

## SERGIU DASCALU

Professor

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### EDUCATION

- 09/2001 PhD in Computer Science, Dalhousie University, Halifax, Nova Scotia, Canada.  
Dissertation: "Combining semi-formal and formal notations in software specification: An approach to modeling time-constrained systems". Advisor Dr. Peter Hitchcock.
- 06/1982 MS in Automatic Control and Computers, Polytechnic Institute of Bucharest, Romania.  
Advisor Dr. Traian Ionescu.
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### ACADEMIC WORK

- 07/2014 – present Professor, Department of Computer Science & Engineering, UNR
- 07/2008 – 06/2014 Associate Professor, Department of Computer Science & Engineering, UNR
- 07/2002 – 06/2008 Assistant Professor, Department of Computer Science & Engineering, UNR
- 07/2003 – present Director, Software Engineering Laboratory (SOELA), CSE Department, UNR
- 08/2013 – present Co-Director, Cyber Infrastructure Lab (CIL), CSE Department, UNR
- 09/1993 – 09/2001 Lecturer and Research Assistant, Faculty of Computer Science, Dalhousie University, Halifax, Nova Scotia, Canada
- 09/1985 – 08/1993 Assistant Professor (09/1985–09/1990) and Associate Professor I (in Romanian: "sef de lucrari," 09/1990–08/1993), Faculty of Automatic Control and Computers, Polytechnic University of Bucharest, Romania
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### RESEARCH

My main research interests are in **software engineering** (in particular, software engineering approaches that facilitate scientific research, software environments and tools, and simulation environments) and **human-computer interaction** (interaction design, virtual reality environments, data visualization, and applications of brain computer interfaces). I also have worked on topics pertaining to **data science and engineering, collaborative systems, and computer-aided education**. The main projects in which I have been involved in the last years are:

- The NSF EPSCoR Research Infrastructure Improvement (RII) Track 1 **The Solar Energy-Water-Environment Nexus in Nevada**, a state-wide project that received about \$24 million for the

period 2013-2018 (\$20 million from NSF and \$4 million from Nevada System of Higher Education - NSHE). Project PI and State Director is Dr. Gayle Dana from the Desert Research Institute (DRI) and the NSHE EPSCoR Office. I am project co-PI, organization (UNR) PI, and cyberinfrastructure (CI) lead scientist for this project, whose other organization PIs are Dr. Robert Boehm, Dr. Jacimaria Batista (UNLV), and Dr. Markus Berli (DRI). The project, focused on studying the linkages (or nexus) among solar energy generation, scarce water resources, and fragile environments in Nevada, has three main components: the scientific nexus (solar energy-environment-water research), CI, and human infrastructure/workforce development. In the CI component I oversee research and development work done by more than 12 faculty, 3 software engineers, several CI technicians, 8 graduate students, and 2 undergraduate students in the areas of data processing and analysis, software engineering and human-computer interactions, communication networks, database architecture, and data management. My own research in this project focuses on software engineering and human-computer interaction (HCI), with emphasis on practices, methods, and tools that can streamline CI engineering and facilitate scientific and education work. The CI centerpiece of this project is the [Nevada Research Data Center](#), developed by my team of Nevada researchers and software developers.

- Another project, this time funded by the NSF EPSCoR RII Track 2 program, **Collaborative Research: The Western Consortium for Watershed Analysis, Visualization, and Experiments (WC-WAVE)**. The project was also led by Dr. Gayle Dana, with 3 co-PIs in Nevada and about 25 senior personnel in the Western Consortium states of NV, NM, and ID. Idaho PI was Dr. Peter Goodwin (University of Idaho) and New Mexico PI was Dr. William Michener (University of New Mexico). The project ran from August 2013 to August 2017 and the total funding received was \$6,000,000 (each state: \$2,000,000; UNR budget: \$872,700). Given that mechanisms for observed and projected hydrologic change in high-elevation catchments are poorly understood, especially with respect to snowpack dynamics, surface-water/groundwater linkages, and interactions with vegetation, the Western Consortium worked on investigating them and advancing watershed science, workforce development, and education with CI-enabled discovery and innovation. As senior personnel/UNR co-PI, co-lead of the CI data group, and member of the CI visualization group I contributed to the CI team's efforts to create a virtual watershed framework that facilitates interdisciplinary research and discovery through innovative visualizations and streamlined data management. From a computing perspective the main outcome of the [Virtual Watershed project](#) has been the [Virtual Watershed Platform](#), which supports modeling and 3D visualization of various watersheds from the participating states. Several publications listed later in this CV have resulted from our team's work on this project.
- The earlier NSF EPSCoR RII Track 1 funded project, **Nevada Infrastructure for Climate Change Science, Education and Outreach**, a state-wide grant application that received about \$21.7 million for the period 2008-2013 (\$15 million from NSF and \$6.7 million from NSHE). I served as UNR co-PI and the leader of the project's CI component, which was one of the project's six groups. The CI group (or component), involving participants from UNR, UNLV, and DRI, consisted of 3 faculty members (Dr. Sergiu Dascalu, Dr. Fred Harris, Dr. Shahram Latifi), 3 software developers (Mike McMahon, Eric Fritzing, Dr. Richard Kelley), and 3 PhD students (Likhitha Ravi, Ivan Gibbs, Ershad Sharifahmadian). On a rolling basis 1 or 2 Master and 1 to 3 undergraduate students were also involved. Together with the other members of the CI group I worked on new software solutions for model and data interoperability (e.g., the DEMETER

framework), other tools to facilitate scientific research, and system and software architecture. More information on the project can be found on the [Nevada Climate Change Portal \(NCCP\)](#), the key cyber infrastructure component developed in the state with support from this grant. In the current Nexus project (mentioned above), NCCP has evolved into a larger, multi-project oriented Nevada Research Data Center (NRDC) that currently aims to incorporate solar energy, water and environment data and information, and in the near future data and information from other data-intensive research projects that involve Nevada participants.

- Another NSF EPSCoR supported project (RII Track 2), in which I served as UNR co-PI, focused on **Cyberinfrastructure Developments for the [Western Consortium of Idaho, Nevada, and New Mexico](#)**. In 2009-2013 the project received \$6 million (\$2 million for each state) and involved collaborating with partners from New Mexico (e.g., Dr. William Michener, the PI of the multi-institutional, multi-national NSF-funded Data ONE project, and Dr. Karl Benedict, both from the University of New Mexico) and Idaho (e.g., the CI group lead Dr. Dan Ames, from Idaho State University). Our Nevada group consisted of two faculty members (Fred Harris and Sergiu Dascalu), one postdoctoral research associate (Dr. Rakhi Motwani), 2 PhD students (Jigar Patel and Qiping Yan), and one Master student (Aarti Dhone). In collaboration with our Western 3-State Consortium partners, the Nevada CI group has focused on topics pertaining to model and data interoperability as well as on exchanging metadata and data across the three states.
- The ONR-funded grant **Large-Scale Biologically Realistic Models of Brain Dynamics Applied to Intelligent Robotic Decision Making** (2009-2013, \$827,000). Started in the former Goodman Computational Brain Lab at UNR by the late Professor Phil Goodman, the project was later led by Dr. Frederick C. Harris, Jr., the Director of the new [UNR Brain Lab](#). In this project I served as co-PI and contributed with software engineering and HCI expertise to topics that encompass goal-related navigation of neuromorphic virtual robots, real-time human-robot interaction, visualization of large-scale neural networks, CPU/GPU-based simulation environment for large scale neural modeling, and software translators between the Brain Lab's own NCS (NeuroCortical Simulator) modeling language and the more general NeuroML. Also involved in the project have been a Research Assistant Professor (Dr. Laurence Jayet Bray, from 2013 at George Mason University), two Master students (Gareth Ferneyhough, Devyani Tanna) and 3 undergraduate students (Alex Jones, Denver Liu, Justin Cardoza). Collaborators on this grant have included scientists from the École Polytechnique Fédérale de Lausanne (EPFL), Switzerland, and the University of Bonn, Germany.
- A NASA-funded grant on **Exploring Planetary Surfaces: Mars, Moon, and Earth** (2007-2011, Nevada-wide, UNR group funded at about \$1.5 million). Project PI was Dr. Chris Fritsen (DRI) and UNR PI for this project was Dr. Wendy Calvin (UNR). I served as UNR Co-PI and focused with on related research and development for virtual immersive environments – in particular, my team created a platform for building CAVE-based command and control applications and developed real-time supervisor intervention mechanisms for scenario modification in CAVE applications. Two of our PhD students were funded by this grant and completed their PhD dissertations on related topics: Dr. Sermsak Buntha (currently, Captain and IT Director with Thai Navy, Bangkok) and Muhanna Muhanna (currently Assistant Professor at PSUT, Jordan).

**Additional information on these and other projects** in which I was involved at UNR can be found in the section **GRANT APPLICATIONS FUNDED** (pages 12-15) of this CV.

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## TEACHING AT UNR [2002 – present]

Since joining UNR in July 2012 I have taught: CS 425/CS 625 Software Engineering (**capstone**), CS 426 Senior Projects in Computer Science (**capstone**), CPE 426 Senior Projects in Computer Engineering (**capstone**), CS 320 Interaction Design, CS 420/CS 620 Human-Computer Interaction, CS 709B Advanced Software Project Management and Development, CS 790M Graduate Seminar on Human-Computer Interaction, CS791M Graduate Topics on Human-Computer Interaction, CS 790Z Graduate Seminar on Software-Engineering Topics, CS 791Z Graduate Topics on Software Engineering, CS 493/CS 693/CS 793 Independent Studies on: Software Engineering, Human-Computer Interaction, Programming Languages, Object-Oriented Programming, and Modeling & Simulation.

All the above have been new course developments. I applied and obtained **capstone course designation** for CS 426 Senior Projects in Computer Science (in 2004) and CPE 426 Senior Projects in Computer Engineering (in 2007), and created the **new courses** CS 420/CS 620 Human-Computer Interaction (in 2006) and CS 320 Interaction Design (in 2009).

