

GRUIA-CATALIN ROMAN

Professional Address

The University of New Mexico
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Education

- 1974-76 *Ph.D. in Computer and Information Sciences.*
University of Pennsylvania, Philadelphia, PA.
- 1974 *Master of Science for Graduate Work in Computer and Information Sciences.*
University of Pennsylvania, Philadelphia, PA.
- 1971-73 *Bachelor of Science in Computer Science and Engineering (Summa Cum Laude).*
Fulbright Scholar. University of Pennsylvania, Philadelphia, PA.

Professional Experience

ADMINISTRATIVE APPOINTMENTS – University of New Mexico

- 2011- Dean of the School of Engineering
Professor of Computer Science

ADMINISTRATIVE APPOINTMENTS – Washington University in St. Louis

Washington University in St. Louis is an independent university known internationally for excellence in teaching and research. Founded in 1853, the University educates over 11,000 full-time students, was ranked 12th by U.S. News and World Report in the undergraduate category for 2008, and has been associated with a long list of Nobel Prize laureates.

The **Department of Computer Science and Engineering** had a nominal faculty of 26 making it the largest department in the School of Engineering and Applied Science. The Department offers BS, MS, and Ph.D. degrees in computer science and in computer engineering, enjoys an excellent record of placing doctoral graduates in academic and research positions, prides itself on educating some of the most talented undergraduates in the nation, engages in highly visible research (annual research expenditures from outside sources exceed \$250,000 per faculty), and spearheaded several successful enterprises.

- 2008-11 Chair, Department of Computer Science and Engineering
1997-07 (known as Department of Computer Science prior to 2002)

The **chair** reports directly to the Dean of Engineering, interacts closely with the Provost and the Chancellor, and has a working relation with the deans and chairs from all other schools. He oversees a faculty of about 26, has an immediate staff of five, and exercises approval authority over all departmental appointments (senior professors, lecturers, researchers, research assistants, graders, etc.). The chair is responsible for all activities associated with faculty and graduate student recruiting, strategic planning, every day management of departmental affairs, disposition of departmental cash reserves (\$1 to \$1.5 mil), and budgeting (up to \$10 mil).

Special achievements:

- *In the span of one decade the department faculty grew from 14 to a high of 26. Two new hires are planned for this season, despite the difficult global financial situation.*
- *Sound fiscal policies allowed the Department to post almost \$6 mil in cumulative surpluses during a period of aggressive growth while maintaining large cash reserves.*
- *The Department enjoys the reputation of functioning well with minimal overhead thanks to a management style that emphasizes effectiveness, broad participation, judicious delegation of both authority and responsibility, openness, and fair application of published policies.*
- *As chair I gained the reputation of being a most passionate and effective advocate for multidisciplinary research and education, particularly by forging a strong partnership with the School of Medicine, a world leader in medical science.*
- *Above all, I nurtured a culture that emphasizes high expectations, collegiality, collaboration, and mutual respect.*

ACADEMIC APPOINTMENTS – Washington University in St. Louis

- 2004- Harold B. and Adelaide G. Welge Professor of Computer Science.
- *Being the recipient of an endowed chair bestows on me special responsibilities, which I try to discharge with a great deal of diligence as administrator, faculty, and member of the University community.*
- 1990-04 Professor of Computer Science
- 1981-90 Associate Professor of Computer Science
- 1976-81 Assistant Professor of Computer Science

OTHER SIGNIFICANT RESPONSIBILITIES – Washington University in St. Louis

- 2008- Co-Director, BJHF-ICTS Clinical & Translational Research Funding Program
- *The position entails the administration of Institute of Clinical and Translational Sciences research funds (\$1 mil to \$2 mil) that are being awarded annually in a competitive way to investigators pursuing new pilot studies likely to lead to future research that will promote the translation of medical science research into clinical practice.*
- 2005-07 Engineering representative, Coordinating Council for Diversity Initiatives
- *The appointment was in recognition of my intense efforts to increase diversity among faculty and students in our Department. In a field that is in crisis when it comes to participation by women, our Department has the most female faculty (four) in the School and five of my former doctoral students are women (four holding academic positions).*
- 2004-05 Chair, Assembly Series Committee
- *The series brings to campus world-class intellectuals, scientists, journalists, legal experts, politicians, etc., for a free weekly talk during the academic year. The free lectures are open to all members of the University community as well as the general the public. The speaker's list included Thomas Friedman, Robert F. Kennedy, Jr, Susan Sontag, Carlos Fuentes, and Cornel West.*
- 1997- Director and founder of the Mobile Computing Laboratory
- *MobiLab is one the early academic research laboratories dedicated to the emerging field of wireless communication and mobile computing.*
- 1990-97 Director and founder of the Computer Visualization Laboratory

- *The laboratory equipment included high-performance visualization hardware and a Panasonic broadcast quality production facility. It made possible rapid visualization of concurrent programs through the use of a novel technique called declarative visualization.*

1989-97 Chair, Doctoral Program Committee

- *My efforts, with support from my colleagues, led to adopting a more effective process of doctoral student performance monitoring and evaluation and to creating a culture of high research aspirations. Today most of our doctoral graduates are highly published and seeking challenging research and academic positions.*

VISITING POSITIONS

2010 Visiting Scientist, University College London.

1999 Visiting Scientist, LORIA CNRS, Université Henri Poincaré, Nancy France.

1994 Guest Scientist, Siemens AG, Corporate Research and Development, Munich, Germany.

LOCAL COMMUNITY – St. Louis

2006- Information Technology Coalition, founding member of the Board of Directors.

- *Through my personal advocacy an organization that brought together CIOs, entrepreneurs, university presidents, academics, and others was formed with the goal to develop programs that will enable St. Louis to be the place where Information Technology achieves its full economic potential.*

2002-08 Emerging Technologies Advisory Board, Saint Louis Science Center.

1996-97 Technology Advisory Council, Saint Louis Science Center.

- *Working with one of the premier science centers in the nation, enabled me to contribute to public awareness of scientific and engineering research and to fostering unique outreach opportunities.*

1993 Founder of the Saint Louis area *Software Process Improvement Network (SPIN) Chapter*.

Honor Society Memberships, Professional Associations

Tau Beta Pi

Association for Computing Machinery (ACM)

Institute of Electrical and Electronics Engineers (IEEE) Computer Society.

Professional Service

Recognized as a leader within the software engineering community, I held leadership roles in a variety of conferences and workshops, delivered keynote addresses, acted as outside advisor for international projects, served as an associate editor, and acted as reviewer for a number of leading journals.

SERVICE OF DISTINCTION

2010 Roman, G.-C., General Chair, *International Symposium on the Foundations of Software Engineering (FSE 2010)*, Santa Fe, New Mexico, USA, November 7-11, 2010.

- *As general chair for FSE 2010, my overarching goal is to hold an event that has a high intellectual impact, solid financial backing, and the capacity to influence government policies regarding chronic under-investments in software research and technology. An unprecedented level of corporate and government support (in excess of \$100,000) allowed me to restructure the conference in a fundamental way and to add a two-day working conference on the future of software research.*

- 2005 Roman, G.-C., General Chair, *International Conference on Software Engineering (ICSE 2005)*, Saint Louis, Missouri, May 15-21, 2005.
- *I worked with the Governor's office, the Mayor's office, the Regional Commerce and Growth Association and others to secure Saint Louis as the host for ICSE 2005, a conference that had never been held in the Midwest before. My goal was to organize an event that was memorable and had a lasting impact on the host region. The result was a conference that excelled in all respects: an overall attendance reaching 1,100, corporate support in excess of \$200,000, a high quality program, superb organization, and strong local participation. Furthermore, the Information Technology Summit held in conjunction with the conference laid the foundation for the creation of a regional Information Technology Coalition.*

EDITORIAL RESPONSIBILITIES

- 2002-04 Roman, G.-C., Member of the Editorial Board of the *ACM Transactions on Software Engineering and Methodology*.
- 2002 Roman, G.-C., and Murphy, A. L., Guest Editors, Special Issue on Software Engineering for Mobility, *Automated Software Engineering* 9, No. 2, Kluwer Academic Publishers, April 2002.
- 1998 Roman, G.-C., and Ghezzi, C., Guest Editors, Special Issue on Mobility and Network Aware Computing, *IEEE Transactions on Software Engineering* 24, No. 5, May 1998.
- 1993 Ghezzi, C., and Roman, G.-C., Guest Editors, Selected Papers of the Sixth International Workshop on Software Specification and Design, *Science of Computer Programming* 20, No. 1-2, April 1993.

CONFERENCE LEADERSHIP

- 2011 De Meuter, W., and Roman, G.-C., Program Co-Chairs, *International Conference on Coordination Models and Languages (Coordination 2011)*, Reykjavik, June 6-9, 2011.
- 2006 Ochoa, S. F., and Roman, G.-C., Program Co-Chairs, *International Workshop on Advanced Software Engineering (IWASE 2006)*, Santiago, Chile, August 25, 2006.
- 2003 Roman, G.-C., Vice Chair for Agents and Mobile Code, *23rd International Conference on Distributed Computing Systems (ICDCS)*, May 19-22, 2003.
- 2001 Roman, G.-C., and Picco, G. P., Co-Chairs, *Workshop on Software Engineering and Mobility*, organized in conjunction with *International Conference on Software Engineering (ICSE'01)*, Toronto, Canada, May 13-14, 2001.
- 2000 Porto, A., and Roman, G.-C., Program Co-Chairs, *International Conference on Coordination Models and Languages (Coordination 2000)*, Cyprus, September 11-13, 2000.
- 1998 Ghezzi, C., and Roman, G.-C., Co-Chairs, *Workshop on Computing and Communication in the Presence of Mobility*, organized in conjunction with *International Conference on Software Engineering (ICSE'98)*, Kyoto, Japan, April 25, 1998.
- Roman, G.-C., Panel Chair, *Computing and Communication in the Age of Mobility*, organized in conjunction with *International Conference on Software Engineering (ICSE'98)*, Kyoto, Japan, April 1998.
- 1997 Roman, G.-C., and Ghezzi, C., Co-Chairs, *Workshop on Mobility and Network Aware Computing*, organized in conjunction with *Sixth European Software Engineering Conference (ESEC)*, Zurich, Switzerland, September 26, 1997.
- 1991 Ghezzi, C., and Roman, G.-C., Program Co-Chairs, *Sixth International Workshop on Software Specification and Design*, 25-26 October 1991, Como, Italy.

