

Albert Timothy Chamillard
Computer Science Department
University of Colorado at Colorado Springs
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EDUCATION

University of Massachusetts, Amherst, Massachusetts

Ph.D. in Computer Science, 1996.

Dissertation: "An Empirical Comparison of Static Concurrency Analysis Techniques"

Advisor: Professor Lori A. Clarke

University of Southern California, Los Angeles, California

Master of Science in Computer Engineering, 1990.

Georgia Institute of Technology, Atlanta, Georgia

Bachelor of Electrical Engineering, 1987.

Computer Engineering Certificate

Graduated with Highest Honor

PROFESSIONAL EXPERIENCE

Academic Positions

Associate Professor of Computer Science

University of Colorado at Colorado Springs (UCCS), Colorado

2007-present

Assistant Professor of Computer Science

University of Colorado at Colorado Springs (UCCS), Colorado

2003-2007

Associate Professor of Computer Science

United States Air Force Academy (USAFA), Colorado

1998-2000

Assistant Professor of Computer Science

United States Air Force Academy (USAFA), Colorado

1996-1998

Instructor of Computer Science

United States Air Force Academy (USAFA), Colorado

1991-1993

Industry Experience

Game Development

Peak Game Studios Ltd, Colorado Springs, Colorado

2007-2012

Formed Peak Game Studios with two sons and served as CEO. Completed extensive project management, game design, software architecture, and programming work on both contracted work-for-hire projects and speculative commercial game projects.

Consulting

Defense Contract Management Agency (DCMA), Fort Belvoir, Virginia 2003-2010
Provided technical consulting services for DCMA web application development and maintenance activities. Developed and manage Software Quality Assurance Program. Provided other consulting services as required.

Project Management

Defense Contract Management Agency (DCMA), Fort Belvoir, Virginia 2000-2002
Responsible for entire life-cycle development of an Integrated Database (IDB) to meet data and data analysis needs of over 12,000 people managing 360,000 contracts worth over \$850 billion. The IDB consists of an integrated database and data processing capabilities to provide a consistent, single-source interface for DCMA Web-Based Applications and data query and report generation tools. DCMA action officer for Undersecretary of Defense for Acquisition, Technology & Logistics eBusiness initiatives.

Air Force Satellite Control Network, Los Angeles Air Force Base, California 1987-1991
Managed system and subsystem testing for all software developed for integration into the 8 million lines of code used by the Air Force Satellite Control Network (AFSCN). Project officer for numerous high cost and high visibility projects, including a \$10 million software and database development project for Milstar and orbital software development to support the Magellan mission.

REFEREED PUBLICATIONS

*Significant Publications*¹

Chamillard, A.T. Using a Student Response System in CS1 and CS2. In *Proceedings of the Forty-Second SIGCSE Technical Symposium on Computer Science Education*, Dallas, Texas, March 2011, pp. 299-304. (34% selection rate)

Chamillard, A.T. Using Student Performance Predictions in a Computer Science Curriculum. In *Proceedings of the Eleventh Annual Conference on Innovation and Technology in Computer Science Education*, Bologna, Italy, June 2006, pp. 260-264. (30% selection rate)

Chamillard, A.T. Introductory Game Creation: No Programming Required. In *Proceedings of the Thirty-Seventh SIGCSE Technical Symposium on Computer Science Education*, Houston, Texas, March 2006, pp. 515-519. (35% selection rate)

Chamillard, A.T. and Sward, Ricky E. Learning Styles Across the Curriculum. In *Proceedings of the Tenth Annual Conference on Innovation and Technology in Computer Science Education*, Monte de Caparica, Portugal, June 2005, pp. 241-245. (34% selection rate)

Chamillard, A.T. and Braun, Kim A. The Software Engineering Capstone: Structure and Tradeoffs. In *Proceedings of the Thirty-Third SIGCSE Technical Symposium on Computer Science Education*, Northern Kentucky, Kentucky, March 2002, pp. 227-231. (31% selection rate)

Chamillard, A.T. and Merkle, Laurence D. Management Challenges in a Large Introductory Computer Science Course. In *Proceedings of the Thirty-Third SIGCSE Technical Symposium on Computer Science Education*, Northern Kentucky, Kentucky, March 2002, pp. 252-256. (31% selection rate)

¹ Significant publications are defined by the Computer Science Department criteria as publications with multiple formal written reviews, < 40 % acceptance rates, and circulation to more than 300 libraries or to more than 350 individuals. A publication is also considered to be significant if it has more than 10 citations in external research publications (excluding self-citations).