Until 2014, my regular **teaching workload** used to be two classes per semester (6 credits), plus supervision of graduate students enrolled in Independent Study courses. As a research-active faculty since 2014 my teaching workload has been changed to 2+1 courses a year.

Since 2002 I taught each Fall CS 425/CS 625 Software Engineering and each Spring CS/CPE 426 (except in 2010 and 2017 when I was in sabbatical, and in 2015 when I had a course load reduction). These are the two **capstone courses** of the UNR CSE Department. I have also taught regularly (by rotation) graduate courses CS709B, CS 790M, CS 791M, CS 790Z, and CS 791Z.

On a scale 1 to 5 (with 5 being the best), the **weighted average of my student evaluations** for the 65 course sections that I taught at UNR between Fall 2002 and Spring 2016 is **4.45/5.00** (985 respondents in total, out of 1,509 students who took these courses). In 2016-2017 I was in sabbatical.

## TEACHING ABROAD – University of Grenoble, France [January 2012]

In January 2012, part of their “English Week,” I was invited by the University Pierre Mendès-France, Grenoble, France to teach a week-long course on Human-Computer Interaction. About 120 first and second year undergraduate students attended this short course, finalized with a 2-hour written exam. In June 2013 I visited again the University of Grenoble, this time for a 3-week collaborative research work.

## PAST TEACHING: Lecturer, School of Computer Science, Dalhousie University, Halifax, Canada [1993 – 2001]

Taught on contract basis the 3<sup>rd</sup> and 4<sup>th</sup> year courses Software Engineering, Software Development with Ada, Database Management Systems, and Computer Organization for Electrical Engineers (the latter centred on the 80x86 assembly language). I was responsible for course contents, preparation

and presentation of lectures and tutorials, grading of the exams, and supervision of teaching assistants. In total, I have taught 12 3-credit courses at Dalhousie, while also working as a Graduate Research Assistant in Professor Peter Hitchcock's software engineering group.

**PAST TEACHING: Assistant Professor [1985-1990] and Associate Professor I [1990 -1993], Faculty of Automatic Control and Computers, Polytechnic University of Bucharest, Romania**

Instructor for the courses Microprocessor-based Process Control Systems, Software Engineering, Programming Languages, Industrial Automation, and Fundamentals of Automatic Control. Supervised over 20 final year diploma theses and conducted research in the areas of microprocessor-based control and user-interface design for real-time systems. As Assistant Professor, my teaching load, including lectures, labs, and tutorials, was 12 hours a week. This changed to 9 hours a week when I was promoted to Associate Professor. Co-authored books and papers and delivered presentations at various conferences and symposia. Between 1985 and 1990 I served as member of the Faculty's committee for admissions.

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## ACADEMIC SUPERVISION AT UNR

### GRADUATE ADVISEMENT

#### PhD students advised who graduated (5)

- Qiping Yan. *Geospatial Metadata Community Adaptor: Applying XSLT Technologies to Geographic Metadata to Address Interoperability and Compatibility Issues*. PhD in Computer Science and Engineering dissertation (May 2014).
- Ivan Gibbs. *A Separation-based UI Architecture with a DSL for Role Specialization*. PhD in Computer Engineering dissertation (December 2013).
- Sohei Okamoto. *SUNPRISM: A Software Framework for Climate Change Research*. PhD in Computer Engineering dissertation (December 2011).
- Muhanna Muhanna. *RTSIS: Real-Time Supervisor Intervention Software for Scenario Modification in CAVE Applications*. PhD in Computer Engineering dissertation (August 2011).
- Sermsak Buntha. *CAVEMANDER: An Approach and Software Platform for Building Command & Control Applications in CAVE*. PhD in Computer Engineering dissertation (July 2009).

#### Master students advised who graduated (45) [7 co-advised; 38 theses, 5 professional papers, 2 courses only]

- Jose Painumkal [co-advised with Dr. Fred Harris], *Solutions for Improving Model Simulation in the Virtual Watershed Platform*, MS in Computer Science & Engineering (CSE) thesis (August 2017).
- Ashok Reddy Raju Padmaraju. *NRDC Data Steward: Repository for Sharing NRDC Research Data and Results*. MS in CSE thesis (December 2016).
- Angela Chan. *Integration of Assistive Technologies into 3D Simulations: Exploratory Studies*. MS in CSE thesis (December 2016).
- Ben Brown. *Flight of Fancy: Exploring the Integration of Educational Content in Computer Games*. MS in CSE thesis (August 2016).



- Md Moinul Hossain. *A Software Environment for Watershed Modeling*. MS in CSE thesis (Aug. 2016).
- Lisa Paul Palathingal. *Data Processing Toolset for the Virtual Watershed Project*. MS in CSE thesis (May 2016).
- Vamsi Krishna Raju Alluri. *User-Controlled Information Transfer between Digital Devices with a Gestural Input Component*. MS in CSE thesis (December 2015).
- Rui Wu. *Environment for Large Data Processing Using MongoDB*. MS in CSE thesis (Dec. 2015).
- Alex Redei. *A Software Method for Automating Chemical Cell Lysis of Mammalian Cells for the Forensic Sciences*. MS in Computer Science (CS) thesis (December 2013).
- Javier Garcia, MS in Computer Science, courses only (May 2013).
- Grace Crosley, MS in Computer Science, courses only (May 2013).
- Andrew Dittrich. *ATMOS: A Data Collection and Presentation Toolkit for the Nevada Climate Change Portal*. MS in Computer Science (CS) thesis (December 2012).
- Ivan Gibbs. *Workflow Job Manager for NCCP*. MS in CS thesis (December 2012).
- Aarti Dhone [co-advised with Dr. Fred Harris]. *A Video Library Management Software Toolkit for the Nevada Climate Change Portal*. MS in CS thesis (August 2012).
- Victor Ivanov [co-advised with Dr. Fred Harris]. *VIVA: A Survey Management Toolkit*. MS in CS thesis (August 2011).
- Bilal Nemutlu. *OptiETL*. MS in CS thesis (April 2011).
- Colin King. *JScaffold: A RAD Solution for Java MVC Applications*. MS in CS thesis (Dec. 2010).
- Sridhar Reddy Anumandla [co-advised with Dr. Phil Goodman]. *Modeling Oxytocin-Induced Neurobotic Trust and Intent Recognition in Human-Robot Interaction*. MS in CS thesis (November 2010).
- Cory Fleming. *Mood Maestro: Therapeutic Software for Helping Alleviate Depression*. MS in CS thesis (November 2010).
- Jigar Patel. *EnduRan: A Web Application for Racing Events*. MS in CS thesis (April 2010).
- Eugene Essa [co-advised with Dr. Fred Harris]. *ACAT: ABET Course Assessment Tool*. MS in CS thesis (April 2010).
- Sathya Chandrasekar. *Web-based eBook Generator*. MS in CS thesis (August 2009).
- Kai Huang. *A Survey of Existing Climate Change Data Portals and A Prototype Design for the Nevada Climate Change Portal*. MS in CS professional paper. (August 2009).
- Hrishikesh Kulkarni. *Mobile Food Ordering System*. MS in CS thesis (January 2009).
- Sravanthi Yendluri. *Mobile Prescription*. MS in CS thesis (August 2008).
- Moynul Haque. *DCarS: Driving Rules Software for Handheld Devices*. MS in CS thesis (Aug 2008).
- Nic Herndon. *ATTITUDE: A Tidy Touchscreen Interface to a UML Development Environment*. MS in CS thesis (August 2008).
- Sagar Talekar. *WEBSTORM: Web-based Support Tool for the Organization of Requirements Modeling*. MS in Computer Engineering thesis (August 2008).
- Olusegun Akinwale. *DuoTracker: Tool Support for Defect Data Collection & Analysis*. MS in Computer Engineering thesis (December 2007).
- Burcu Nemutlu. *PocketBaby: PDA Software for Monitoring Pregnancy Evolution*. MS in CS thesis (June 2007).
- Michael McMahon, Jr. *Enhanced Management of Network Devices*. MS in CS thesis (May 2007).
- Juan Quiroz [co-advised with Dr. Sushil Louis]. *Interactively Evolving User Interfaces*. MS in CS thesis (May 2007).
- Muhanna Muhanna. *Exploration of Human-Computer Interaction Challenges in Designing Software for Mobile Devices*. MS in CS thesis (May 2007).

- Robert Larmore. *VHome 3D Web-Based Viewer*. MS in CS thesis (December 2006).
- Mubeen Parkar. *A Web-Based Software Solution to Support CLASSE Assessment*. MS in CS thesis (December 2006).
- Tihomir Calic. *Exploration of Model Driven Architecture Capabilities via Comparative Utilization of MDA Tools*. MS in CS thesis (December 2006).
- Eric Fritzing. *Tools for Creating Use Cases and Scenarios*. MS in CS thesis (June 2006).
- Sohei Okamoto. *WIDE: Web Interface Development Environment*. MS in CS thesis (Dec. 2005).
- Ning Hao, *Design Patterns Automation with Template Library*. Prof. paper in CS (Feb 2005).
- Sermsak Buntha, *Simulator for Naval Surface Warfare Training*, MS in CS thesis (Dec. 2004).
- John Jusayan, *Stratified Programming Integrated Development Environment*, MS in CS thesis (December 2004).
- Maryann Chandy, *Software Solutions for Assisting the Learning of Students with Disabilities*, Professional paper in CS (October 2004).
- Gigi Shum, *Combining Semi-Formal and Formal Notations in User Interface Specification*, Professional paper in CS (December 2003).
- Carol Freinkel, *An Approach for Combining UML and TLA+ in Software Specification*, MS in CS thesis (November 2003).
- Manish Nilawar, *A UML-based Approach for Testing Web Applications*, Professional paper in CS (July 2003).