CONFERENCE STEERING COMMITTEES

International Conference on Coordination Models and Languages

International Conference on Software Engineering
 International Workshop on Software Specification and Design

PROGRAM COMMITTEES

IEEE Symposium on Visual Languages
 International Conference on Coordination Models and Languages
 International Conference on Data Engineering
 International Conference on Distributed Computing Systems
 International Conference on Information Processing in Sensor Networks
 International Conference on MOBILE Wireless MiddleWARE, Operating Systems, and Applications
 International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing
 International Conference on Software Engineering
 International ICDCS Workshop on Mobile Computing Middleware
 IEEE Real-Time Systems Symposium
 International Workshop on Formal Methods for Parallel Programming
 International Workshop on Advanced Software Engineering
 International Workshop on Engineering Mobile Service Oriented Systems (EMSOS)
 International Workshop on Foundations of Coordination Languages and Software Architectures
 International Workshop on Software Specification and Design
 International Workshop on Software Engineering for Large-Scale Multi-Agent Systems
 International Workshop on Connecting Software-Intensive Networked Systems in Today's Pervasive Digital Environment (CoPinE)
 Fundamental Approaches to Software Engineering
 SIGSOFT Symposium on the Foundations of Software Engineering
 Workshop on Reflective and Adaptive Middleware
 Workshop on Self-Healing Systems
 Workshop on Software Engineering for Pervasive Computing Applications, Systems, and Environments
 International Workshop on Software Architectures and Mobility (SAM)
 Workshop on Multi-Agent Systems and Software Architecture (MASSA)
 IEEE WETICE Workshop on Coordination Models and Applications (CoMA): Knowledge in Pervasive Environments

REVIEWER

National Science Foundation
 National Institutes of Health
 Major conferences and journals in the fields of software engineering, mobility, distributed computing, and visualization
 Research funding agencies in Europe and elsewhere

Subjects Taught

Classes I like to teach are progressive and exhibit conceptual integrity, i.e., a unifying theme or vision. I believe that interesting homework assignments and personal attention are the keys to a quality education. When first taught in the seventies, the programming systems and languages class anticipated the contents of modern language texts by almost a decade. The software engineering workshop is one of the first classes of its kind; it maintained its freshness and relevance because of its strong grounding in the realities of industrial software development. My contributions to the concurrency curriculum seek to bridge the gap between formal methods and current design practices and to introduce students to the emerging field of mobile computing and wireless communication.

	Software engineering workshop
	Mobile computing
	Models of concurrency
	Distributed algorithms
	Concurrent algorithms and formal verification
	Programming systems and languages
	Programming language theory
	Computer graphics
	Compilers
	Automata and formal languages
	Introductory computer science
2002	European Educational Forum (EEF) International Summer School (Turku, Finland): Mobile UNITY—Reasoning about Physical and Logical Mobility
2001	Winter School (Universidad de Buenos Aires, Argentina): Formal Reasoning about Concurrent and Mobile Systems in UNITY and Mobile UNITY

Dissertations Supervised

Doctoral research is academic education at its very best. There are few more satisfying forms of teaching: a one-on-one apprenticeship that enhances knowledge of student and teacher alike; an intense effort motivated by a self-constructed vision; and a gradual refinement of taste and style in choosing problems and solution strategies. As chair of the Doctoral Program Committee, I was able to establish a culture in which every doctoral student has the opportunity to excel, understands the high expectations of our department, and makes continuous progress toward completing the degree requirements. At the personal level, I have focused my efforts on educating a new generation of graduate students likely to succeed in academia and top-ranked national research centers.

List of graduates and initial placement after graduation:

2010	Chipara, O., (Co-Advisor with: Chenyang Lu) <i>Towards Real-Time Wireless Sensor Networks</i> . (Postdoc, University of California, San Diego; assistant professor, University of Iowa, Iowa City, Iowa)
2009	Fok, C.-L., (Co-Advisor with: Chenyang Lu) <i>Adaptive Middleware for Ad Hoc and Wireless Sensor Networks</i> . (Postdoc, University of Texas, Austin)
2008	Sen, R., (Co-Advisor with: Chris Gill) <i>Supporting Collaborations Across Mobile Environments</i> . 2008 Sen, R., (Co-Advisor with: Chris Gill) <i>Supporting Collaborations Across Mobile Environments</i> . (Advisory Forensic Services, PricewaterhouseCoopers LLP, New York, New York)
	Bhattacharya, S., (Co-Advisor with: Chenyang Lu) <i>Achieving Application Quality of Service in Resource-Constrained Wireless Sensor Networks</i> . (Researcher at Intel India System Research Center, Bangalore, India)
2006	Payton, J., <i>A Query-Centric Perspective to Supporting the Development of Context-Aware Applications for Mobile Ad Hoc Networks</i> . (Assistant professor at University of North Carolina at Charlotte, Charlotte, North Carolina.)

- 2005 Handorean, R., *Context Aware Service Oriented Computing in Mobile Ad Hoc Networks*. (Software Engineer at Qualcomm, Boulder, Colorado.)
- 2004 Julien, C., *Supporting Context-Aware Application Development in Ad Hoc Mobile Networks*. (Assistant professor at University of Texas, Austin, Texas.)
- 2003 Huang, Q., (Co-Advisor with: Chenyang Lu) *Spatiotemporal Multicast and Partitionable Group Membership Service*. (Research scientist at Palo Alto Research Center (PARC), Palo Alto, California.)
- 2002 Tudoreanu, M.-E., (Co-Advisor with: E. Kraemer) *Economy of Interaction for Effective Program Visualizations*. (Assistant professor at University of Arkansas, Little Rock, Arkansas.)
- 2000 Hart, D., *Query-Based Visualization of Executing Distributed Computations*. (Assistant professor at University of Alabama, Huntsville, Alabama.)
- Murphy, A. L., *Rapid Development of Dependable Applications in Ad Hoc Mobility*. (Assistant professor at University of Rochester, Rochester, New York.)
- 1998 Picco, G. P., (Co-Advisor with: S. Gai and C. Ghezzi) *Understanding, Evaluating, Formalizing, and Exploiting Code Mobility*, Politecnico di Torino. (Visiting assistant professor at Washington University in Saint Louis; assistant professor at Politecnico di Milano, Italy.)
- 1997 McCann, P. J., *Reasoning About Program Interactions in the Presence of Mobility*. (Lucent Bell Laboratories Research, Naperville, Illinois.)
- 1995 Plun, J. Y., *Expressing Dynamic Interaction Patterns in Concurrent Programming*. (Postdoctoral fellow at Washington University in Saint Louis.)
- 1994 Wilcox, C. D., *Addressing Architectural and Mobility Considerations in the Formal Specification and Design of Concurrent Systems*. (Radworks Corp., San Antonio, Texas.)
- 1993 Cox, K. C., *Visualization of Concurrent Computations*. (AT&T Bell Laboratories Research, Naperville, Illinois.)
- 1992 Gamble, R. F., (Adviser: W. E. Ball) *Developing Reliable, Concurrent Rule-Based Programs*. (Assistant professor at University of Tulsa, Tulsa, Oklahoma.)
- 1989 Laine, A. F., *High-Speed Feature-Based Stereo Matching*. (Assistant professor at University of Florida, Gainesville, Florida.)
- Cunningham, H. C., *The Shared Dataspace Approach to Concurrent Computation: The Swarm Programming Model, Notation, and Logic*. (Assistant professor at University of Mississippi, Oxford, Mississippi.)

Research Support

Throughout my career I have maintained a well-funded research group and associated laboratories. For much of the last decade I have dedicated myself to the study of mobile computing, with a special emphasis on the development of software systems and applications for mobile ad hoc wireless networks and wireless sensor networks. Within this area my group made a number of pioneering contributions including the introduction of coordination technology to ad hoc wireless networks, a formal model for the study and verification of mobile systems and protocols, and the first agent-based middleware for sensor networks.

- 2008 “Wireless Sensor Network Technology for Clinical Monitoring,” ICTS Novel Methodologies and Pilot Studies award under the NIH/NCRR (NIH RR024992-01) grant. (Feb. 2008 - Jan. 2009, C. Lu (PI), T. Bailey, and G.-C. Roman, \$80,000)
- “CSR-DMSS: A Substrate for Personalized Computing in the Real World,” NSF research grant. (CSR-0834755, Sept. 1 2008 – Aug. 31 2011, G.-C. Roman (PI) and C. Gill, \$360,000)
- “Wireless Communication Study,” Emerson unrestricted gift. (C. Lu and G.-C. Roman, \$30,000)