Chamillard, A.T. and Joiner, Jay K. Using Lab Practica to Evaluate Programming Ability. In *Proceedings of the Thirty-Second SIGCSE Technical Symposium on Computer Science Education*, Charlotte, North Carolina, February 2001, pp. 159-163. (35% selection rate)

Chamillard, A.T. and Braun, Kim A. Evaluating Programming Ability in an Introductory Computer Science Course. In *Proceedings of the Thirty-First SIGCSE Technical Symposium on Computer Science Education*, Austin, Texas, March 2000, pp. 212-215. (36% selection rate)

Chamillard, A.T. and Karolick, Dolores. Using Learning Style Data in an Introductory Computer Science Course. In *Proceedings of the Thirtieth SIGCSE Technical Symposium on Computer Science Education*, New Orleans, Louisiana, March 1999, pp. 291-295. (37% selection rate)

Chamillard, A.T. An Empirical Comparison of Static Concurrency Analysis Techniques. Ph.D. Dissertation, University of Massachusetts, Amherst, September 1996. (39 citations, Google Scholar, 9 February 2012)

Chamillard, A.T. and Clarke, Lori A. Improving the Accuracy of Petri Net-based Analysis of Concurrent Programs. In *Proceedings of the 1996 International Symposium on Software Testing and Analysis (ISSTA)*, San Diego, California, January 1996, pp. 24-38. (35% selection rate)

Chamillard, A.T. An Exploratory Study of Program Metrics as Predictors of Reachability Analysis Performance. In *Proceedings of the Fifth European Software Engineering Conference (ESEC '95)*, Sitges, Spain, September 1995. (19% selection rate)

Other Refereed Publications²

Boult, T.E., Chamillard, A.T., Lewis, R., Polok, N., Stock, G., and Wortman, D. Innovations in University Education in Innovation: Moving Beyond the B.S. *Journal of Innovation Science*, Vol 1, Num. 4, pp 167-178, Feb. 2010.

Davis, A., Hickey, A. and Chamillard, A.T. Moving Beyond the Classroom: Integrating Requirements Engineering Research & Education to Improve Practice. *First International Workshop on Requirements Engineering Education and Training (REET05)*, Paris, France, August 2005.

Sward, R.E. and Chamillard, A.T. Re-engineering Global Variables in Ada. In *Proceedings of the ACM SIGAda Annual International Conference (SIGAda 2004)*, Atlanta, Georgia, November 2004, pp. 29-33.

Sward, R.E., Chamillard, A.T., and Cook, D.A. Using Software Metrics and Program Slicing for Refactoring. *Crosstalk: The Journal of Defense Software Engineering*, 17(7):20-24, July 2004.

Sward, R.E. and Chamillard, A.T. AdaSlicer: an Ada Program Slicer. In *Proceedings of the ACM SIGAda Annual International Conference (SIGAda 2003)*, San Diego, California, December 2003.

Chamillard, A.T. and Merkle, Laurence D. Evolution of an Introductory Computer Science Course: The Long Haul. *The Journal of Computing Sciences in Colleges*, 18(1):144-153, October 2002.

Chamillard, A.T., Moore, Jason A., and Gibson, David S. Using Graphics in an Introductory Computer Science Course. *Journal of Computer Science Education (JCSE) Annual 2002*, pp. 15-19.

Chamillard, A.T., Lisowski, Ronald J., and Young, Richard R. Using Ada in Non-CS Majors. In *Proceedings of the ACM SIGAda Annual International Conference (SIGAda '98)*, Washington, DC, November 1998, pp. 61-67.

² Other Refereed Publications are defined by the Computer Science Department criteria as publications that have at least two written reviews of the full paper or five demonstrated research citations.

Chamillard, A.T. and Hobart, William C. Transitioning to Ada in an Introductory Course for Non-Majors. In *Proceedings of TRI-Ada '97*, St Louis, Missouri, November 1997, pp. 37-40.

Carlisle, Martin C. and Chamillard, A.T. AdaGIDE : A Friendly Introductory Programming Environment for a Freshman Computer Science Course. In *Proceedings of the Eleventh Annual Ada Software Engineering Education and Training (ASEET) Symposium*, Monmouth, New Jersey, June 1997. Also appears in *Ada Letters*, 18(2):42-52, March 1998.

Sward, Ricky E. and Chamillard, A.T. Potential Applications of Object-Oriented Databases to Military Systems, In *Proceedings of the AFCEA Database Colloquium '92*, San Diego, California, August 1992.

OTHER PUBLICATIONS

Chamillard, A.T. Learning Styles Across the Curriculum. *Annals of Research in Engineering Education*, 4(1), Fall 2008.