#### **PhD students currently advised (6; 3-co-advised)**

- Likhitha Ravi. PhD candidate in Computer Science and Engineering. Specialization areas: *Software Engineering, Data Engineering*. Expected graduation: May 2018 [*Likhitha's PhD defense is scheduled on January 23, 2018*].
- Saul Reed. PhD candidate in Computer Science and Engineering. Specialization area: *Data Science (Pattern Recognition)*. Expected graduation: May 2018.
- Alexander Redei. PhD candidate in Computer Science and Engineering. Specialization areas: *Human-Computer Interaction, Software Engineering*. Expected graduation: December 2018.
- Rui Wu. PhD student in Computer Science and Engineering. Specialization areas: *Data Science, Software Engineering*. Expected graduation: August 2018 [co-advised with Dr. Fred Harris].
- Sonu Jose, PhD student in Computer Science and Engineering. Specialization areas: *Artificial Intelligence, Human-Computer Interaction*. Expected graduation: December 2018 [co-advised with Dr. Sushil Louis].
- Jalal Al Kiswani. PhD student in Computer Science and Engineering. Specialization area: *Software Engineering*. Expected graduation: August 2019 [co-advised with Dr. Fred Harris].

#### **Master students currently advised (3; all 3 co-advised)**

- Vinh Le. Areas: *Software Engineering, Data Engineering*. Expected graduation: May 2018 [co-advised with Dr. Fred Harris].
- Hannah Munoz. Areas: *Human-Computer Interaction, Data Science*. Expected graduation: May 2018 [co-advised with Dr. Fred Harris].
- Connor Allison-Scully. Areas: *Human-Computer Interaction, Data Science*. Expected graduation: August 2018 [co-advised with Dr. Fred Harris].

## Examination Committees - PhD students who graduated (UNR) (26)

- Satish Badepalli (2017). PhD in Computer Science and Engineering. *Network Behavior in Thin Film Growth Dynamics*. Advisor: Dr. Murat Yuksel.
- Ahmet Soran (2017). PhD in Computer Science and Engineering. *Multi-core Parallel Routing*. Advisor: Dr. Murat Yuksel.
- William Grussenmeyer (2017). PhD in Computer Science and Engineering. *Making Spatial Information Accessible on Touchscreens for Users Who Are Blind and Visually Impaired*. Advisor: Dr. Eelke Folmer.
- Suman Bhunia (2017). PhD in Computer Science and Engineering. *Survivability against Intelligent Adversary in Next-Generation Wireless Networks*. Advisor: Dr. Shamik Sengupta.
- Siming Liu (2015). PhD in Computer Science and Engineering. *Evolving Effective Micro Behaviors in RTS Games*. Advisor: Dr. Sushil Louis.
- Ahmed Akl (2015). PhD in Civil Engineering. *Time-Dependent Analysis of Posttensioned Bridge Hinge Curl*. Advisor: Dr. Saiid Saiidi.
- Damien Ennis (2014). PhD in Computer Science and Engineering. *Using Pre- and Post-Process Labeling Techniques for Cluster Analysis*. Advisor: Dr. Fred Harris.
- Chris Ballinger (2014). PhD in Computer Science and Engineering. *Co-evolutionary Approaches to Generating Robust Build-Orders for Real-Time Strategy Games*. Advisor: Dr. Sushil Louis.
- Ilias Apostolopoulos (2014). PhD in Computer Science and Engineering. *Exploring the Use of Wearables to Enable Indoor Navigation for Blind Users*. Advisor: Dr. Eelke Folmer.
- Roger Hoang (2014). PhD in Computer Science and Engineering. *An Extensible Component-based Approach to Simulation Systems on Heterogeneous Clusters*. Advisor: Dr. Fred Harris.
- Johnathan Kendler (2013). PhD in Electrical Engineering. *Study of Multiple ASE-Noise Effects and a Filtering Solution in Soliton Propagation through Optical Fibers*. Advisor: Dr. B. Rawat.
- Brad Towle (2013). PhD in Computer Science and Engineering. *An Auction Behavior-Based Robotic Architecture for Service Robots*. Advisor: Dr. Monica Nicolescu.
- Hakan Kardes (2012). PhD in Computer Science and Engineering. *A Graph Theoretic Perspective on Internet Topology Mapping*. Advisor: Dr. Mehmet Gunes.
- Tony Morelli (2011). PhD in Computer Science and Engineering. *Natural User Interfaces*. Advisor: Dr. Eelke Folmer.
- Navid Fallah (2011). PhD in Computer Science and Engineering. *Mixed Reality Indoor Navigation System for the Visually Impaired*. Advisor: Dr. Eelke Folmer.
- Mukesh Motwani (2011). PhD in Computer Science and Engineering. *Third Generation Watermarking: Applied Computational Intelligence Techniques*. Advisor: Dr. Fred Harris.
- Suat Mercan (2011). PhD in Computer Science and Engineering. *Virtual Directional Multicast for Overlay Networks*. Advisor: Dr. Murat Yuksel.
- Laurence Jayet Bray (2010). PhD in Biomedical Engineering. *A Circuit-Level Model of Hippocampal, Entorhinal and Prefrontal Dynamics Underlying Rodent Maze Navigational Learning*. Advisors: Dr. Fred Harris and Dr. Phil Goodman.
- Ashkan Voosoghi (2010). PhD in Civil Engineering. *Post-Earthquake Evaluation & Emergency Repair of Earthquake-Damaged RC Bridge Columns Using CFRP*. Advisor: Dr. Saiid M. Saiidi.
- Juan Quiroz (2010). PhD in Computer Science and Engineering. *Creative Design Using Collaborative Interactive Genetic Algorithms*. Advisor: Dr. Sushil Louis.
- Rakhi Motwani (2010). PhD in Computer Sci. and Eng. *A Voice-Based Biometric Watermarking Scheme for Digital Rights Management of 3D Mesh Models*. Advisor: Dr. Fred Harris.



- Bei Yuan (2009). PhD in Computer Science and Engineering. *Towards Generalized Accessibility of Video Games for the Visually Impaired*. Advisors: Dr. Eelke Folmer and Dr. Fred Harris.
- Anil Shankar (2008). PhD in Computer Science and Engineering. *SYCOPHANT: A Context Based Generalized User Modeling Framework for Desktop Applications*. Advisor: Dr. Sushil Louis.
- Sara Nasser (2008). PhD in Computer Science and Engineering. *Fuzzy Sequence Classification and Assembly of Environmental Genomes*. Advisor: Dr. Fred Harris.
- Chris Miles (2007). PhD in Computer Science and Engineering. *Co-Evolving Real-Time Strategy Game Players*. Advisor: Dr. Sushil Louis.
- Beifang Yi (2006). PhD in Computer Science and Engineering. *A Framework for a Sign Language Interfacing System*. Advisor: Dr. Fred Harris.

#### **Examination Committees - Master students who graduated (64) [63 UNR, 1 Canada]**

- 2017: Aswathi Mohan, Hirav Parekh;
- 2016: Ben McInroy (external, Trent University, Canada), Pratyusha Potpally, Raja Singh, Cameron Rowe, Daniel Chavez, Nolan Burfield, Jessica Smith;
- 2015: Christine Johnson, Thomas Kelly;
- 2014: Torbjorn Loken, Nathan Jordan, Halim Ates, Devyani Tanna;
- 2013: Gareth Ferneyhough, Burkay Sucu, Alex Fiannaca;
- 2012: Vinitha Khambadkar, Chad Feller, Corey Thibeault, Claire Shelton, Jon Fox;
- 2011: Joe Vesco, Scott Cozen, Bugra Oktay, Dan Ramos, Quan Zou, Cody White;
- 2010: Hema Narayanan, Ramesh Mulupuri, Joe Mahsman;
- 2009: Manjari Sapre;
- 2008: Devrin Lee, Roger Hoang, Johnathan Kendler, David Brown, Chris Franklin, Jeff Wallace, Radha Kuna, Leandro Basallo, Michael Smith, Jesse Phillips, John Kenyon;
- 2007: Brad Towle, William Brandstetter, Michael Dye, Janet Snape, Saul Reed, Phani Dogiparthi, Michael Penick;
- 2005: Satish Badepalli, Joe Jaquish, Jeff Stuart, Marcel Levi, Rajasekhar Yakkali, Latthaporn Bunyaplanan;
- 2004: Bei Yuan, Laurel Jones, James Arseneau, Brian Westphal, Meenakshi Iyer;
- 2003: Kedar Deshpande, Xingyi Li.

#### **Exam Committees-External Examiner for PhD dissertations by students from other universities (7)**

- 2 PhD candidates from Anglia Ruskin University, Cambridge, England, UK (2017) – both currently working on addressing requests and recommendations from their “viva voce” examinations
- Amir Ashamalla, PhD in Engineering and Information Science, University of Technology Sydney (UTS), Australia (2017)
- Jitendra Singh Thakur, PhD in Computer Science and Engineering, Indian Institute of Information Technology, Design and Manufacturing, Jabalpur, India (2017)
- Raini Hassan, PhD in Computer Science, International Islamic University of Malaysia (2015)
- Marc Colangelo, PhD in Computer Science, McMaster University, Canada (2011)
- 1 PhD candidate from Monash University, Australia (2010)

### Examination Committees - PhD students currently in their program of study at UNR (3)

- Majed Zayer
- John Volk
- Yan Yan

### Examination Committees - Master students currently in their program of study at UNR (1)

- Daniel Lopez

### POSTDOCTORAL FELLOWS ADVISED (5)

- Dr. Rakhi Motwani (2010-2011)
- Dr. Adrienne Breland (2011-2012)
- Dr. Sohei Okamoto (2011- 2012)
- Dr. Laurence Jayet Bray (2011- 2013)
- Dr. Riad Belkhatir (2016/1- 2016/5)

### PROFESSIONALS SUPERVISED (7)

- Eric Fritzinger, Software/Data Engineer (since 2009)
- Mike McMahon, Software/Data Engineer (2009-2014)
- John Jusayan, Software Engineer (2014-2016)
- Vinh Le, Software/Data Engineer (since Sept. 2015)
- Dr. Scotty Strachan, Env. Research Coord. (since 2013)
- Dr. Richard Kelley, Research Assistant Prof. (2013-15)
- Hannah Munoz, Software Engineer (since Jan 2017)

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## UNDERGRADUATE ADVISEMENT

### AWARDS OBTAINED BY UNDERGRADUATE STUDENTS under my advisement (19 awards, 29 students)

- 4 groups of students received NSF EPSCoR CIP grants of \$5,000 each (two in 2007 and two in 2008): Erik Hanchett, Harold De Armas, Ray Lee, Zack Norcross; Christian Fey, Ayako Okamoto, Cirel Menor; Joe Mahsman, Matt Sgambati, Roy Hemenway, Joey Bennett; Del Jackson, Nhan Diep, Tyler Kayser, Scotty Jones [15 students];
- 5 students received NSF NV EPSCoR Undergrad Research Opportunities (UROP): C. Fleming (2006-07), B. Tackitt ('07-08), M. Whipple ('07-08), J. Larsen ('09-10), S. Komarov (2010-11);
- 3 students received UNR Honors Undergrad Research Awards (HURA), valued at \$2,000 each: Benjamin Seelbinder (2008-2009), Valjean Clark (2009-2010), and Steve Komarov (2009-2010).
- 7 students received the UNR General Undergraduate Research Awards (GURA), valued at \$1,000 (the first 5), \$1,200 (the 6<sup>th</sup>), or \$1,500 (the 7<sup>th</sup>): Adam Olenderski, Robert Larmore, Robert Sandstrom, Brent Devaney, Namit Chawla, James Motta, and Raymond Lee.