- 2007 “Washington University Institute of Clinical and Translational Sciences,” NIH/NCRR grant. (NIH RR024992-01, Sept. 2007 - May 2012, Kenneth Polanski (PI) et al, (Co-Director Novel Methodologies and Pilot Studies Program with 5% support), \$50,000,000)
- “Towards Cyber-Physical Computing at Scale: A Life-Size Experimental Facility for Applied Sensor Networks Research,” NSF instrumentation grant collaborative with UIUC and University of Nebraska-Lincoln. (CNS-0708460, Aug. 2007 - July. 2008, C. Lu (PI) and G.-C. Roman, \$400,000 with \$100,000 for Washington University)
- 2005 “Adaptive Systems for Collaboration in Multi-mode Mobile Environments,” NSF research grant. (IIS-0534699, Dec. 2005 - Nov. 2010, G.-C. Roman (PI) and C. Gill, \$754,000; additional REU funding of \$12,000)
- “NeTS-NOSS: Fluid Software Infrastructure for Wireless Sensor Networks,” NSF research grant. (CNS-0520220, Aug. 2005 - July 2009, G.-C. Roman (PI) and C. Lu, \$300,000)
- 2003 “Spatiotemporal Protocols and Analyses for Wireless Sensor Networks,” NSF Information Technology Research (ITR) award. (CCR-0325529, Aug. 2003 - Aug. 2006, C. Lu (PI) and G.-C. Roman, \$500,000)
- 2002 “A Logical Framework for Adaptive System Interoperability,” ONR MURI research contract managed as a subcontract with University of Illinois. The overall effort involves five related projects led by J. Meseguer and G. Agha at Univ. of Illinois Urbana-Champaign, C. Gunter at Univ. of Pennsylvania, G.-C. Roman at Washington Univ., and N. Venkatasubramanian at UC Irvine). (N00014-02-1-0715, June 2002 – April 2007, \$900,000)
- 2001 Ford Motor Company research partnership. (2001-2003, \$150,000)
- “Student Travel Support for the Software Engineering and Mobility Workshop,” NSF travel grant. The Workshop was organized in conjunction with *International Conference on Software Engineering (ICSE'01)*, Toronto, Canada, May 13-14, 2001. (CCR-0111878, \$9,750)
- 2000 Ford Motor Company research partnership. (\$25,000)
- 1999 “Rapid Development of Dependable Applications over Ad Hoc Networks,” NSF research grant. (CCR-9970939, July 1999 - June 2002, \$391,053)
- IBM Partnership Award. (July 1999 - June 2000, \$30,000)
- 1998 “Query-Based Visualization: Supporting the Monitoring of Large Distributed Systems,” Boeing Fellowship supporting D. Hart. (July 1998 - June 2000, approx. \$70,000)
- 1997 “Effective Visual Presentation of Computer Generated Information,” NSF instrumentation grant. (CDA-9616969, Feb. 1997 - Jan. 1998, G.-C. Roman (PI), P. M. Hubbard, E. T. Kraemer, and S. Suri, \$130,728)
- “Query-Based Visualization of Executing Distributed Computations,” NSF research grant. (CDA-9619831, Jul. 1997 - Jun. 2000, G.-C. Roman (PI) and E. T. Kraemer, \$262,000 basic funding; \$8,053 REU supplement)
- 1996 “Reasoning about Program Interactions in the Presence of Mobility,” NSF research grant. (CCR-9624815, Aug. 1996 - Jul. 1998, \$132,270)
- 1995 “Correctness per Construction,” Siemens AG, Munich, Germany. (Oct. 1995-Sept. 1996, \$23,000)
- 1994 “A Research Infrastructure for Fast Image and Visualization Distribution,” NSF grant to expand an ATM multimedia computer network to support interdisciplinary collaborative work. (CDA-9401159, Aug. 1994 - Jul. 1997, J. S. Turner (PI) and investigators M. A. Franklin, M. Miller, G. Parulkar, and G.-C. Roman, \$939,618)
- 1993 “Advanced Design Methods for Critical Components of Concurrent Systems,” NSF research grant. (CCR-9217751, Jul. 1993 - Dec. 1996, \$331,326)

- 1992 “Multimedia ATM Network for Computer and Communication Research,” NSF grant for the design and deployment of a multimedia computer network. (CDA-9214622, Sept. 1992 - Feb. 1996, J. S. Turner (PI) and co-principal investigators J. R. Cox, M. W. Dubetz, M. A. Franklin, and G.-C. Roman, \$250,000)
- 1991 “A Proof-based Declarative Approach to Visualizing Concurrent Computations,” NSF research grant. (CCR-9015677, Feb. 1991 - Jul. 1993, \$169,756)
 “Software Engineering,” unrestricted gift from Osaka Gas Co., Ltd. (\$20,000)
 “Visualization Support for Formal Methods,” NSF educational supplement. (CCR-9015677, Dec. 1991 - Jan. 1993, \$16,858)
- 1990 “Parallel Processing,” unrestricted gift from Texas Instruments. (\$5,000)
 “Visualization of Concurrent Computations,” DARPA/NASA Assistantship in Parallel Processing for K. C. Cox. (26947M, Jun. 1990 - May 1991, \$26,000)
 “Professional Video Production Support for a Visualization Laboratory,” equipment gift from Matsushita Electric Industrial Co., Ltd. (\$60,000)
- 1988 “Equipment in Support of Parallel Processing Research,” NSF grant for the purchase of a 64 node NCUBE-7 parallel computer. (CCR-8716462, Mar. 1988 - Aug. 1989, M. A. Franklin (PI), M. Miller, and G.-C. Roman, \$70,000)
- 1985 “Photo-interpretation Speed-up by Semi-automated Feature Detection,” DMA contract investigating the speed-up of photo interpretation by semi-automated feature detection. (DMA800-85-C-0010, Jan. 1985 - Sept. 1987, W. E. Ball and G.-C. Roman, \$482,659)
- 1983 “Long-Range Technological Impact on Computer-Aided Product Development at DMA,” DMA/RADC contract investigating the exploitation of current technology in the Geographic Data Processing area: technological trends, requirements specification/validation, system design methodologies, software development practices and facilities. (F30602-83-K-0065, Apr. 1983 - Jan. 1986, \$229,475)
- 1982 “Modern Programming Environment Assessment,” RADC/DMA contract focusing on issues related to the establishment of a DMA software development facility. (F30602-80-C-0284, Apr. 1982 - Sept. 1982, \$30,000)
- 1980 “Total System Design Methodology Assessment,” RADC/DMA contract concerned with (a) the nature of and strategies involved in the identification of the hardware/software mix that comprises a distributed system and (b) the establishment and evolution of system design facilities. (F30602-80-C-0284, Sept. 1980 - Apr. 1982, \$209,365)
- 1979 “Total System Development Framework,” RADC contract investigating the dynamics of hardware/software trade-offs in distributed systems design. (F30602-78-C-0148, May 1979 - Sept. 1979, \$15,000)
- 1977 “Software Engineering Workshop,” Monsanto Company contract for software systems design methodology development and training. (Oct. 1977 - May 1978, \$30,000)

Industrial Consulting

My career as a software engineering consultant has been a source of strength for our software engineering instructional program and a crusade for the introduction of modern software design methods into everyday industrial practice. The software engineering class I taught for twenty years or so, starting in the mid seventies, benefited greatly from being used in industry as well; many of the design techniques presented to the students were evaluated concurrently on industrial-grade projects. My most recent industrial training class addressed the issue of designing robust software systems for engineering applications. Because much of my consulting dealt with embedded systems, I have been exposed to industrial projects that go far beyond computer science and involve a wide range of engineering fields. Overall, my consulting activities gave me the unique opportunity to play a key role in upgrading the software development practices of major corporations.

- 2004-08 Emerson Electric, St. Louis, Missouri—software architecture for dependable systems.

- 2003 bioMérieux, St. Louis, Missouri—software development process evaluation.
- 2002 Corporate Express, St. Louis, Missouri—software engineering training.
- 1995-01 Emerson Electric, St. Louis, Missouri—design reviews, software engineering training, and software process improvement.
- 1994-95 In-Sink-Erator, a division of Emerson Electric, Racine, Wisconsin—object-oriented, dependable software design.
- 1987-90 Emerson Electric, St. Louis, Missouri—software engineering training program.
- 1985-86 General Dynamics, Fort Worth, Texas—SDI contract investigating high-payoff distributed system design tools.
- 1985 McDonnell Douglas Astronautics, St. Louis, Missouri—requirements and design specification methods for common Ada missile packages.
- 1984-86 General Dynamics, Fort Worth, Texas—DMA contract to establish a modern software development environment and the methodology required to use it effectively.
- 1983 Computer Services Corporation (CSK), Tokyo, Japan—Ada language and software engineering training.
- 1982-83 McDonnell Douglas Astronautics, St. Louis, Missouri—software engineering methodology support, development of Ada-based design language for embedded systems and instruction in the use of the language and associated methodology.
- 1982 General Dynamics, Fort Worth, Texas—Army contract for the development of an Ada-based system design methodology for real-time embedded systems.
- 1981 Defense Mapping Agency Aerospace Center, St. Louis, Missouri—software systems design methodology development and training.
- 1980 Defense and Space Systems Group of TRW, Redondo Beach, California—Air Force contract for the development of a hardware/software trade-offs methodology.

Invited Talks

Beijing University

Bell Research Laboratories

Emerson Electric

Ford Research

Fudan University

Fundamental Approaches to Software Engineering (FASE 2004)—keynote speaker

Hewlett-Packard Laboratories (Pisa, Italy)

International Conference on Principles of Software Engineering (PRISE 2004)—invited speaker

International Workshop on Abstract State Machines (ASM 2003)—keynote speaker

International Workshop on Advanced Software Engineering (IWASE 2006)—keynote speaker

International Workshop on Formal Methods for Parallel Programming (FMPPTA 2002)

International Workshop on Software Engineering for Large-scale Multi-agent Systems (SELMAS 2004)—keynote speaker

Massachusetts Institute of Technology

Open University, UK

Osaka Gas Information Systems Co.

Politecnico di Milano
 Siemens AG (Munich, Germany)
 Software Productivity Consortium (*Distinguished Lecture Series*)
 SRI International
 Technical University of Berlin
 Telcordia (formerly Bellcore)
 U. S. Naval Postgraduate School
 University of California at Irvine (*Distinguished Lecture Series*)
 University of Illinois at Chicago
 University of Karlsruhe
 University College London
 University of Missouri at Rolla
 University of New Mexico
 University of Oxford
 University of Pennsylvania
 University of Pisa

Publications

High levels of research activity resulted in nearly 200 publications with an overall citation count that exceeds 3000 (Google Scholar), including numerous papers having citation counts in excess of 100. In the broadest sense, this body of work can be characterized as being concerned with the design of software instruments that enable rapid development of dependable software, particularly in novel settings such as the mobile and wireless domains. The research style has been one that focused on innovation and creative thinking, often opening entirely new research directions or identifying important paradigm shifts.

