan, "Work in Progress: Peer-Led Team Learning Implementation in Computer Science," *Proceedings 2007 IEEE/ASEE Frontiers in Education Conference*, S4A-7-8.

Gates, A.Q., Keller, G.R., Salayandia, L., Pinheiro da Silva, P., and F. Salcedo, "The Gravity Data Ontology: Laying the Foundation for Workflow-Driven Ontologies," in *Proceedings of the Second International Conference on Geospatial Semantics (GeoS 2007)*, Mexico City, Mexico, November 29-30, 2007.

Del Rio, N., Pinheiro da Silva, P., Gates, A.Q., and L. Salayandia, "Semantic Annotation of Maps Through Knowledge Provenance," in *Proceedings of the Second International Conference on Geospatial Semantics (GeoS 2007)*, Mexico City, Mexico, November 29-30, 2007.

Ochoa, O., Gallegos, I., Roach, S., and A. Gates, "Towards a Tool for Generating Aspects from MEDL and PEDL Specifications for Runtime Verification," *Electronic Notes in Theoretical Computer Science*, 2007.

Salamah, S., Kreinovich, V., Gates, A., and S. Roach, "Using Patterns and Composite Propositions to Automate the Generation of Complex LTL Specifications," in *2007 Proceedings of the Automated Technology for Verification and Analysis 5th International Symposium in Lecture Notes in Computer Science*, Namjoshi, K., Yoneda, T., Higashino, T. and Y. Okamura (Eds.), Springer Verlag, Vol. 4762, pp. 533-542, 2007.

Salamah, S., Kreinovich, V., and A. Gates, "Generating Linear Temporal Logic Formulas for Patterns-Based Specifications," in *Proceedings of the Nineteenth International Conference on Software Engineering and Knowledge Engineering*, Boston, July 2007.

Salayandia, L., Pinheiro da Silva, P., Gates, A. Q., and F. Salcedo, "Workflow-Driven Ontologies: An Earth Sciences Case Study," in *Proceedings of the 2nd IEEE Int'l Conference on e-Science and Grid Computing*, Amsterdam, Netherlands, December 2006.

Salayandia, L., Pinheiro da Silva, P., Gates, A., and A. Rebellon, "A Model-Based Workflow

Approach for Scientific Applications," in *Proceedings of the 6th OOPSLA Workshop on Domain-Specific Modeling*, Portland, Oregon, October 2006.

Gates, A., Kreinovich, V., Longpré, L., Pinheiro da Silva, P., and G. Randy Keller, "Towards Secure Cyberinfrastructure for Sharing Border Information," *Proceedings of the Lineae Terrarum: International Border Conference*, El Paso, Las Cruces, and Cd. Juarez, March 27-30, 2006.

Salamah, S., Gates, A., Roach, S., and O. Mondragon, "Verifying Pattern-Generated LTL Formulas: A Case Study," *Model Checking Software, Proceedings 12th International SPIN Workshop in Lecture Notes in Computer Science*, Springer, 2005, pp. 200-220.

Mondragon, O., Gates, A., Mendoza, H., Sokolsky, O., "Generating Properties for Runtime Monitoring from Software Specification Patterns," *Proceedings 17th International Conference on Software Engineering and Knowledge Engineering*, July 2005.

Gates, A., S. Roach, I. Gallegos, O. Ochoa, and O. Sokolsky, "JavaMaC and Runtime Monitoring for Geoinformatics Grid Services," *Proceedings 10th IEEE International Workshop on Object-Oriented Real-Time Dependable Systems WORDS 2005*, February 2005, pp. 105-112.

Keller, G., et al., "A Community Effort to Construct a Gravity Database for the United States and an Associated Web Portal," *Geological Society of America Special Paper on Geoinformatics*, 2004.

Aldouri, R., et al., "GEON: Geophysical Data Add the 3rd Dimension in Geospatial Studies," in *Proceedings of the ESRI User Conference*, Aug. 2004.

Gates, A. Q., Mondragon, O., and F. Kassem, "Automated Support for Property Specification Based on Patterns," *Proceedings of the 15th International Conference on Software Engineering and Knowledge Engineering*, July 2003, pp. 174-181. BEST PAPER

Mondragon, O., Gates, A. Q., and S. Roach, "Prospec: Support for Elicitation and Formal Specification of Software Properties," *Electronic Notes in Theoretical Computer Science*, O. Sokolsky and V. Mahesh (eds.), 2003.

Gates, A. Q., Mondragon, O., Payne, M., and S. Roach, "Instrumentation of Intermediate Code for Runtime Verification," *Proceedings 28th Annual NASA Goddard/IEEE Software Engineering Workshop*, December 2003.

Mondragon, O., Gates, A. Q., and S. Roach, "Composite Propositions: Toward Support for Formal Specification of System Properties," *Proceedings 27th Annual NASA Goddard/IEEE Software Engineering Workshop*, December 2002, pp. 67-74.

Gates, A. Q., Roach, S., Mondragon, O., N. Delgado, "DynaMICs: Comprehensive Support for Run-Time Monitoring," in *Electronic Notes in Theoretical Computer Science*, K. Havelund and G. Rosu (eds.), 55(2), 2001, www.elsevier.nl/locate/entc.

Wen, Q., Gates, A. Q., Beck, J., Kreinovich V., and G. R. Keller, "Towards Automatic Detection of Erroneous Measurement Results in a Gravity Database," *Proceedings of the 2001 IEEE Systems, Man, and Cybernetics Conference*, Tucson, AZ, (Oct. 2001): 2170-2175.

Roach, S., and Gates, A., "Towards Synthesis of Runtime Constraint Monitoring Code," *Proceedings of the Second International Workshop on Automated Program Analysis, Testing and Verification in conjunction with the International Conference on Software Engineering (ICSE 2001)*, Toronto, Canada, May 13, 2001.

Gates, A. and Roach, S., "A Framework for Knowledge Management and Automated Constraint Monitoring," *Proceedings of the Monterey 2001 Workshop on Engineering Automation for Software Intensive System Integration*, Monterey, California, June 18 -22, 2001: 77-99.

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