### NEVADA GOVERNOR'S CUP AWARDS for groups of students I advised (4 groups, 13 students)

- 1 group of 2 undergrad students, Andrew Costello and Ian Lermusiaux, qualified to the final phase of Nevada Governor's Cup 2006, for which they received a \$1,000 award.
- 1 group of 4 undergrad students plus 1 grad student, co-advised with Dr. S. Louis (main advisor) received the 2<sup>nd</sup> prize at Nevada Governor's Cup 2007 (\$10,000 award): David Carr, Ben Menesini, Austin Stanhope, and Mark Harmer (undergrads) + Juan Quiroz (grad student).
- 1 group of 4 undergrad students received the 2<sup>nd</sup> prize at Nevada Governor's Cup 2008 (\$10,000 award): Del Jackson, Nhan Diep, Tyler Kayser, Scotty Jones.

- 1 group of 3 undergrad students, Ben Brown, Weesley Lee, and Jeff Greenspan, qualified to the final phase of Nevada Governor's Cup 2009, for which they received a \$1,500 award.

**UNDERGRADUATE STUDENTS HIRED ON RESEARCH CONTRACTS** (33 students on 9 projects):

Derek Eiler, Nathan Penrod, Herman Leong, Steve Christmann, Daniel Johnson, Eric Marantette, Brian Tackitt, Tyler Winters, William Groesbeck, Sam Delaney, David Keele, Katie Ceglia, Mike Picerno, Ben Seelbinder, Amanda Sou, Curtis Richardson, Javier Garcia, Troy Sedgwick, Ryan Jones, Jake Velez, James Arthur, Steve Komarov, Abba Terrobias, Eric Tilly, Nick Ceglia, Chris Ginac, Tim Shaw, Katie Gilgen, Nick King, Marco Antonio Marques Pinheiro, Royal Stewart, Vinh Le, Alexandra Younkes.

**MENTOR FOR HONORS STUDENTS** [18]:

David Porterfield (2007), Ben Seelbinder (2009), Valjean Clark (2010), Steve Komarov (2011), Issa Beckun (2012), Joanne Cathrynne Navarro (2012), Preston Bergstorm (2013), James Bridegum, Robert Roeder (2014), Brian Goga (2016), Josh Curtis (2016), Douglas Yan – co-advised (2016), Miguel Henares – co-advised (2016); plus 5 Honors students who will graduate in May 2018.

**ADVISOR FOR VISITING INTERNATIONAL UNDERGRADUATE STUDENTS** [1]: Marco Antonio Marques Pinheiro (visiting from Brazil) (2013).

**PUBLICATIONS** co-authored with UNR undergraduate students

- 9 peer-reviewed journal articles, with 16 undergraduate students co-authors;
- 32 peer-reviewed conference papers, with over 60 undergrad students co-authors;

**EXHIBITIONS** (36 events, with over 450 students involved)

- 12 Computer Science & Engineering Senior Projects Workshops (2003, 2004, 2005, 2006, 2007, 2008, 2009, 2011, 2012, 2013, 2014, 2016) with about 500 CSE student participants in total;
- 6 Nevada Undergraduate Research Symposium (NURS) and UNR Research Poster Conference events (with 46 student participants);
- 4 College of Engineering Public events (with 9 students involved); and
- 15 sessions at international conferences (with 45 undergraduate students who attended them and presented their research papers).

**CSE UNDERGRADUATE STUDENTS** who after completing their BS in CS at UNR continued to work with me as advisor in graduate programs [15]:

- Among these, 12 already received their MS in CS degree working under my advisement: John Jusayan, Eric Fritzinger, Sohei Okamoto, Gigi Shum, Juan Quiroz, Robert Larmore, Michael McMahan, Nic Herndon, Cory Fleming, Colin King, Victor Ivanov, Alex Redei.
- Two of the students, Sohei Okamoto and Juan Quiroz, also earned their PhD in Computer Science and Engineering degrees from UNR [Juan Quiroz's main advisor was Dr. Sushil Louis].
- Currently in their graduate programs, working with me as their advisor, are 1 PhD student (Alex Redei) and 2 MS students (Hannah Munoz, Vinh Le).

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## GRANT APPLICATIONS FUNDED

[in reverse temporal order, 57 in total: 20 as PI, 11 as Co-PI, and 26 as advisor/mentor]

**Note:** *Educational grants are marked with \*; Student awards are marked with #*

- [57]# *Modeling Error Learning-based Post-Processor Framework for Hydrological Models*. NSHE NSF EPSCoR Impact Awards for Publications. **Role: PI and graduate student advisor** (for PhD candidate **Rui Wu**). Collaborating faculty: Dr. Lei Yang, Dr. Fred Harris. Period: December 1, 2017 – May 31, 2018. Funding: **\$5,000**.
- [56] *Adaptive Data Analysis Framework for Renewable Energy Prediction*. NSHE NSF EPSCoR Impact Awards for Publications. **Role: Collaborating faculty**, PI Dr. Lei Yang. Period: July 1, 2017 – May 31, 2018. Funding: **\$5,000**.
- [55] *The Solar Energy-Water-Environment Nexus in Nevada*. NSF EPSCoR RII Track 1. **Role: Organization (UNR) PI and CI lead scientist**. Project PI and State Director: Dr. Gayle Dana (DRI and Nevada NSF EPSCoR Office). The other organization PIs are Dr. Robert Boehm and Dr. Jacimaria Batista (UNLV), and Dr. Markus Berli (DRI). Period: June 1, 2013 – May 31, 2018. Funding: **\$24,000,000** (**\$20,000,000** from NSF and **\$4,000,000** from the NSHE). UNR budget that I manage: about **\$7.7 million**, of which the CI group's budget for research and development under my supervision is about **\$4.1 million**.
- [54] *Collaborative Research: The Western Consortium for Watershed Analysis, Visualization, and Experiments (WC-WAVE)*. NSF EPSCoR RII Track 2. **Role: Sr. personnel/organization (UNR) co-PI**. Project PI: Gayle Dana (DRI and Nevada NSF EPSCoR Office), with 3 co-PIs in Nevada and about 25 senior personnel in NV, NM, and ID. Idaho PI: Dr. Peter Goodwin (University of Idaho and ID NSF EPSCoR Office), New Mexico PI: Dr. William Michener (University of New Mexico and NM NSF EPSCoR Office). UNR PI: Frederick C. Harris, Jr. Period: August 1, 2013–July 31, 2016. Total funding: **\$6,000,000** (each state: **\$2,000,000**; UNR budget: **\$872,700**).
- [53] *Nevada Infrastructure for Climate Change Science, Education, and Outreach*. NSF EPSCoR, RII Track 1. **Role: UNR Co-PI, leader cyber group** (the group's budget was about **\$2,100,000**), with PI Gayle Dana and co-PIs Nick Lancaster, Tom Piechota, and Scott Mensing. Period: Sept. 1, 2008 – Aug. 31, 2013. Funding: about **\$21,700,000** (consisting of **\$15,000,000** from NSF and about **\$6,700,000** from Nevada System of Higher Education).
- [52] *Cyberinfrastructure Development for the Western Consortium of Idaho, Nevada, and New Mexico*. NSF EPSCoR RII Track 2. **UNR co-PI**, with Gayle Dana (Nevada PI), Fred Harris (UNR PI), Darko Koracin (DRI PI), and Kent Crippen (UNLV PI). Period: September 15, 2009 – August 31, 2013. Total: **\$6,000,000**. Nevada part: **\$2,000,000**. UNR/CSE Dept. part: **\$554,000**.
- [51] *Large-Scale Biologically Realistic Models of Brain Dynamics Applied to Intelligent Robotic Decision Making*. **Co-PI** with Phil Goodman (PI) and Fred Harris (co-PI). Office of Naval Research. ONR Program on Computational Neuroscience, Brain Machine Interface, and Human-Robot Interaction. October 1, 2009 – March 31, 2013. **\$827,400**.
- [50]+ *Bally Technologies Sponsored Student Project in Computer Science and Engineering*. Role: **PI**. Bally Technologies, Reno, NV. Period: April 15 – July 31, 2011. **\$10,300**.