IN PRESS

None.

2013

Chipara O., Lu, C., and Roman, G.-C., "Real-Time Scheduling for Wireless Sensor Networks," *IEEE Transactions of Computers* 62, No. 9, September 2013, pp. 1850-1865.

Fok, C.-L., Roman, G.-C., and Lu, C., "Adaptive Service Provisioning For Enhanced Energy Efficiency And Flexibility In Wireless Sensor Networks," *Science of Computer Programming* 78, No. 2, February 2013, pp.195-217.

2012

Michel, J., Julien, C., Payton, J., Roman, G.-C., "A Spatiotemporal Model for Ephemeral Data in Pervasive Computing Networks," *IEEE Workshop on Hot Topics in Pervasive Computing (PerHot '12)*, Lugano, Switzerland, March 2012, pp. 179-184.

Payton, J., Julien, C., Rajamani, V., and Roman, G.-C., "Using Snapshot Query Fidelity to Adapt Continuous Query Execution," *Pervasive and Mobile Computing* 8, No. 3, June 2012, pp. 317-330.

Michel, J., Julien, C., Payton, J., Roman, G.-C., "myGander: A Mobile Interface and Distributed Search Engine for Pervasive Computing," in *Proceedings of the Pervasive Computing and Communications Demos (PERCOM Demos)*, Lugano, Switzerland, March 2012, pp. 495-497.

2011

Michel, J., Julien, C., Payton, J., Roman, G.-C., "Gander: Personalizing Search of the Here and Now," *Proceedings of the 8th International ICST Conference on Mobile and Ubiquitous Systems (MobiQuitous 2011)*, Copenhagen, Denmark, December, 2011.

Fok, C.-L., Julien, C., Roman, G.-C., and Lu, C., "Challenges of Satisfying Multiple Stakeholders: Quality of Service in the Internet of Things," *Proceedings of the 2nd International Workshop on Software Engineering for Sensor Network Applications (SESENA 2011)*, Hawaii, May 2011, pp. 55-60. (<http://doi.acm.org/10.1145/1988051.1988062>)

Lu, Q., Chen, Y., Haitjema, M., Roman, G.-C., Gill, C., and Chen, G., "Temporal Planning for Co-Design of Host Scheduling and Workflow Allocation in Mobile Environments," *Proceedings of The International Scheduling and Planning Applications woRKshop (SPARK)*, Freiburg, Germany, June 2011.

Julien, C., Rajamani, V., Payton, J., and Roman, G.-C., "Fidelity-Based Continuous Query Introspection and Adaptation," *Third International Workshop on Information Quality and Quality of Service for Pervasive Computing (IQ2S 2011)*, in *Proceedings of the Pervasive Computing and Communications Workshops (PERCOM Workshops)*, Seattle, March, 2011, pp.14-19.

De Meuter, W., and Roman, G.-C., (editors), *Coordination Languages and Models, Proceedings of the 13th International Conference on Coordination Models and Languages*, Lecture Notes in Computer Science 6721, Springer, Reykjavik, June 2011.

Chipara, O., Lu, C., Stankovic, J., and Roman, G.-C., "Dynamic Conflict-free Transmission Scheduling for Sensor Network Queries," *IEEE Transactions on Mobile Computing* 10, Nr. 5, May 2011, pp. 734-748.

2010

Chipara, O., Lu, C., Bailey, T.C., and Roman, G.-C., "Reliable Clinical Monitoring using Wireless Sensor Networks: Experience in a Step-down Hospital Unit," in *Proceedings of the ACM Conference on Embedded Networked Sensor Systems (SenSys'10)*, Zurich, Switzerland, November 2010, pp. 155-168.

Julien, C., Payton, J., Roman, G.-C., and Rajamani, V., "Semantic Self-Assessment of Query Results in Dynamic Environments," *ACM Transactions on Software Engineering and Methodology* 19, No. 4, April 2010, pp. 12:1-12:33.

Bhattacharya, S., Saifullah, A., Lu, C., and Roman, G.-C., "Multi-Application Deployment in Shared Sensor Networks Based on Quality of Monitoring," *Proceedings of the IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS'10)*, Stockholm, Sweden, April 2010, pp. 259-268.

Fok, C.-L., Roman, G.-C., and Lu, C., "Adaptive Service Provisioning for Wireless Sensor Networks," *Proceedings of the 12th International Conference on Coordination Models and Languages (Coordination 2010)*, Lecture Notes in Computer Science 6116, Clarke, D., and Agha, G., (editors), Springer, Amsterdam, The Netherlands, June 2010, pp. 107-121.

Chipara, O., Hackmann, G., Lu, C, Smart, W, and Roman, G.-C., "Practical Modeling and Prediction of Radio Coverage in Indoor Sensor Networks," *Proceedings of the International Conference on Information Processing in Sensor Networks (IPSN'10)*, Stockholm, Sweden, April 2010, pp. 339-349.

2009

Chipara, O., Brooks, C., Bhattacharya, S., Lu, C., Chamberlain, R. D., Roman, G.-C., and Bailey, T. C., "Reliable Real-time Clinical Monitoring Using Sensor Network Technology," *Proceedings of the 2009 American Medical Informatics Association Annual Symposium (AMIA 2009)*, San Francisco, CA, November 2009, pp. 103-107.

Rajamani, V., Julien, C., Payton, J., and Roman, G.-C., "PAQ: Persistent Adaptive Query Middleware for Dynamic Environments," *Proceedings of the 10th International Middleware Conference, (Middleware 2009)*, Lecture Notes in Computer Science 5896, Bacon, J. M., and Cooper, B. F., (editors.), Springer, Urbana Champaign, IL, November 2009, pp. 226-246.

Thomas, L., Wilson, J., Roman, G.-C., and Gill, C., "Achieving Coordination Through Dynamic Construction of Open Workflows," *Proceedings of the 10th International Middleware Conference, (Middleware 2009)*, Lecture Notes in Computer Science 5896, Bacon, J. M., and Cooper, B. F., (editors.), Springer, Urbana Champaign, IL, November 2009, pp. 268-287.

Fok, C.-L., Roman, G.-C., and Lu, C., "Agilla: A Mobile Agent Middleware for Self-Adaptive Wireless Sensor Networks," *ACM Transactions on Autonomous and Adaptive Systems* 4, No. 3, July 2009, pp. 16:1-16:26.

Fok, C.-L., Roman, G.-C., and Lu, C., "Enhanced Coordination in Sensor Networks through Flexible Sensing Provisioning," *Proceedings of the 11th International Conference on Coordination Models and Languages (Coordination 2009)*, Lecture Notes in Computer Science 5521, Field, J., and Vasconcelos, V., (editors), Springer-Verlag, Lisbon, Portugal, June 2009, pp. 66-85.

Rajamani, V., Julien, C., Payton, J., and Roman, G.-C., "Inquiry and Introspection for Non-Deterministic Queries in Mobile Environments," *Fundamental Approaches to Software Engineering (FASE 2009)*, Lecture Notes in Computer Science 5503, Chechik, M., and Wirsing, M., (editors), Springer-Verlag, York, UK, March 2009, pp. 401-416.

2008

Sen, R., Roman, G.-C., Gill, C., and Frank, A., "CiAN: A Workflow Engine for MANETs," *Proceedings of the 10th International Conference on Coordination Models and Languages (Coordination 2008)*, Lecture Notes in Computer Science 5052, Lea, D. and Zavattaro, G. (editors), Springer Verlag, Oslo, Norway, June 2008, pp. 280-295.

Bhattacharya, S., Fok, C.-L., Lu, C., and Roman, G.-C., "MLDS: A Flexible Location Directory Service for Tiered Sensor Networks," Special Issue on Advanced Location-based Services, *Computer Communications* 31, January 2008, pp. 1160-1172.

Julien, C., Roman, G.-C., and Huang, Q., "SICC: Source-Initiated Context Construction in Mobile Ad Hoc Networks," *IEEE Transactions on Mobile Computing* 7, No. 4, April 2008, pp. 401-415.

2007

Chipara, O., Lu, C., and Roman, G.-C., "Real-time Query Scheduling for Wireless Sensor Networks," *Proceedings of the 28th IEEE Real-Time Systems Symposium (RTSS 2007)*, December 2007, Tucson, AZ, pp. 389-399.

Payton, J., Julien, C., and Roman, G.-C., "Automatic Consistency Assessment for Query Results in Dynamic Environments," *Proceedings of the ACM SIGSOFT Symposium on the Foundations of Software Engineering, (ESEC/FSE 2007)*, September 2007, Dubrovnik, Croatia, pp. 245-254. (*Distinguished Paper Award*)

Hackmann, G., Gill, C., and Roman, G.-C., "Extending BPEL for Interoperable Pervasive Computing," *Proceedings of the 2007 International Conference on Pervasive Services (ICPN 2007)*, July 2007, Istanbul, Turkey, pp. 204-213.

Fok, C.-L., Roman, G.-C., and Lu, C., "Towards a Flexible Global Sensing Infrastructure," *Proceedings of the International Workshop on Wireless Sensor Network Architecture (WWSNA 2007)*, April 2007, Cambridge, MA, pp. 49-54.

Sun, F., Fok, C.-L., and Roman, G.-C., "Demo Abstract: sChat: A Group Communication Service Over Wireless Sensor Networks," *Proceedings of the International Conference on Information Processing in Sensor Networks (IPSN 2007)*, April 2007, Cambridge, MA, pp. 543-544.