BOOKS

Chamillard, A.T., *Beginning C# Programming with XNA Game Studio*, 2nd Edition, Burning Teddy, Colorado, 2012.

Chamillard, A.T., *Introductory Problem Solving Using Ada 95*, 3rd Edition, McGraw-Hill, New York, 2000.

CREATIVE WORK

Chamillard, A.T. (project lead). InnoGame. Computer game to teach about BI™ program at UCCS, 2007.

PRESENTATIONS

Chamillard, A.T. Using GQM for Program Assessment, Best Assessment Processes VI, Terre Haute, Indiana, March 2004.

Chamillard, A.T. Invited panelist, Success in Education with Ada, TRI-Ada '97, St Louis, Missouri, November 1997.

GRANTS AND RESEARCH

Funded Grants

External National Competitive Funding³

\$750,000 Total, \$250,000 UCCS Amount, October 2005-September 2007, Air Force Office of Scientific Research (AFOSR), Automated Detection of Steganographic Content, PI. Although similar to SBIRs, STTRs allow the University to take the intellectual lead for the project. I was the Principal Investigator for this STTR Grant, which is a Phase II follow-on to the grant listed below.

\$99,882 Total, \$58,877 UCCS Amount, September 2004-June 2005, Air Force Office of Scientific Research (AFOSR), Automated Detection of Steganographic Content, PI. Although similar to SBIRs, STTRs allow the University to take the intellectual lead for the project. I was the Principal Investigator for this STTR Phase I Grant.

³ External National Competitive Funding is defined by the Computer Science Department criteria as NSF/AFOSR/ONR/ARL/DARPA/HSARPA/NIH/DoE/DoEd and other Federal funding with standing research programs and a formal review process.

Other/Industrial Funding⁴

\$1,600, August 2006, The Game Creators Ltd., Donation of FPS Creator software, Requestor. Used in CS 110, Problem Solving through Game Creation course.

\$2,150, September 2003-June 2004, Student Achievement Assessment Committee (SAAC), Computer Science Program Assessment Plan and Guidebook Development, PI.

\$1,200 (estimated), June 2003, JASC Software, Donation of Paint Shop Pro software, Requestor. Used in CS 110, Problem Solving through Game Creation course.

\$928, June 2003, Clickteam, Donation of The Games Factory software, Requestor. Used in CS 110, Problem Solving through Game Creation course.

COURSES TAUGHT

Over ten years teaching experience at UCCS. Courses taught or in progress:

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| GDD/CS 1100 | Introduction to Game Development |
| GDD 1200 | Introductory Programming for Game Developers |
| GDD 2150 | Fundamental Game Design Concepts |
| GDD 2200 | Object-Oriented Design, Analysis, and Implementation |
| GDD 4000 | Special Topics: Unity Game Development |
| GDD 4100 | Advanced Game Design Concepts |
| GDD 4200 | Flash Game Development |
| GDD 4500 | Online Game Development |
| GDD 4900 | Commercial Game Development Practicum |
| GDD 4990 | Independent Study |
| CS 1150 | Principles of Computer Science |
| CS 3350 | Introduction to Game Design and Development |
| CS 4360 | Game Design and Development Capstone Project |
| CS 5310 | Software Requirements Analysis and Specification |
| CS 5320 | Software Design |
| CS 5340 | Software Maintenance |
| CS 5350 | Software Project Management |
| CS 5360 | Software Product Assurance |

Six years teaching experience at U.S. Air Force Academy. Taught a total of 525 students enrolled in 30 sections of seven different undergraduate computer science and astronautics courses. Courses taught:

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| Comp Sci 110 | Introduction to Computer Science |
| Comp Sci 356 | Computer Organization and Architecture II |
| Comp Sci 380 | Algorithms and Data Structures |
| Comp Sci 453 | Software Engineering I |
| Comp Sci 454 | Software Engineering II |
| Comp Sci 471 | Artificial Intelligence |
| Astro 320 | Introduction to Astronautics for the Engineer and Scientist |

⁴ Other/Industrial Funding is defined by the Computer Science Department criteria to include state/system funding and software/hardware donations, but to count the donations must have demonstrated use in an educational course.