- [49] *Western Tri-State Innovative Working Group (IWG): CyberScience Scenarios for Focused CI Developments*. **Co-PI** with Karl Benedict, University of New Mexico (PI) and Dan Ames, Idaho State University (co-PI). NSF EPSCoR. August 1 – December 31, 2010. **\$12,700**.
- [48] *Integrated Environmental Modeling Software Systems Innovative Working Group*. **Co-PI** with Dan Ames (PI, Idaho State University) and Karl Benedict (co-PI, University of New Mexico). Western Tri-State Consortium Innovative Working Group proposal solicitation. January 10, 2010 – March 25, 2010, **\$9,000**.
- [47] *Bally Technologies Sponsored Student Project in Computer Science and Engineering*. **Co-PI**, with Eelke Folmer (PI). Bally Technologies, Reno, NV. Period: Jan. 31 – June 1, 2010. **\$9,900**.
- [46]# *Adaptation of the Nevada Climate Change Data Portal Interface to Small Screen Mobile Devices*. **Mentor** for student Steve Komarov (co-advised with Dr. Donica Mensing). NSF EPSCoR Undergrad Research Opportunity Program (UROP). Dec. 2010 - May 2011. **\$4,300**.
- [45] *Losing the Lake: Promoting Sustainability Awareness through Educational Computer Simulations of Lake Mead Water Levels and Water Supply to Las Vegas Valley*. **Co-PI**, with Michael Nussbaum (PI, UNLV), Gale Sinatra (co-PI UNLV), Kent Crippen (co-PI, UNLV) and Fred Harris (co-PI, UNR). NSF EPSCoR/NSHE Climate Change Interdisciplinary Science Teams proposal solicitation. Period: September 1, 2009 – August 31, 2011. **\$199,300**.
- [44]# *Bally Technologies Sponsored Student Project in Computer Science and Engineering*. **PI**, with Eelke Folmer (co-PI), and Murat Yuksel (co-PI). Bally Technologies, Reno, NV. Period: January 31, 2009 – June 15, 2009. **\$12,380**.
- [43]# *PC Doctor Sponsored Student Project in Computer Science and Engineering*. **PI**. PC Doctor, Inc., Reno. Period: January 1, 2009 – Sep. 15, 2009. **\$10,320**.
- [42]# *Muse Interactive*. **Advisor** for the group of students: Ben Brown, Wes Lee, and Josh Greenspan. Nevada Governor's Cup – qualified for finals (one of top 6 undergraduate teams out of 25). April 2009. **\$1,500**.
- [41]# *Visualization of Transect Data*. **Advisor** with Franco Biondi (co-advisor) for student Joel Larsen. Nevada NSF EPSCoR RII-Track II Undergrad Research Awards. Period January 1, 2010 – May 31, 2010. **\$4,300**.
- [40]# *iPhone Teacher's Companion*. **Mentor** for student Steve Komarov. UNR Honors Undergraduate Research Awards (HURA). January 1 - May 31 2010. **\$2,000**.
- [39]# *Research on a New Interaction Paradigm for Personal Computers*. **Mentor** for student Valjean Clark. UNR Honors Undergraduate Research Award (HURA). Jan. 1 - May 31 2010. **\$2,000**.
- [38]# *PC-sponsored Senior Project in Computer Science*. **PI**. PC Doctor, Inc., Reno, NV. Period Dec. 1, 2008 – September 15, 2009. **\$10,380**.
- [37]# *Student's Aid: A Touchscreen Design*. **Mentor** for student Ben Seelbinder. UNR Honors Undergraduate Research Award (HURA). Period Dec. 1, 2008 – May 15, 2009. **\$2,000**.
- [36]# *Wolfpack Works' Biologue*. **Advisor** with co-advisors Leah Skladany and Gary Valiere for students Nhan Diep, Del Jackson, Scotty Jones, and Tyler Kayser. Nevada Governor's Business Cup – Second Prize. April 2008. **\$10,000**.
- [35]# *Biologue: Your Life's Voice*. **Advisor** for students Nhan Diep, Del Jackson, Scotty Jones, and Tyler Kayser. Co-Advisors: Leah Skladany and Gary Valiere. NSF EPSCoR Cognitive Information Processing – Student Entrepreneurship competition. Period: Feb. 1 – July 31, 2008. **\$5,000**.



- [34]# *STRAFE: Strategic Turn-based Realistic Action in a First-person Environment*. **Advisor** for students Joseph Mahsman, Matt Sgambati, Roy Hemenway, and Joey Bennett. Co-advisor: Fred Harris. NSF EPSCoR CIP – Student Entrepreneurship competition. Period: February 1, 2008 – July 31, 2008. **\$5,000**.
- [33] *Assisting Disadvantaged Web Users with Real-Time Solutions*. **PI**. International Activities Grant (IAG), UNR. Period April 1, 2008 – June 30, 2009. **\$1,500**.
- [32] *PC-Doctor Sponsored Student Projects in Computer Science and Engineering*. **PI**. Period October 22, 2007 – January 31, 2008. Pc-Doctor, Reno, NV. **\$9,590**.
- [31]# *TouchTabs: A New Solution for Guitar Music Composition Using Touch Screens*. **Mentor** for student Matt Whipple. Nevada EPSCoR Undergraduate Research Award. Period: Nov. 15, 2007 – May 15, 2008. **\$4,310**.
- [30]+ *Smartphone-based Researcher's Companion Software (RCS)*. **Mentor** for student Brian Tackitt. Nevada EPSCoR Undergraduate Research Award. Period Nov. '07 – May '08. **\$4,310**.
- [29] *Exploring Planetary Surfaces: Earth, Moon and Mars*. **Co-PI**, with Chris Fritsen (PI), Wendy Calvin (UNR PI) and 8 other Co-PIs. NASA EPSCoR. Period: September 1, 2007- July 31, 2010. **\$1,500,000** (includes NSHE match \$750,000).
- [28] *Exploration of Research Directions in Software and Systems Quality Assurance*. **PI**, with co-PIs Dr. E. Folmer, Dr. D. Egbert and Dr. B. D. Bryant. Bally Technologies, Reno, NV, USA. Period: June 1, 2007- March 15, 2008. **\$112,890** (includes NSHE ARI match \$50,000).
- [27]\* *Advanced Computer Technology for Senior Projects in Computer Science and Engineering*. **PI**. Student Technology Fee (STF) UNR. Period: May 1, 2007 – June 30, 2007. **\$15,780**.
- [26]\* *An Advanced Hands-On Learning Experience in Computer Science and Engineering*. **Co-PI**, with Monica Nicolescu (PI) and Mircea Nicolescu. Student Technology Fee (STF) UNR. Period: May 1, 2007 – June 30, 2007. **\$11,580**.
- [25] *Earned Schedule Outcome Estimation Tool*. **PI**. Quadrant One, Inc., Arlington. VA. Period: November 1, 2006 – December 15, 2007. **\$14,840**.
- [24]\* *Touchscreens and Handheld Devices for CSE Senior Projects and Human Computer Interaction Courses*. **PI**. Instructional Enhancement Grant (IEG) UNR. July 2007– May 2008. **\$2,630**.
- [23]# *Orchestra Collaboration Software*. **Mentor** for student Raymond Lee. General Undergraduate Research Award (GURA) UNR. Period: June 1, 2007 – May 31, 2008. **\$1,500**.
- [22]# *Samsara Inc.'s SMORTS: Space-based Massively Online Real-Time Strategy Game*. **Co-advisor** with Dr. Sushil Louis (main advisor) and Dr. Rahul Bhargava for students David Carr, Mark Harmer, Ben Menesini, Austin Stanhope. Nevada Governor's Business Cup – Second Prize. April 2007. **\$10,000**.
- [21]# *Role Coll: A Collaborative Software System for Music Annotations*. **Advisor** for students Erik Hanchett, Harold De Armas, Zack Norcross, Raymond Lee. NSF EPSCoR Cognitive Information Processing–Student Entrepreneurship competition. Period: Jan–July 2007. **\$5,000**.
- [20]# *SMORTS: Space-based Massively Online Real-Time Strategy Game*. **Co-advisor** with S. Louis and R. Bhargava for students David Carr, Mark Harmer, Ben Menesini, Austin Stanhope. NSF EPSCoR CIP – Student Entrepreneurship competition. Period: Jan. 1– July 31, 2007. **\$5,000**.
- [19]# *MIDAS: My Interactive Desk Assistant*. **Advisor** for students Christian Fey, Cirel Menor, and Ayako Okamoto. NSF EPSCoR Cognitive Information Processing – Student Entrepreneurship Competition. Period: January 1, 2007 – July 31, 2007. **\$5,000**.