Bhattacharya, S., Fok, C.-L., Lu, C., and Roman, G.-C., "Design and Implementation of a Flexible Location Directory Service for Tiered Sensor Networks," *Proceedings of the 3rd International Conference on Distributed Computing in Sensor Systems (DCOSS'07)*, Lecture Notes in Computer Science 4549, Aspens, J., Scheideler, C., Arora, A., and Madded, S., (editors), Springer Verlag, Santa Fe, NM, June 2007, pp. 158-173.

Roman, G.-C., Julien, C., and Payton, J., "Modeling Adaptive Behaviors in Context UNITY," *Theoretical Computer Science* 376, No. 3, 2007, pp. 185-204.

Sen, R., Handorean, R., Roman, G.-C., and Hackmann, G., "Knowledge-driven Interactions with Services across Ad Hoc Networks," *International Journal of Cooperative Information Systems* 16, No. 1, March 2007, pp. 123-153.

Sen, R., Hackmann, G., Haitjema, M., Roman, G.-C., and Gill, C., "Coordinating Workflow Allocation and Execution in Mobile Environments," *Proceedings of the 9th International Conference on Coordination Models and Languages (Coordination 2007)*, Lecture Notes in Computer Science 4467, Murphy, A. L., and Vitek, J. (editors), Springer Verlag, Paphos, Cyprus, June 2007, pp. 249-267.

Frey, D. and Roman, G.-C., "Context-Aware Publish Subscribe in Mobile ad Hoc Networks," *Proceedings of the 9th International Conference on Coordination Models and Languages (Coordination 2007)*, Lecture Notes in Computer Science 4467, Murphy, A. L., and Vitek, J., (editors), Springer Verlag, Paphos, Cyprus, June 2007, pp. 37-55.

2006

Murphy, A. L., Picco, G. P., and Roman, G.-C., "LIME: A Coordination Middleware Supporting Mobility of Hosts and Agents," *ACM Transactions on Software Engineering and Methodology* 15, No. 3, July 2006, pp. 279-328.

Bhattacharya, S., Fok, C.-L., Lu, C., and Roman, G.-C., "Demo Abstract: A Hierarchical Location Directory Service Across Sensor and IP Networks," in *Proceedings of the ACM Conference on Embedded Networked Sensor Systems (SenSys'06)*, Bolder, Colorado, USA, November 2006, pp. 365-366.

Fok, C.-L., Roman, G.-C., and Lu, C., "Software Support for Application Development in Wireless Sensor Network," In *The Handbook of Mobile Middleware*, A. Corradi and P. Bellavista (editors), Auerbach Publications, Sept. 2006, pages 1227-1253.

Picco, G. P., Migliavacca, M., Murphy, A. L., and Roman, G.-C., "Distributed Abstract Data Types," *Proceedings of the 8th International Symposium on Distributed Objects and Applications (DOA'06)*, Meersman, R., Tari, Z., et al (editors), Lecture Notes in Computer Science 4276, Springer-Verlag, Montpellier, France, October 2006, pp. 1594-1612.

Hackmann, G., Haitjema, M., Gill, C., and Roman, G.-C., "Sliver: A BPEL Workflow Process Execution Engine for Mobile Devices," *Proceedings of the 4th International Conference on Service Oriented Computing (ICSOC 2006)*, Dan, A., and Lamersdorf, W., (editors), Lecture Notes in Computer Science 4294, Springer, Chicago, USA, December 2006, pp. 503-508.

Massaguer, D., Fok, C.-L., Venkatasubramanian, N., Roman, G.-C., and Lu, C., "Exploring Sensor Networks using Mobile Agents," *Proceedings of the Fifth International Joint Conference on Autonomous Agents & Multi Agent Systems*, Stone, P., and Weiss, G., (editors), Hakodate, Japan, May 2006, pp. 323-325.

Handorean, R., Sen, R., Hackmann, G., and Roman, G.-C., "Supporting Predictable Service Provision in MANETs via Context Aware Session Management," *International Journal of Web Services Research* 3, No. 3, July-September 2006, pp. 1-26.

Roman, G.-C., Handorean, R., and Sen, R., "Tuple Space Coordination Across Space and Time," *Proceedings of the 8th International Conference on Coordination Models and Languages (Coordination 2006)*, Ciancarini, P., and Wiklicky, H., (editors), Lecture Notes in Computer Science 4038, Springer, Bologna, Italy, June 2006, pp. 266-280.

Bhattacharya, S., Atay, N., Alankus, G., Lu, C., Bayazit, O. B., Roman, G.-C., "Roadmap Query Protocols for Sensor Network Guided Navigation in Dynamic Environments," *Proceedings of the 2nd International Conference on Distributed Computing in Sensor Networks (DCOSS 2006)*, Gibbons, P. B., Abdelzaher, T., Aspnes, J., and Rao, R., (editors), Lecture Notes in Computer Science 4026, Springer, San Francisco, USA, June 2006, pp. 17-36. (*Best Paper Award*)

Hackmann, G., Fok, C.-L., Roman, G.-C., and Lu, C., "Agimone: Middleware Support for Seamless Integration of Sensor and IP Networks," *Proceedings of the 2nd International Conference on Distributed Computing in Sensor Networks (DCOSS 2006)*, Gibbons, P. B., Abdelzaher, T., Aspnes, J., and Rao, R., (editors), Lecture Notes in Computer Science 4026, Springer, San Francisco, USA, June 2006, pp. 101-118.

Julien, C., and Roman, G.-C., "EgoSpaces: Facilitating Rapid Development of Context-Aware Mobile Applications," *IEEE Transactions on Software Engineering* 32, No. 5, May 2006, pp. 281-298.

Ochoa, S. F., and Roman, G.-C., (editors), *Advanced Software Engineering: Expanding the Frontiers of Software*, Proceedings of the First International Workshop on Advanced Software Engineering (IWASE 2006), Santiago, Chile, August 25, 2006.

2005

Huang, Q., Bhattacharya, S., Lu, C., and Roman, G.-C., "FAR: Face-Aware Routing for Mobicast in large-Scale Sensor Networks," *ACM Transactions on Sensor Networks* 1, No. 2, November 2005, pp. 240-271.

Sen, R., Hackmann, G., Roman, G.-C., Gill, C., "Opportunistic Exploitation of Knowledge to Increase Predictability of Agent Interactions in MANETs," *Proceedings of the 4th International Workshop on Software Engineering for Large-scale Multi-agent Systems (SELMAS 2005)*, ACM Digital Library, May 2005.

Handorean, R., Sen, R., Hackmann, G., and Roman, G.-C., "Context-Aware Session Management for Services in Ad Hoc Networks," *Proceedings of the International Conference on Services Computing (SCC 2005)*, July 2005, pp. 113-120. (*Best Student Paper Award*)

Bhattacharya, S., Xing, G., Lu, C., Roman, G.-C., Harris, B., Chipara, O., "Dynamic Wake-up and Topology Maintenance Protocols with Spatiotemporal Guarantees." *Proceedings of the 4th International Conference on Information Processing in Sensor Networks (IPSN'05)*, April 2005, pp. 28-34.

Fok, C.-L., Roman, G.-C., Lu, C., "Mobile Agent Middleware for Sensor Networks: An Application Case Study," *Proceedings of the 4th International Conference on Information Processing in Sensor Networks (IPSN'05)*, April 2005, pp. 382-387.

Roman, G.-C., and Payton, J., "A Principled Exploration of Coordination Models," *Theoretical Computer Science* 336, No. 2-3, May 2005, 367-401.

Fok, C.-L., Roman, G.-C., Lu, C., "Rapid Development and Flexible Deployment of Adaptive Wireless Sensor Network Applications," *2005 International Conference on Distributed Computing Systems (ICDCS 2005)*, June 2005, pp. 653-662.

Chipara, O., Lu, C., and Roman, G.-C., "Exploiting Workload Periodicity for Energy Conservation in Wireless Sensor Networks," *2005 International Conference on Distributed Computing Systems (ICDCS 2005)*, June 2005, pp. 361-370.

Sen, R., Handorean, R., Roman, G.-C., and Gill, C., "Service Oriented Computing Imperatives in Ad Hoc Wireless Settings," in *Service-Oriented Software System Engineering: Challenges And Practices*, Z. Stojanovic and A. Dahanayake (editors), Idea Group Publishing, April 2005, pp. 247-269.

Hackmann, G., Julien, C., Payton, J., and Roman, G.-C., "Supporting Generalized Context Interactions," *4th International Workshop on Software Engineering and Middleware (SEM 2004)*, T. Gschwind and C. Mascolo (editors), Lecture Notes in Computer Science 3437, Springer-Verlag, March 2005, pp. 91-106.

Julien, C., and Roman, G.-C., "Supporting Context-Aware Interaction in Dynamic Multi-Agent Systems," *Environments for Multi-Agent Systems (E4MAS)*, D. Weyns, H. Van Dyke Parunak, and F. Michel (editors), Lecture Notes in Computer Science 3374, Springer, February 2005, pp. 168-189.

Julien, C., Payton, J., and Roman, G.-C., "Adaptive Access Control in Coordination-Based Mobile Agent Systems," *Software Engineering for Multi-Agent Systems III: Research Issues and Practical Applications*, R. Choren, et al. (editors), Lecture Notes in Computer Science 3390, Springer, January 2005, pp. 254 - 271.

Roman, G.-C., and Payton, J., "A Termination Detection Protocol for Use in Mobile Ad Hoc Networks," *Automated Software Engineering Journal* 12, No. 1, January 2005, pp. 81-99.

2004

Murphy, A. L., Roman, G.-C., and Varghese, G., "Dependable Message Delivery to Mobile Units," in *Mobile Computing Handbook*, M. Ilyas and I. Mahgoub (editors), CRC Press, 2004, pp. 25-52.

Picco, G. P., Murphy, A. L., and Roman, G.-C., "Developing Mobile Applications: A LIME Primer," in *Mobile Computing Handbook*, M. Ilyas and I. Mahgoub (editors), CRC Press, 2004, pp. 227-252.