RECOGNITIONS

Teaching Awards

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| College of Engineering and Applied Science Outstanding Teacher of the Year (UCCS) | 2005 |
| Outstanding Military Educator in Computer Science (USAFA) | 1992-1993 |

Research Awards

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| College of Engineering and Applied Science Outstanding Researcher of the Year (UCCS) | 2006 |
| U.S. Air Force Academy Computer Science Research Excellence Award (USAFA) | 1999-2000 |

Leadership Awards/Honors

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| Emerging Leaders Program (ELP) Fellow (UCCS) | 2006-2007 |
| Computer Science Department Company Grade Officer of the Year (USAFA) | 1997-1998 |

Academic Distinctions

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| Upsilon Pi Epsilon, National Computer Science Honor Society | 1993 |
| Phi Kappa Phi, National Honor Society "recognizing and encouraging superior scholarship in all academic disciplines" | 1987 |
| Eta Kappa Nu, National Electrical Engineering Honor Society | 1986 |
| Tau Beta Pi, National Engineering Honor Society | 1986 |

PROFESSIONAL ORGANIZATIONS

Association for Computing Machinery (ACM)
 ACM Special Interest Group on Computer Science Education (SIGCSE)
 International Game Developers Association (IGDA)

SERVICE

University of Colorado at Colorado Springs Service

Service to Computer Science Department

| | |
|--|--------------|
| Program Director, Bachelor of Innovation™ in Game Design and Development | 2006-present |
| Undergraduate Curriculum Committee Member (Chair since Fall 2011) | 2003-present |
| Comp Sci Online Program Coordinator | 2004-2008 |
| Graduate Studies Committee Member | 2006 |
| Master of Engineering in Software Engineering (MESE) Program Coordinator | 2003-2006 |
| Reappointment, Promotion, and Tenure Criteria Committee Member | 2003-2004 |
| ABET Accreditation Committee Member | 2003 |

Service to College of Engineering and Applied Science

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|--|--------------|
| EAS High School Ambassador | 2006-present |
| EAS Information Technology Committee (Chair since Fall 2011) | 2011-present |
| EAS Structure Task Force Member | 2005 |
| EAS Tech Committee Member | 2003-2005 |
| Computer Engineering Undergraduate Curriculum Committee Member | 2003-2005 |
| Computer Engineering Accreditation Preparation Team Member | 2003 |

Service to UCCS Campus

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| Campus Online Task Force | 2010-present |
| PIPES grant workshops: Helping K-12 students build a Mars rover game | 2007-2009 |
| Inclusive Engagement Steering Group | 2007-2008 |
| Inclusive Engagement Engaging Pedagogies Team Co-Chair | 2007-2008 |

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| Campus Reappointment, Promotion, and Tenure Task Force | 2007-2008 |
| Chair, Game Design and Development Program Committee | 2005-2006 |

Service to CU System

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| Task Force on New Technologies | 2012 |
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Professional Service

Reviewer for the SIGCSE Technical Symposium on Computer Science Education (2001-2012)
 Reviewer for the Annual Conference on Innovation and Technology in Computer Science Education (2005-2013)
 Reviewer for SIGAda 2005
 Program Committee member for SIGAda 2004
 Reviewer for Frontiers in Education Conference (2003)
 Program Committee member for the International Association of Science and Technology for Development (IASTED) International Conference on Software Engineering and Applications (2000-2002)
 Reviewer for *IEEE Transactions on Education*, *Journal of Engineering Education*, and *Empirical Software Engineering*

Community Service

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| Coordinated and taught Game Design and Development Summer Workshop | 2006 |
| Taught Game Creation Course to 12 students in the Secular Home School Support Group | 2003-2004 |

U.S. Air Force Academy Service

Service to Department of Computer Science (DFCS)

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| DFCS Research Director | 1999-2000 |
| Supervisor of junior DFCS faculty | 1999-2000 |
| Computer Science Advisor In Charge | 1997-1999 |
| DFCS Curriculum Committee Member | 1996-2000 |
| Computer Science Assistant Advisor In Charge | 1996-1997 |

Service to Dean of Faculty

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| Chairman, Computer Engineering Working Group | 2000 |
| Computer Engineering Advisor In Charge | 1999-2000 |
| DFCS Faculty Forum Representative | 1998-2000 |
| DFCS Junior Faculty Council Representative | 1996-1997 |

Service to U.S. Air Force Academy

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|---|-----------|
| Officer In Charge, Triathlon Club | 1998-2000 |
| Assistant Officer In Charge, Triathlon Club | 1998 |
| Associate Air Officer Commanding for Academics, Cadet Squadron 17 | 1997-2000 |
| Chairman, Lacrosse Eligibility Committee | 1997-2000 |
| Squadron Professional Ethics Advisor, Cadet Squadron 33 | 1997-1998 |
| Associate Air Officer Commanding for Academics, Cadet Squadron 14 | 1992-1993 |