- [18]# *Therapeutic Software: Human-Computer Interaction Challenges and Solutions*. **Mentor** for student Cory Fleming. Nevada EPSCoR GURA. Period: Nov. 1, 2006 – May 31, 2007. **\$4,790**.
- [17]# *goSmart: A Home Automation System*. **Mentor** for student James Motta. General Undergraduate Research Award (GURA) UNR. Period: May 1, 2006 – April 30, 2007. **\$1,200**.
- [16]# *Opposition: A Video Game, a Contest between Technology and Numbers*. **Advisor** for students Andy Costello and Ian Lermusiaux. Award for qualification to the final phase of Nevada's Governor's Cup Competition. Nevada Center for Entrepreneurship. April 2006. **\$1,000**.
- [15]\* *UNR Software Acquisition Grant: Mac OS Analysis & Design Software*. **PI**. 2005/09. UNR CSAF. Period: September 1, 2005 – August 31, 2006. **\$2,000**.
- [14] *Project IRIS: Project Maps Decomposition Colorizer*. **PI**. Quadrant One, Inc., Arlington, VA. Period: July 15, 2005 – October 30, 2005. **\$6,000**.
- [13] *Combining Learning and Human Modeling for Virtual at Sea Training*. **Co-PI**, with Sushil Louis (PI) and Monica Nicolescu (Co-PI). DEPSCoR – Office of Naval Research. Period: June 1, 2005 – May 31, 2008. Funded \$416,600 by NSF with Nevada-UNR match \$210,000. Total **\$626,600**.
- [12] *Project CROWN VISION for NISTP at USF (Managing Large-Scale Software Systems)*. **PI**. USF (University of South Florida)/SPAWAR. Period: Oct. 1, 2005 – September 30, 2006. **\$50,000**.
- [11]# *Software Project Progress Assessment and Prediction via Metrics Analysis and Visualization*. **Mentor** for undergraduate student Namit Chawla. UNR, Undergraduate Research Award. Period: May 1, 2005 – April 30, 2006. **\$1,000**.
- [10]\* *Software Engineering Lab Development*. **PI**. Student Technology Fee Distribution Grant, UNR. Period: May 1, 2004 - December 31, 2004. \$7,200. Additional funds received from the Office of the Provost, UNR: \$14,000. Total: **\$21,200**.
- [9]# *Virtual University of Nevada, Reno Campus/Virtual City of Reno*. **Mentor** for undergraduate student Robert Larmore. UNR, GURA. Period: May 1, 2004 – April 30, 2005. **\$1,000**.
- [8]# *Virtual Environment to Support Collaborative Software Design*. **Mentor** for undergraduate student Brent Devaney. UNR, GURA. Period: May 1, 2004 – April 30, 2005. **\$1,000**.
- [7]# *Automated Futures Trading Systems*. **Mentor** for undergraduate student Robert Sandstrom. UNR, Undergraduate Research Award. Period: May 1, 2004 – April 31, 2005. **\$1,000**.
- [6] *Software Solutions for Assisting the Learning of Students with Disabilities*. **PI**. International Activities Grant (IAG), UNR. Period: May 1, 2004 - March 15, 2005. **\$3,000**.
- [5]\* *Microsoft Software and Documentation Grant*. **PI**. About 40 books and software kits received from Microsoft Corporation, March 2004, total value about **\$3,200**.
- [4]\* *Software Acquisition Funding*. **PI**. UNR, January 2004, funding for Director MX toolset, **\$500**.
- [3]# *Design of a Virtual Environment for the Exploration of Cognitive Aspects of Learning*. **Mentor** for undergraduate student Adam Olenderski. UNR, Undergraduate Research Award. Period: December 1, 2003 – June 1, 2004. **\$1,000**.
- [2] *Harmony: An Environment for Multi-Notational Software Specification*. **PI**. Junior Faculty Research Grant, UNR. Period: July 1, 2003 – June 30, 2005. **\$15,000**.
- [1]\* *Verity: A Learning Companion and Self-Assessment Tool*. **PI**. Instructional Enhancement Grant, UNR. Period: January 1, 2003 – June 30, 2003. **\$2,300**.

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## PUBLICATIONS

[in reverse temporal order, most recent first]

### Book Chapters/Books

- [5] Dittrich, A., Gunes, M. H., and Dascalu, S. (2013). *Network analysis of software repositories: Identifying subject matter experts*. Chapter in Menezes, R., Evsukoff, A., and Gonzáles, M.C. (eds.), *Complex Networks*, Studies in Computational Intelligence, 424: 187-198, Springer-Verlag.
- [4] Elpern, J. and Dascalu, S. (2008). *A Framework for Understanding the open source revolution*, Chapter XIV in Pierre Tiako (ed.), *Designing Software-Intensive Systems*, IGI Global, pp. 439-454.
- [3] Munteanu, F., Ionescu, T., Tataru, D., Musca, G., and Dascalu, S. (1995). *Computer Programming* (in Romanian), Editura Didactica, Romania, 1<sup>st</sup> edition 1993, 2nd edition 1995.
- [2] Ionescu, T., Nastea, D., and Dascalu, S. (1992). *Pascal, A High Level Programming Language*, course notes (in Romanian), Litografia UPB, Polytechnic Institute of Bucharest.
- [1] Mihu, I., Iliescu, S., Catana, I., Gaburici, V., Munteanu, F., Dumitriu, S., Barbulea, S., Carstoiu, D., Simion, G., Dascalu, S., and Marcu, A. (1986). *Industrial Electronics and Automation – Laboratory Guide* (in Romanian), Litografia IPB, 1986.

### Journal Articles

- [33] Quiroz, J.C., Banerjee, A., Dascalu, S., Lau, S.L. (2017). Feature selection for activity recognition from smartphone accelerometer data. *Intelligent Automation & Soft Computing*, July 2017, <https://doi.org/10.1080/10798587.2017.1342400>, 9 pages.
- [32] Quiroz, J.C. and Dascalu, S. (2017). Interactive shape perturbation. *International Journal of Computers and Their Applications*, 24 (1): 4-11.
- [31] Strachan, S., Kelsey, E. P., Brown, R. F., Dascalu, S., Harris, F., Kent, G., Lyles, B., McCurdy, G., Slater, D., Smith, K. D. (2016). Filling the data gaps in mountain climate observatories through advanced technology, refined instrument siting, and a focus on gradients. *Mountain Research and Development*, 36 (4): 518–527.
- [30] Wu, R., Muhanna, M., Barford, L., Dascalu, S.-M., Harris, F. C. (2016). Data lossless compression using improved GFC algorithm with multiple GPUs. *International Journal of Computers and Their Applications*, 23 (4): 232-241.
- [29] Carthen, C., Rushton, T. J., Burfield, N. P., Johnson, C. M., Worrell, B., Hesson, A., Chapman, T., M., Harris, F. C. (2016). Virtual watershed visualization for the WC-WAVE project. *International Journal of Computers and Their Applications*, 23 (3): 195-207.
- [28] Ferneyhough, G. B., Thibeault, C. M., Dascalu, S.-M., Harris, F. C. (2016). ModFossa: A library for modeling ion channels using Python. *Journal of Bioinformatics and Computational Biology*, <https://doi.org/10.1142/S0219720016420038>, 14 (3), 16 pages.
- [27] Ennis, D., Harris, F.C., Jr. and Dascalu, S. (2016). Leveraging clustering techniques to facilitate metagenomic analysis, *Journal of Intelligent Automation and Soft Computing*, 22 (2): 153-165.
- [26] Nussbaum, E.M., Owens, M.C., Sinatra, G.M., Rehmat, A.P., Cordova, J.C., Ahmad, S., Harris, F.C., Jr., and Dascalu, S. (2015). Losing the lake: simulations to promote gains in student

- knowledge and interest about climate change, *International Journal of Environmental & Science Education*, 10 (6): 789-811.
- [25] Gibbs, I., Dascalu, S., and Harris, F.C., Jr. (2015). A separation-based UI architecture with a DSL for role specialization, *Journal of Systems and Software*, 101: 69-85.
- [24] Yi, B., Wang, X., Harris, F.C., Jr., and S. Dascalu (2014). sEditor: a prototype for a sign language interfacing system. *IEEE Transactions on Human-Machine Systems*, 44 (4): 499-510.
- [23] Hoang, R.V., Tanna, D., Jayet Bray, L.C., Dascalu, S.M., and Harris, F.C., Jr. (2013). A novel CPU/GPU simulation environment for large-scale neural modeling. *Frontiers in Neuroinformatics*, 7 (19):1-10.
- [22] Jones, A., Cardoza, J., Liu, D. J., Jayet Bray, L.C., Bryant, B.D., Dascalu, S.M., Louis, S.J., and Harris, F.C., Jr. (2013) A software package for visualizing complex, distributed neural networks. *BMC Neuroscience*, 14 (suppl. 1): 158.
- [21] Jayet Bray, L.C., Barker, E.R., Ferneyhough, G.B., Hoang, R.V., Bryant, B.D., Dascalu, S.M., and F.C., Harris, Jr. (2012). Real-time human-robot interaction underlying neurobotic trust and intent recognition. *Neural Networks*, 32: 130-137.
- [20] Jayet Bray, L.C., Anumandla, S.R., Thibeault, C.M., Hoang, R.V., Goodman, P.H., Dascalu, S.M., Bryant, B.D., and F.C. Harris, Jr. (2012). Goal-related navigation of a neuromorphic virtual robot. *BM Neuroscience*, 13 (suppl. 2): O3.
- [19] Brandstetter III, W.E., Mahsman, J.D., White, C.J., Dascalu, S., and F.C. Harris, Jr. (2011). Multi-resolution deformation in out-of-core terrain rendering. *International Journal of Computers and Their Applications* 18 (4): 262-272.
- [18] Brown D., Hoang R., Sgambati M., Brown T., Dascalu S., and F.C. Harris, Jr. (2010). An application for tree detection using satellite imagery and vegetation data. *Journal of Computational Methods in Sciences and Engineering (JCMSE)* 10 (1, 2) suppl. 1: 13-25.
- [17] Hegie J.M., Kimmel A.S., Parian K.H., Dascalu S., and F.C. Harris, Jr. (2010). WiELD-CAVE: Wireless ergonomic lightweight device for use in the CAVE. *Journal of Computational Methods in Sciences and Engineering (JCMSE)* 10 (1, 2) suppl. 2: 177-186.
- [16] Motwani R., Harris F.C. Jr., and S. Dascalu (2010). An Eigen-normal approach for 3D mesh watermarking using support vector machines. *Journal of Electronic Science and Technology (JEST)* 8 (3): 237-243.
- [15] Muhanna, M., Tackitt, B. and S. Dascalu (2009). Prototype details of the smartphone-based Researcher's Companion Software (RCS). *Journal of Computational Methods in Sciences and Engineering* 9 (1, 2) suppl. 2: 191-200.
- [14] Elpern, J. and S. Dascalu (2009). A framework for understanding the open source revolution. *Journal of Open Source Software & Processes* 1 (3): 1–16.
- [13] Karam, M., Smedley, T., and S. Dascalu (2008). Unit level test adequacy criteria for visual dataflow languages and a testing methodology. *ACM Transactions on Software Engineering and Methodology (TOSEM)* 18 (1): 1/1-37.
- [12] Goodman, P., Zou, Q., and S. Dascalu (2008). Framework and implications of virtual neurorobotics, *Frontiers in Neuroscience* 2 (1): 123–128.
- [11] Karam, M., Dascalu, S., Safa, H., Santana, R., and Z. Koteich (2008). A product-line architecture for web service-based visual composition of web applications. *Journal of Systems and Software* 81 (6): 855-867.
- [10] Nicolescu, M., Leigh, R., Olenderski, A., Louis, S., Dascalu, S., Miles, C., Quiroz, J., and R. Aleson (2007). A training simulation system with realistic autonomous ship control. *Computational Intelligence Journal* 23 (4): 497-516.