Sen, R., Handorean, R., Hackmann, G., and Roman, G.-C., "An Architecture Supporting Run-Time Upgrade of Proxy-Based Services in Ad Hoc Networks," *International Conference on Pervasive Computing and Communications (PCC'04)*, June 2004, pp. 689-695.

Sen, R., Handorean, R., Roman, G.-C., and Hackmann, G., "Knowledge-driven Interactions with Services across Ad Hoc Networks," *2nd International Conference on Service Oriented Computing (ICSOC 2004)*, November 2004, pp. 222-231.

Julien, C., Payton, J., and Roman, G.-C., "Reasoning About Context Awareness in the Presence of Mobility," *2nd International Workshop on Foundations of Coordination Languages and Software Architectures (Foclasa'03)*, Electronic Notes in Theoretical Computer Science 97, July 2004, pp. 259--276.

Huang, Q., Lu, C., and Roman, G.-C., "Reliable Mobicast via Face-Aware Routing," *23rd Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM 2004)*, March 2004.

Huang, Q., Lu, C., and Roman, G.-C., "Design and Analysis of Spatiotemporal Multicast Protocols for Wireless Networks," *Telecommunication Systems* 26, No. 2-4, Kluwer Academic Publishers, June-August 2004, 129-160.

Mascolo, C., Picco, G. P., and Roman, G.-C., "CODEWEAVE: Exploring Fine-Grained Mobility of Code," *Automated Software Engineering Journal* 11, No. 3, June 2004, 207-243.

Huang, Q., Julien, C., and Roman, G.-C., "Relying on Safe Distance to Achieve Partitionable Group Membership in Ad Hoc Networks," *IEEE Transactions on Mobile Computing* 3, No. 2, April-June 2004, pp. 192-205.

Handorean, R., Gill, C., and Roman, G.-C., "Accommodating Transient Connectivity in Ad Hoc and Mobile Settings," Ferscha, A., and Mattern, F., (editors), *2nd International Conference on Pervasive Computing (PERVASIVE 2004)*, Lecture Notes in Computer Science 3001, Springer, April 2004, pp. 305-322.

Roman, G.-C., Julien, C., and Payton, J., "A Formal Treatment of Context-Awareness," (invited keynote paper), Wermelinger, M., and Margaria-Steffen, T., (editors), *Proceedings of the 7th International Conference on Fundamental Approaches to Software Engineering (FASE 2004)*, Lecture Notes in Computer Science 2984, Springer, March/April 2004, pp. 12-36.

Fok, C.-L., Roman, G.-C., and Hackmann, G., "A Lightweight Coordination Middleware for Mobile Computing," *Proceedings of the 6th International Conference on Coordination Models and Languages (Coordination 2004)*, De Nicola, R., Ferrari, G., and Meredith, G., (editors), Lecture Notes in Computer Science 2949, Springer-Verlag, Pisa, Italy, February 2004, pp. 135-151.

Julien, C., and Roman, G.-C., "Active Coordination in Ad Hoc Networks," *Proceedings of the 6th International Conference on Coordination Models and Languages (Coordination 2004)*, De Nicola, R., Ferrari, G., and Meredith, G., (editors), Lecture Notes in Computer Science 2949, Springer-Verlag, Pisa, Italy, February 2004, pp. 199-215.

2003

Huang, Q., Lu, C., and Roman, G.-C., "Spatiotemporal Multicast in Sensor Networks," *Proceedings of the First International Conference on Embedded Networked Sensor Systems (SenSys 2003)*, November 2003, pp. 205-217.

Handorean, R., and Roman, G.-C., "Secure Service Provision in Ad Hoc Networks," Orłowska, M. E., Weerawarana, S., Papazoglou, S., and Yang, J., (editors), *Proceedings of the First International Conference on Service Oriented Computing (ICSOC 2003)*, Lecture Notes in Computer Science 2910, Springer, December 2003, pp. 367-383.

Handorean, R., and Roman, G.-C., "Secure Sharing of Tuple Spaces in Ad Hoc Settings," *Proceedings of the 1st International Workshop on Security Issues in Coordination Models, Languages, and Systems, (SecCo 2003)*, *Electronic Notes in Theoretical Computer Science (ENTCS)* 85, No. 3, <http://www.elsevier.nl/gej-ng/31/29/23/show/Products/notes/contents.htm>.

Handorean, R., Payton, J., Julien, C., and Roman, G.-C., "Coordination Middleware Supporting Rapid Deployment of Ad Hoc Mobile Systems" *Proceedings of the ICDCS Workshops, International Workshop on Mobile Computing Middleware (MCM 2003)*, May 2003, pp. 363-368.

Roman, G.-C., and Payton, J., "Mobile UNITY Schemas for Agent Coordination," (invited paper), Börger, E., Gargantini, A., and Riccobene, E., (editors), *Proceedings of the 10th International Workshop on Abstract State Machines*, Lecture Notes in Computer Science 2589, Springer, March 2003, pp. 126-150.

Huang, Q., Lu, C., and Roman, G.-C., "Mobicast: Just-in-Time Multicast for Sensor Networks under Spatiotemporal Constraints," in *Proceedings of The 2nd International Workshop on Information Processing in Sensor Networks (IPSN)*, Zhao, F., and Guibas, L., (editors), Lecture Notes in Computer Science 2634, Springer, April 2003, pp. 442-457.

Roman, G.-C., Julien, C., and Murphy, A. L., "A Declarative Approach to Agent-Centered Context-Aware Computing in Ad Hoc Wireless Environments," in *Software Engineering for Large-Scale Multi-Agent Systems*, Garcia, A., Lucena, C., Zambonelli, F., Omicini, A., and Castro, J., (editors), Springer LNCS 2603, 2003, pp. 94-109.

2002

Huang, Q., Miller, R., MacNeille, P., Roman, G.-C. and DiMeo, D., "Development of a Peer-to-Peer Collision Warning System," (electronic publication) *Ford Technical Journal* 5, No. 2, March 2002.

Julien, C., and Roman, G.-C., "Egocentric Context-Aware Programming in Ad Hoc Mobile Environments," *Proceedings of the Tenth International Symposium on the Foundations of Software Engineering*, November 2002, pp. 21-30.

Picco, G. P., Murphy, A. L., and Roman, G.-C., "On Global Virtual Data Structures," *Process Coordination and Ubiquitous Computing*, Marinescu, D., and Lee, C., (editors), August 2002, CRC Press, pp. 11-29.

Roman, G.-C., Julien, C., and Huang, Q., "Network Abstractions for Context-Aware Mobile Computing," *Proceedings of 24th International Conference on Software Engineering*, May 2002, pp. 363-373.

Murphy, A. L., Roman, G.-C., and Varghese, G., "Tracking Mobile Units for Dependable Message Delivery," *IEEE Transactions on Software Engineering* 28, No. 5, May 2002, pp. 433-448.

Roman, G.-C., Julien, C., and Huang, Q., "Formal Specification and Design of Mobile Systems," *Proceedings of the 7th International Workshop on Formal Methods for Parallel Programming: Theory and Applications (FMPPTA'2002)*, April 2002.

Handorean, R., and Roman, G.-C., "Service Provision in Ad Hoc Networks," *Proceedings of the 5th International Conference on Coordination Models and Languages (Coordination 2002)*, Arbab, F., and Talcott, C., (editors), Lecture Notes in Computer Science 2315, Springer-Verlag, York, UK, April 2002, pp. 207-219.

Roman, G.-C., and McCann, P. J., "A Notation and Logic for Mobile Computing," *Formal Methods in System Design* 20, No. 1, 2002, pp. 47-68.

2001

Picco, G. P., Roman, G.-C., and McCann, P. J., "Reasoning about Code Mobility in Mobile UNITY," *ACM Transactions on Software Engineering and Methodology* 10, No. 3, July 2001, pp. 338-395.

Roman, G.-C., Murphy, A. L., and Picco, G. P., "Coordination and Mobility," in *Coordination of Internet Agents: Models, Technologies, and Applications*, A. Omicini et al (editors), Springer Verlag, 2001, pp. 253-273.

Murphy, A. L., Picco, G. P., and Roman, G.-C., "LIME: A Middleware for Physical and Logical Mobility," *Proceedings of the 21st International Conference on Distributed Computing Systems*, April 2001, pp. 524-533.

Roman, G.-C., Huang Q., and Hazemi, A., "Consistent Group Membership in Ad Hoc Networks," *Proceedings of 23rd International Conference on Software Engineering*, May 2001, pp. 381-388.

2000

Porto, A., and Roman, G.-C., (editors), *Coordination Languages and Models, Proceedings of the 4th International Conference on Coordination Models and Languages*, Lecture Notes in Computer Science 1906, Springer-Verlag, Cyprus, September 2000.

Tudoreanu, M. E., Hart, D., and Roman, G.-C. "Reshapeable Visualizations", *Proceedings of the International Symposium on Multimedia Software Engineering*, Taipei, Taiwan, December 2000, pp. 245-250.

Roman, G.-C., Picco, G. P., and Murphy, A. L., "Software Engineering for Mobility: A Roadmap," (invited paper) *Future of Software Engineering*, A. Finkelstein (ed.), *22nd International Conference on Software Engineering*, June 2000, pp. 241-258.

Picco, G. P., Murphy, A. L., and Roman, G.-C., "Developing Mobile Computing Applications with LIME," (software demo overview), *Proceedings of the 22nd International Conference on Software Engineering*, June 2000, pp. 766-769.

1999

Hart, D., Kraemer, E., and Roman, G.-C., "Consistency Considerations in the Interactive Steering of Computations," *International Journal of Parallel and Distributed Networks and Systems* 2, No. 3, 1999, pp. 171-179.

Mascolo, C., Picco, G. P., and Roman, G.-C., "A Fine-Grained Model for Code Mobility," *Proceedings of the Seventh European Software Engineering Conference (ESEC'99)*, Nierstrasz, O., and Lemoine, M. (editors), Lecture Notes in Computer Science 1687, Springer-Verlag, September 1999, pp. 39-56.