- [9] Goodman, P., Buntha, S., Zou, Q., S. Dascalu (2007). Virtual neurorobotics to accelerate development of plausible neuromorphic brain architectures, *Frontiers in Neurorobotics* 1(1): 1-7.
- [8] Dascalu, S., Buntha, S., Saru, D. and N. Debnath (2006). Software tool for naval surface warfare simulation and training. *Journal of Computational Methods in Sciences and Engineering* 6 (5-6) suppl. 2: 427-444.
- [7] Karam, M., Dascalu, S., and R.H. Hazimé (2006). Challenges and opportunities for improving code-based testing of graphical user interfaces. *Journal of Computational Methods in Sciences and Engineering* 6 (5-6) suppl. 2: 379-388.
- [6] Yi, B., Harris, F.C., Jr., Dascalu, S., and A. Erol (2006). User interface aspects of a human-hand simulation system. *Journal for Systemics, Cybernetics & Informatics* 3 (5): 77-83.
- [5] Kallman, J., Minaie, P., Truppi, J., Dascalu, S., and F.C. Harris, Jr. (2004). Software modeling for open distributed network monitoring systems. Springer Verlag, *LNCS* 3126: 158-169.
- [4] Westphal, B., Harris, F.C., and S. Dascalu (2004). Snippets: support for drag-and-drop programming in the Redwood environment. *Journal of Universal Comp. Sci.* 10 (7): 859-871.
- [3] Arnold, S., Osterhout, C., Yim, C., and S. Dascalu (2004). Specification of the UFT web-based fitness tracking software. *WSEAS Transactions on Computing* 2 (3): 387-392.
- [2] Westphal, B.T., Harris, F., and S. Dascalu (2004). Redwood: a visual environment for software design and implementation. *WSEAS Transactions on Computing* 2 (3): 380-386.
- [1] Saru, D., Dascalu, S., Stanescu, A.M., and A. Petcu (2004). Integration software for an educational virtual laboratory supervising flexible manufacturing cells. *Control Engineering and Applied Informatics Journal* 6 (1): 53-60.

### **Peer Reviewed Conference Papers**

- [167] Munoz, H., Scully-Allison, C., Le, V., Strachan, S., Harris, F.C., Jr., Dascalu, S. (2017). A Mobile Quality Assurance Application for the NRDC. *Proceedings of the 26th Intl. Conf. on Software Engineering and Data Engineering (SEDE-2017)*, Oct. 2017, San Diego, CA, 6 pages.
- [166] Kiswani, J., Muhanna, M., Dascalu, S., Harris, F.C., Jr. (2017). Software Infrastructure to Reduce the Cost and Time of Building Enterprise Software Applications. *Procs. of the 26th Intl. Conf. on Software Engineering & Data Engineering (SEDE-2017)*, October 2017, San Diego, CA, 6 pages.
- [165] Kettouch, M., Luca, C., Hobbs, M., Dascalu, S. (2017). Using Semantic Similarity for Schema Matching of Semi-structured and Linked Data. *Procs. of the 7th Intl. Conf. on Internet Technologies & Applications (ITA-2017)* September 2017, Wrexham, Wales, UK, IEEE, 6 pages.
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### Posters

- [4] Patel, J., Dascalu, S., Harris, F., Benedict, K., Gollberg, G. and Sheneman, L. (2011). A Visual Mapper for Data and Model Interoperability. *American Geophysical Union Conference (AGU-2011)*. San Francisco, CA, December 2011.
- [3] Okamoto, S., St. Jeor, S. and Dascalu S. (2009). Development of New Tools to Assess Energy Balance in Practice, *Experimental Biology (EB-2009)*, New Orleans, LA, April 2009.
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### Invited Talks [31]

- Dascalu, S.-M. (2017), *Computer Science and Engineering advances for data-intensive research projects in Nevada*, National University of Costa Rica, Heredia campus, November 15, 2017.
- Dascalu, S.-M. (2017), *Human-Computer Interaction: The rearview mirror and the road ahead*, National University of Costa Rica, San Isidro campus, November 14, 2017.
- Dascalu, S.-M. (2017), *Cyberinfrastructure advances for data-intensive research projects in Nevada*, Research Lecture Series, Centre of Excellence for Research in Adaptive Systems (CERAS), University of York, Toronto, Canada, April 20, 2017.
- Dascalu, S.-M. (2017), *Cyberinfrastructure advances for data-intensive research projects in Nevada*, Research Seminar Series, Adaptive eScience Institute, University of Washington, Seattle, USA, April 4, 2017.
- Dascalu, S.-M. (2017), *Cyberinfrastructure advances for data-intensive projects in Nevada*, Research Lecture Series, University of Technology Sydney, Australia, February 21, 2017.
- Dascalu, S.-M. (2017), *A Journey through HCI: achievements and trends*, Research Seminar Series, Bowie State University, USA, February 2, 2017.
- Dascalu, S.-M. (2016), *The Solar Energy-Water-Environment Nexus Project in Nevada - An Example of Sociotechnical System*, Software Engineering class, Anglia Ruskin University, Cambridge, UK, November 10, 2016.
- Dascalu, S.-M. (2016), *Human-Computer Interaction: The rearview mirror and the road ahead*, Research Lecture Series, Anglia Ruskin University, Cambridge, UK, November 2, 2016.
- Dascalu, S.-M. (2016), *Human-Computer Interaction: A journey through a fast changing landscape*, NSF-EPSCoR Nexus Project, "CI Day at UNR," Reno, Nevada, May 2, 2016.
- Dascalu, S.-M. (2015), *Innovation in HCI: Milestones passed and the road ahead*, keynote talk,



World Usability Day at Pontificia Universidad Catolica de Valparaiso, Chile, November 13, 2015.

- Dascalu, S.-M. (2015). *Innovation and usability in HCI*, keynote talk, Jornadas Chilenas de Computation 2015 (JCC-2015) [Chilean Days of Computation 2015], Universidad Mayor, Santiago de Chile, November 12, 2015.
- Dascalu, S.-M. (2015). *Harnessing the power of computer science to support data-intensive research projects in Nevada*, keynote talk, International Conference on Information Technology: New Generations (ITNG-2015), Las Vegas, NV, April 14, 2015.
- Dascalu, S.-M. (2014). *The western consortium watershed analysis, visualization, and exploration (WC-WAVE) project*. Invited talk, the IEEE International Conference on Collaborative Technologies and Systems (CTS-2014), Minneapolis, MN, May 24, 2014.
- Dascalu, S.-M. (2013). *How can we help? Harnessing the power of computer science and engineering to facilitate environmental science research*. Research seminar, Laboratoire Informatique de Grenoble (LIG), University of Grenoble Alpes, France, June 19, 2013.
- Dascalu, S.-M. (2012). *A cyberinfrastructure project: Building the Nevada Climate Change Portal and its SENSOR system*. Keynote talk, joint International Conferences SEDE-2012 and ACC-2012, Los Angeles, CA, June 27, 2012.
- Dascalu, S. M. & M. McMahon (2012). *Nevada cyberinfrastructure for climate change research*. Talk at the UNR College of Engineering's Advisory Board Meeting, Reno, NV, March 30, 2012.
- Dascalu, S.-M. (2012). *Cyberinfrastructure developments for climate change science and education in Nevada*. Research Seminar, University of Milano-Bicocca, Italy, January 11, 2012.
- Dascalu S.-M. (2011). *Imagine a million file cabinets of climate data: The Nevada Climate Change Data Portal*. Nevada Climate Change Seminar Series, University of Nevada, Las Vegas, September 7, 2011.
- Dascalu S.-M. (2011). *A summary of my research and teaching at UNR*. Talk at the University Politehnica of Bucharest, Romania. Meeting organized as part of the Empowering Romanian Research and Intelligent Information Technology (ERRIC) European project activities. May 30, 2011.
- Dascalu S.-M. (2010). *CAVEMANDER: A software platform for building command-and-control applications in CAVE*. Research lecture series, University of Applied Sciences, Geneva, Switzerland, May 6, 2010.
- Dascalu S.-M. (2010). *Cyberstructure developments for climate change research, education and outreach in Nevada*. Research talk at Glyndwr University, Wrexham, Wales, UK, April 27, 2010.
- Dascalu S.-M. (2010). *Experience report on teaching Senior Projects on Computer Science and Engineering*. Talk at Langston University, Langston, OK, April 9, 2010.
- Dascalu S.-M. (2010). *Cyberinfrastructure developments for Nevada climate change research and education*. Talk at IEEE Oklahoma City section, Oklahoma City, OK, April 8, 2010.
- Dascalu S.-M. (2010). *CAVEMANDER: A software platform for building command-and-control applications in CAVE*. Talk at University of Alabama at Birmingham, March 3, 2010.
- Dascalu S.-M. (2010). *Cyberinfrastructure developments for Nevada climate change research, education and outreach*. Talk at University of Alabama at Tuscaloosa, March 2, 2010.
- Dascalu, S.-M. (2008). *A look at HCI topics as shown at youtube*, invited talk at the 1<sup>st</sup> Intl. Conf. on Advances in Human-Computer Interaction (ACHI-2008), St. Luce, Martinique, Feb. 12, 2008.
- Dascalu, S.-M., and Pasculescu, A. (2005). *Stratified Programming: Developing programs using strata*. Talk at the IEEE 2005 Oklahoma Symposium on Information Technology and Entrepreneurship (ITE-2005), Langston University, Oklahoma City, OK, April 20, 2005.

- Dascalu, S.-M. (2004). *Computer Science projects: From concept to prototype*, College of Engineering's Industry Day, University of Nevada, Reno, October 8, 2004.
- Dascalu, S.-M., (2004). *Strata-based software construction*, seminar talk part of the IEEE/CSE Colloquia Series, UNR, March 2004.
- Dascalu, S.-M., (2002). *Harmony: Approach and tool for combining semi-formal and formal notations in software specification*, Department of Computer Science, UNR, USA, March 26, 2002. Also presented on April 5, 2002 in the Dept. of Computer Science, University of Manitoba, Winnipeg, Canada, and on April 11, 2002 in the Dept. of Computing and Information Science, University of Guelph, ON, Canada.
- Dascalu, S.-M. (2002). *Combining graphical and formal notations in software specification: An approach and its supporting tool*, Department of Electrical and Computer Engineering, University of Western Ontario, London, Ontario, Canada, March 4, 2002.