Picco, G. P., Murphy, A. L., and Roman, G.-C., "LIME: Linda Meets Mobility," *Proceedings of the 21st International Conference on Software Engineering*, May 1999, pp. 368-377.

McCann, P. J., and Roman, G.-C., "Modeling Mobile IP in Mobile UNITY," *ACM Transactions on Software Engineering and Methodology* 8, No. 2, April 1999, pp. 115-146.

1998

Roman, G.-C., and Hu, J. C., "Plastic Transformations: A Method for Building Dependable Distributed Applications," *IEE Proceedings—Software* 145, No. 2-3, April-June 1998, pp. 51-59.

Roman, G.-C., and McCann, P. J., "An Introduction to Mobile UNITY," *Proceedings of the International Workshop on Formal Methods for Parallel Programming: Theory and Applications (FMPPTA 98)*, in *Parallel and Distributed Processing*, Rolim, J., (editors), Lecture Notes in Computer Science 1388, Springer-Verlag, April 1998, pp. 871-880.

Roman, G.-C., "Declarative Visualization," in *Software Visualization: Programming as a Multi-Media Experience*, J. Stasko et al (editors), MIT Press, 1998, pp. 173-186.

Kraemer, E., Hart, D., and Roman, G.-C., "Balancing Consistency and Lag in Transaction-Based Computational Steering," *Proceedings of the Thirty-First Annual Hawaii International Conference on System Sciences*, January 1998, pp. 137-146.

McCann, P. J., and Roman, G.-C., "Compositional Programming Abstractions for Mobile Computing," *IEEE Transactions on Software Engineering* 24, No. 2, February 1998, pp. 97-110.

Murphy, A. L., Roman, G.-C., and Varghese, G., "An Exercise in Formal Reasoning about Mobile Computations," *Proceedings of the Ninth International Workshop on Software Specification and Design (IWSSD-9)*, April 1998, pp. 25-33.

Roman, G.-C., and Ghezzi, C., Guest Editors, "Introduction to the Special Issue on Mobility and Network Aware Computing," *IEEE Transactions on Software Engineering* 24, No. 5, May 1998, pp 313-314.

Ghezzi, C., and Roman, G.-C., "Workshop on Computing and Communication in the Presence of Mobility", (workshop position paper), *Proceedings of the International Conference on Software Engineering (ICSE'98)*, vol. 2, April 1998, pp. 310-311.

Roman, G.-C., et al, "Computing and Communication in the Age of Mobility" , (panel position paper), *Proceedings of the International Conference on Software Engineering (ICSE'98)*, vol. 2, April 1998, pp. 13-17.

1997

Gamble, R. F., and Roman, G.-C., "Using Software Architecture Information to Formally Derive Synchronous Knowledge-Based Systems," *International Journal of Expert Systems: Research and Applications* 10, No. 2, 1997, pp. 93-135.

Murphy, A. L., Roman, G.-C., and Varghese, G., "An Algorithm for Message Delivery to Mobile Units," (abstract) *Proceedings of the Sixteenth ACM Annual Symposium on Principles of Distributed Computing (PODC)*, August 1997, p. 292.

Picco, G. P., Roman, G.-C., and McCann, P. J., "Expressing Code Mobility in Mobile UNITY," *Proceedings of the Sixth European Software Engineering Conference (ESEC'97)*, Jazayeri, M., and Schauer, H., (editors), Lecture Notes in Computer Science 1301, Springer-Verlag, September 1997, pp. 500-518.

Roman, G.-C., McCann, P. J., and Plun, J. Y., "Mobile UNITY: Reasoning and Specification in Mobile Computing," *ACM Transactions on Software Engineering and Methodology* 6, No. 3, July 1997, pp. 250-282.

Hart, D., Kraemer, E., and Roman, G.-C., "Interactive Visual Exploration of Distributed Computations," *Proceedings of the 11th International Parallel Processing Symposium*, April 1997, pp. 121-127.

McCann, P. J., and Roman, G.-C., "Mobile UNITY Coordination Constructs Applied to Packet Forwarding for Mobile Hosts," *Proceedings of the Second International Conference on Coordination Models and Languages (Coordination '97)*, Garlan, D., and Métayer, D. Le, (editors), Lecture Notes in Computer Science 1282, Springer-Verlag, September 1997, pp. 338-354.

1996

Cunningham, H. C., Roman, G.-C., and Plun, J. Y., "Assertional Reasoning about Dynamic Systems," *Parallel Computing: Paradigms and Applications*, Zomaya, A. Y., (editor), International Thomson Computer Press, 1996, pp. 117-144.

Roman, G.-C., Hart, D., and Calkins, C., "Visual Presentation of Software Specifications and Designs," *Proceedings of the Eighth International Workshop on Software Specification and Design*, March 1996, pp. 115-124.

Roman, G.-C., McCann, P. J., and Plun, J. Y., "Assertional Reasoning about Pairwise Transient Interactions in Mobile Computing," *Proceedings of the 18th International Conference on Software Engineering*, March 1996, pp. 155-164.

Wilcox, C. D., and Roman, G.-C., "Reasoning about Places, Times, and Actions in the Presence of Mobility," *IEEE Transactions on Software Engineering* 22, No. 4, April 1996, pp. 225-247.

1995

Roman, G.-C., "Software Visualization through Active Presentation," (Invited Position Paper), *Proceedings of the 1995 International Conference on Software Engineering and Knowledge Engineering*, June 1995, p. 292.

1994

Cox, K. C., and Roman, G.-C., "A Characterization of the Computational Power of Rule-Based Visualization," *Journal of Visual Languages and Computing* 5, No. 1, March 1994, pp. 5-27.

Roman, G.-C., and Wilcox, C. D., "Architecture-Directed Refinement," *IEEE Transactions on Software Engineering* 20, No. 4, April 1994, pp. 239-258.

Gamble, R. F., Roman, G.-C., Ball, W. E., and Cunningham, H. C., "Applying Formal Verification Methods to Rule-based Programs," *International Journal of Expert Systems: Research and Applications* 7, No. 3, 1994, pp. 203-237.

Creveuil, C., and Roman, G.-C., "Formal Specification and Design of a Message Router," *ACM Transactions on Software Engineering and Methodology* 3, No. 4, October 1994, pp. 271-307.

1993

Ghezzi, C., and Roman, G.-C., Guest Editors, Selected Papers of the Sixth International Workshop on Software Specification and Design, *Science of Computer Programming* 20, No. 1-2, April 1993.

Roman, G.-C., Gamble, R. F., and Ball, W. E., "Formal Derivation of Rule-Based Programs," *IEEE Transactions on Software Engineering* 19, No. 3, March 1993, pp. 277-296.

Roman, G.-C., Plun, J. Y., and Wilcox, C. D., "Dynamic Synchrony among Atomic Actions," *IEEE Transactions on Parallel and Distributed Systems* 4, No. 6, June 1993, pp. 677-685.

Roman, G.-C., and Cox, K. C., "A Taxonomy of Program Visualization Systems," *Computer* 26, No. 12, December 1993, pp. 11-24.

1992

Ghezzi, C., and Roman, G.-C., "Succeedings of the Sixth International Workshop on Software Specification and Design," *Software Engineering Notes* 17, No. 1, January 1992, pp. 44-51.

Roman, G.-C., and Cunningham, H. C., "Reasoning about Synchronic Groups," *Research Directions in High-Level Parallel Programming Languages*, Banâtre, J. P., and Métayer, D. Le, (editors), Lecture Notes in Computer Science 574, Springer-Verlag, 1992, pp. 21-38.

Roman, G.-C., Gamble, R. F., and Ball, W. E., "Seeking Concurrency in Rule-based Programming," *Proceedings of the 14th International Conference on Software Engineering*, May 1992, pp. 225-234.

Roman, G.-C., and Cox, K. C., "Program Visualization: The Art of Mapping Programs to Pictures," *Proceedings of the 14th International Conference on Software Engineering*, May 1992, pp. 412-420.

Roman, G.-C., Wilcox, C. D., and Plun, J. Y., "On Deriving Distributed Programs from Formal Specifications of Functional Requirements and Architectural Constraints," *Proceedings of the 12th International Conference on Distributed Computing Systems*, June 1992, pp. 494-501.

Roman, G.-C., Cox, K. C., Wilcox, C. D., and Plun, J. Y., "Pavane: A System for Declarative Visualization of Concurrent Computations," *Journal of Visual Languages and Computing* 3, No. 2, June 1992, pp. 161-193.

Cox, K. C., and Roman, G.-C., "Abstraction in Algorithm Animation," *Proceedings of the IEEE Workshop on Visual Languages*, September 1992, pp. 18-24.

1991

Laine, A. F., and Roman, G.-C., "A Parallel Algorithm for Incremental Stereo Matching on SIMD Machines," *IEEE Transactions on Robotics and Automation* 7, No. 1, February 1991, pp. 123-134.

Gamble, R. F., Roman, G.-C., and Ball, W. E., "Formal Verification of Pure Production System Programs," *Proceedings of the 9th National Conference on Artificial Intelligence*, Vol. 1, July 1991, pp. 329-334.

Cox, K. C., and Roman, G.-C., "Visualizing Concurrent Computations," *Proceedings of the IEEE Workshop on Visual Languages*, October 1991, pp. 18-24.

1990

Cunningham, H. C., and Roman, G.-C., "A UNITY-Style Programming Logic for a Shared Dataspace Language," *IEEE Transactions on Parallel and Distributed Systems* 1, No. 3, July 1990, pp. 365-376.

Roman, G.-C., and Cunningham, H. C., "The Synchronic Group: A Concurrent Programming Concept and Its Proof Logic," *Proceedings of the 10th International Conference on Distributed Computing Systems*, May 1990, pp. 142-149.

Laine, A. F., and Roman, G.-C., "A Parallel Algorithm for Incremental Stereo Matching on SIMD Machines," *Proceedings of the 10th International Conference on Pattern Recognition*, Vol. 2, June 1990, pp. 484-490.

Roman, G.-C., "A Taxonomy of Current Issues in Requirements Engineering," *System and Software Requirements Engineering*, R. H. Thayer and M. Dorfman (editors), IEEE Computer Society Press Tutorial, 1990, pp. 23-31. (Reprinted from *Computer* 18, No. 4, April 1985, pp. 14-23.)

Roman, G.-C., and Cox, K. C., "A Declarative Approach to Visualizing Concurrent Computations," *Visual Programming Environments: Applications and Issues*, E. P. Glinert (editor), IEEE Computer Society Press Tutorial, 1990, pp. 83-94. (Reprinted from *Computer* 22, No. 10, October 1989, pp. 25-36.)

Roman, G.-C., and Cunningham, H. C., "Mixed Programming Metaphors in a Shared Dataspace Model of Concurrency," *IEEE Transactions on Software Engineering* 16, No. 12, December 1990, pp. 1361-1373.

Roman, G.-C., "Formal Specification of Geographic Data Processing Requirements," *IEEE Transactions on Data and Knowledge Engineering* 2, No. 4, December 1990, pp. 370-380.

1989

Roman, G.-C., and Cox, K. C., "Declarative Visualization in the Shared Dataspace Paradigm," *Proceedings of the 11th International Conference on Software Engineering*, May 1989, pp. 34-43.

Roman, G.-C., and Cox, K. C., "A Declarative Approach to Visualizing Concurrent Computations," *Computer* 22, No. 10, October 1989, pp. 25-36.

Roman, G.-C., and Cox, K. C., "Implementing a Shared Dataspace Language on a Message-Based Multiprocessor," *Proceedings of the 5th International Workshop on Software Specification and Design*, May 1989, pp. 41-48.

Roman, G.-C., and Cunningham, H. C., "A Shared Dataspace Model of Concurrency - Language and Programming Implications," *Proceedings of the 9th International Conference on Distributed Computing Systems*, June 1989, pp. 270-279.

Roman, G.-C., and Babb, R., "Concurrency, Coordination, and Distribution," (Working Group Summary from the 5th IWSSD), *Software Engineering Notes* 14, No. 5, July 1989, pp. 37-38.

1988

Roman, G.-C., "Language and Visualization Support for Large-Scale Concurrency," *Proceedings of the 10th International Conference on Software Engineering*, April 1988, pp. 296-308.

Roman, G.-C., Cunningham, H. C., and Ehlers, M. E., "A Shared Dataspace Language Supporting Large-Scale Concurrency," *Proceedings of the 8th International Conference on Distributed Computing Systems*, June 1988, pp. 265-272.

Roman, G.-C., Laine, A. F., and Cox, K. C., "Interactive Complexity Control and High-Speed Stereo Matching," *Proceedings of the Conference on Computer Vision and Pattern Recognition*, June 1988, pp. 171-176.

Cox, K. C., Roman, G.-C., Ball, W. E., and Laine, A. F., "Rapid Search for Spherical Objects In Aerial Photographs," *Proceedings of the Conference on Computer Vision and Pattern Recognition*, June 1988, pp. 905-910.

1987

Roman, G.-C., "Data Engineering in Software Development Environments," *Proceedings of the 3rd International Conference on Data Engineering*, February 1987, pp. 85-86.

Roman, G.-C., "Specifying Software/Hardware Interactions in Distributed Systems," *Proceedings of the 9th International Conference on Software Engineering*, March 1987, pp. 126-139.

Roman, G.-C., and Ehlers, M. E., "System Specifications and Physical Relevance," *Proceedings of the 4th International Workshop on Software Specification and Design*, April 1987, pp. 118-125.

Roman, G.-C., Ehlers, M. E., Cunningham, H. C., and Lykins, R. H., "Toward Comprehensive Specification of Distributed Systems," *Proceedings of the 7th International Conference on Distributed Computing Systems*, September 1987.

1986

Roman, G.-C., et al., "Long-range Technological Impact on Computer-Aided Product Development at DMA," Technical Report RADC-TR-86-49, Rome Air Development Center, Griffiss AFB, NY, July 1986.

Roman, G.-C., "Formal Specification of Geographic Data Processing Requirements," *Proceedings of the 2nd International Conference on Data Engineering*, (**Outstanding Paper Award**), February 1986, pp. 434-446.

1985

Roman, G.-C., "A Taxonomy of Current Issues in Requirements Engineering," *Computer* 18, No. 4, April 1985, pp. 14-23.

Roman, G.-C., "Specifying Software/Hardware Interactions in Distributed Systems," *Proceedings of the 3rd International Workshop on Software Specification and Design*, August 1985, pp. 200-204.

1984

Roman, G.-C., and Day, M. S., "Multifaceted Distributed Systems Specification Using Processes and Event Synchronization," *Proceedings of the 7th International Conference on Software Engineering*, March 1984, pp. 44-55.

Roman, G.-C. et al., "A Total System Design Framework," *Computer* 17, No. 5, May 1984, pp. 15-26.

1983

Roman, G.-C., and Israel R. K., "Functional Specification of Distributed Systems," *Proceedings of the 1983 Conference on Parallel Processing*, August 1983, pp. 503-505.

Roman, G.-C. et al., "Total System Design (TSD) Methodology Assessment," Technical Report RADC-TR-82-331, Rome Air Development Center, Griffiss AFB, NY, January 1983.

1982

Roman, G.-C., "On Reducing Ambiguities in Methodology Definitions," *Proceedings of the 1982 Conference on Trends and Applications*, May 1982, pp. 47-54.

Roman, G.-C., and Israel, R. K., "A Formal Treatment of Distributed Systems Design," in *Requirements Engineering Environments*, Y. Ohno (editor), OHM/North-Holland Pub. Co., 1982, pp. 3-12.

Roman, G.-C., "A Rigorous Approach to Building Formal System Requirements," *Proceedings of the Computer Software and Applications Conference*, November 1982, pp. 417-423.

1981

Roman, G.-C., and Kimura, T., "VLSI Perspective of Real-Time Hidden Surface Elimination," *CAD* 13, No. 2, March 1981, pp. 99-107.

Roman, G.-C., "A Methodological Framework for the Design of Distributed Systems," *Proceedings of the 1981 ACM North Central Regional Conference*, September 1981, pp. 135-142.

1980

Roman, G.-C., "Concurrency Coordination in a Locally Distributed Database System," *Proceedings of the 1980 National Computer Conference*, May 1980, pp. 269-273.

1979

Roman, G.-C., and Kimura, T., "A VLSI Architecture for Real-Time Color Display of Three-Dimensional Objects," *Proceedings of the Delaware Bay Computer Conference*, March 1979.

Roman, G.-C., "A Taxonomic View of Documentation," *Proceedings of the 1979 Conference on Information Sciences and Systems*, March 1979, pp. 193-198.

Roman, G.-C., "Verification Procedures Supporting Software Systems Development," *Proceedings of the 1979 National Computer Conference*, June 1979, pp. 947-956.

1978

Garfinkel, D., Kohn, M. C., Achs, M. J., Phifer, J., and Roman, G.-C., "Construction of More Reliable Complex Metabolic Models Without Repeated Solution of Their Constituent Differential Equations," *Mathematics and Computers in Simulation* XX, No. 1, March 1978, pp. 18-27.

Clasen, R. J., Garfinkel, D., Shapiro, N. Z., and Roman, G.-C., "A Method for Solving Certain Stiff Differential Equations," *SIAM Journal on Applied Mathematics* 34, No. 4, June 1978, pp. 732-742.

Roman, G.-C., and Garfinkel, D., "BIOSIM—A Structured Machine Independent Biological Simulation Language," *Computers and Biomedical Research* 11, February 1978, pp. 3-15.

Stucki, M. J., Cox, J. R., Roman, G.-C., and Turcu, P. N., "Coordinating Concurrent Access in A Distributed Database Architecture," *Fourth Workshop on Computer Architecture for Non-Numeric Processing*, Syracuse University, August 1978.

1977

Roman, G.-C., "About Invariants and Program Quality," *Proceedings of the 1977 Conference on Information Sciences and Systems*, March 1977, pp. 118-120.

Roman, G.-C., "A Two-Step Approach to the Validation of Software Engineering Methodologies," *Proceedings of the 1977 National Computer Conference*, June 1977, pp. 539-544.

Roman, G.-C., "An Argument in Favor of Mechanized Software Production," *IEEE Transactions on Software Engineering* SE-3, No. 6, November 1977, pp. 406-415.

1976

Roman, G.-C., "A Systematic Documentation Scheme for Programs with a Totally Centralized Control Structure," *Proceedings of the 1976 ACM Computer Science Conference*, February 1976, p. 6.

Clasen, R. J., Garfinkel, D., Shapiro, N., and Roman, G.-C., "A Method for Solving Certain Stiff Differential Equations," *SIAM 1976 National Meeting*, June 1976.

Roman, G.-C., Garfinkel, D., and Marbach, C., "Memory Conserving Efficient Methods for Solving Large Sets of Stiff Differential Equations," *Proceedings of the 1976 National Computer Conference*, June 1976, pp. 973-978.

Garfinkel, D., Achs, M., Phifer, J., Kohn, M. C., and Roman, G.-C., "A Method of Constructing Metabolic Models Without Repeatedly Solving the Differential Equations Composing Them," *Proceedings of the 1976 Summer Computer Simulation Conference*, July 1976, pp. 493-499.

1975

Joshi, A. K., and Roman, G.-C., "Application of a Formalism for Systematic Programming to Developmental Models," *Proceedings of the Conference on Formal Languages, Automata, and Development*, The Netherlands, March 1975.

Roman, G.-C., "Application of a Methodology for Systematic Programming to 'Restructuring' a Large Simulation System," *Proceedings of the 1975 Conference on Information Sciences and Systems*, March 1975.