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## AWARDS AND RECOGNITIONS

- Best Student Paper Award (advisor and co-author) – students Angela Chan and Alex Gamino. Paper "Integration of Assistive Technologies into 3D Simulations: An Exploratory Study" by Angela Chan, Alex Gamino, Sergiu Dascalu, and Frederick C. Harris, Jr., International Conference in Information Technology: New Generations (ITNG), 2016.
- Faculty Excellence Award, College of Engineering, UNR, 2014.
- Mentor of UNR Herz Gold Medalist – student James Bridegum, 2014.
- UNR Donald Tibbitts Distinguished Teacher Award 2011.
- UNR Outstanding Undergraduate Research Faculty Mentor Award 2011.
- Mentor of UNR College of Engineering's Senior Scholar (Steve Komarov), Spring 2011.
- Runner-up (2<sup>nd</sup> place), UNR Donald Tibbitts Distinguished Teacher Award 2010.
- Faculty Advisor Award 2009, NV Center for Entrepreneurship & Technology (NCET), April 2009.
- Lemelson Award for Innovation in Teaching & Research, College of Eng., UNR, April 2005.
- UNLV College of Education Collaboration Group Award, as part of a collaborative UNLV-UNR project team (of about 10 people) led by Dr. Michael Nussbaum, UNLV, 2010.
- Best Paper Award, the 21<sup>st</sup> Intl. Conf. on Computers and Their Applications in Industry and Engineering (CAINE-2008) Honolulu, HI, 2008. Paper "A Recursive Hyperspheric Classification Algorithm" by Saul Reed, Carl Looney, and Sergiu Dascalu.
- Best Paper Award, the 21<sup>st</sup> Intl. Conf. on Computers and Their Applications (CATA-2006) Seattle, 2006. Paper "vHand: A Human Hand Simulation System" by Beifang Yi, F. Harris, and S. Dascalu.
- Best Paper Award at the 11<sup>th</sup> Workshop for Information Technologies and Systems (WITS 2001), New Orleans, Louisiana, December 2001. Paper: "Harmony: An Environment for the Combined Use of UML and Z++ in Software Specification" by Sergiu Dascalu and Peter Hitchcock.
- Certificate of Appreciation for Service and Contributions to Organizing the 3<sup>rd</sup> Intl. Workshop on Collaboration and Virtual Environments (CoVE-2015) at CTS-2015, Atlanta, GA, June 2015.
- Certificate of Appreciation for Distinguished Service to CTS-2012 (International Conference on Collaborative Technologies and Systems) Denver, CO, May 2012.
- Certificate of Recognition and Appreciation for services and contributions to the organization of the 5<sup>th</sup> IEEE Intl. Conference on Information Technology: New Generations (ITNG-2008), Las Vegas, Nevada, Apr. 2008.

- Certificate of Recognition and Appreciation for services and contributions to the organization of the 4<sup>th</sup> IEEE Intl. Conference on Information Technology: New Generations (ITNG-2007), Las Vegas, Nevada, Apr. 2007.
- Recognition and Appreciation Award for contribution to the conference's organization, 18<sup>th</sup> Intl. Conf. on Computers Applications in Industry and Engineering (CAINE-2005), Honolulu, HI, November, 2005.
- Certificate of contribution to ITE-2005 Symposium (Information Technology and Entrepreneurship), Langston University, Oklahoma City, OK, April 2005.
- Scholarship for PhD studies, School of Computer Science, Technical University of Nova Scotia, Halifax, Canada, 1993/1994 to 1996/1997.
- Bruce & Dorothy Rosetti Award, Technical University of Nova Scotia, Canada, 1994/1995 and 1995/1996.
- Honorary mention for original solution to one of the problems of the final phase of the national contest for high school students Olympiad of Mathematics, Brasov, Romania, 1976.

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## NOMINATIONS

- Nominated by UNR for Nevada Regents' Teacher of the Year Award (2012 and 2013).
  - Nominated for the UNR Paul and Judy Bible Excellence Award (2018, decision is pending).
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## SERVICE ACTIVITIES & PROFESSIONAL AFFILIATIONS

### External Services

- Program Chair/Co-Chair (10 conferences): SEDE-2017 San Diego, CA; SEDE-2016 Denver, CO; HCI-2010, Maui, HI; SEDE-2009, Las Vegas, NV; ACHI-2008, St. Luce, Martinique; ICSEA-2007, Nice, France; ICSEA-2006, Tahiti; ICIW-2006/ENSYS-2006, Guadeloupe; CAINE-2005, Honolulu, HI; IASSE-2003, San Francisco, CA, 2003.
- Associate Editor (11 conference proceedings): SEDE-2017, SEDE-2016, SEDE-2009, ACHI-2008, ITNG-2008, ITNG-2007, ICSEA-2007, CAINE-2005, SERP-2004, SERP-2003, IASSE-2003.
- Session Chair/Co-Chair at over 30 international conferences:
  - SEDE-2017, San Diego, CA, October 2017 (chair of the keynote talk session)
  - OPTIM-2017, Brasov, Romania, May 2017 (session co-organizer and chair)
  - CTS-2015, Atlanta, GA, June 2015 (tutorial chair, 1 session)
  - CTS-2014, Minneapolis, MN, May 2014 (session chair, 1 session)
  - ICSOFT-2013, Reykjavik, Iceland, July 2013 (session chair, 1 session)
  - CTS-2012, Denver, CO, May 2012 (session chair, 2 sessions)
  - ICSOFT-2011, Sevilla, Spain, July 2011 (session chair, 1 session)
  - VLC-2010, Session on Visual Languages and Environments for Software Engineering, co-Chair with Dr. Kendra Cooper (University of Texas at Dallas), Oak Brook, IL, October 2010
  - Session on Cyberinfrastructure, Nevada Climate Change Conf., Las Vegas, NV, Feb. 2010.
  - VLC-2009, Session on Visual Languages and Environments for Software Engineering, co-Chair with Dr. Kendra Cooper (University of Texas at Dallas), San Francisco, CA, Sept. 2009

- ITNG-2009, Las Vegas, NV, April 2009 (session chair, 1 session)
  - ITNG-2008, Las Vegas, NV, April 2008 (session/track co-chair)
  - ACHI-2008, St. Luce, Martinique, French Caribbean, February 2008 (session chair)
  - ICSOFT-2007, Barcelona, Spain, July 2007 (session chair, 2 sessions)
  - SEDE-2007, Las Vegas, NV, July 2007 (session chair, 1 session)
  - IEEE ITNG-2007, Las Vegas, NV, April 2007 (session co-chair)
  - ICSEA-2006, Papeete, Tahiti, French Polynesia, October 2006 (session chair, 2 sessions)
  - VLC-2005, Banff, Alberta, Canada, September 2005 (session chair, 1 session)
  - SERP-2005, Las Vegas, NV, June 2005 (session co-organizer & chair)
  - CTS-2005, St. Louis, MO, May 2005 (session chair, 1 session)
  - IEEE ITE-2005, Oklahoma City, OK, April 2005 (session chair, 1 session)
  - CSITeA-2004, Cairo, Egypt, December 2004 (session co-organizer & chair)
  - SERP-2004, Las Vegas, NV, June 2004 (session co-organizer & chair)
  - CATA-2004, Seattle, WA, March 2004 (chair, 2 sessions)
  - SERP-2003, Las Vegas, NV, June 2003 (session organizer & chair)
  - SCI-2003, Orlando, FL, July 2004 (session chair, 2 sessions)
  - CATA-2003, Honolulu, HI, March 2004 (session chair, 2 sessions)
- Program Committee member for over 120 international conference events. Participations since 2008:
    - ICSOFT-2018, Porto, Portugal, July 2018
    - CSEDU-2018, Funchal, Portugal, March 2018
    - INTERACCION-2017 (HCI), Cancun, Mexico, September 2017
    - ITA-2017, Wrexham, Wales, UK, September 2017
    - HPCS-2017, Genoa, Italy, July 2017
    - DIS-2017, Edinburgh, Scotland, UK, June 2017
    - OPTIM-2017, Brasov, Romania, May 2017
    - CSEDU-2017, Porto, Portugal, April 2017
    - ICSOFT-2017, Madrid, Spain, July 2017
    - CTS-2016, Orlando, FL, November 2016
    - ICSAI-2016, Shanghai, China, November 2016
    - HPCS-2016, Innsbruck, Austria, July 2016
    - ICSOFT-2016, Lisbon, Portugal, July 2016
    - CSEDU-2016, Rome, Italy, April 2016
    - CATA-2016, Las Vegas, NV, March 2016
    - SEDE-2015, San Diego, CA, October 2015
    - CAINE-2015, San Diego, CA, October 2015
    - SEA-2015, Marina del Rey, CA, October 2015
    - ITA-2015, Wrexham, Wales, UK, September 2015
    - HPCS-2015, Amsterdam, The Netherlands, July 2015
    - ICSOFT-2015, Colmar, France, July 2015
    - CTS-2015, Atlanta, GA, June 2015
    - ICCIT-2015, Abu Dhabi, UAE, May 2015
    - CSEDU-2015, Lisbon, Portugal, May 2015
    - CATA-2015, Honolulu, HI, March 2015
    - CAINE-2014, New Orleans, LA, October 2014

- ICSOFT-2014, Vienna, Austria, September 2014
- VLC-2014 at DMS-2014, Pittsburgh, PA, August 2014
- CTS-2014, Minneapolis, MN, May 2014
- CSEDU-2014, Barcelona, Spain, April 2014
- CATA-2014, Las Vegas, NV, March 2013
- ITA-2013, Wrexham, Wales, UK, September 2013
- SEDE-2013, Los Angeles, CA, September 2013
- VLC-2013 at DMS-2013, Brighton, England, UK, August 2013
- ICSOFT-2013, Reykjavík, Iceland, July 2013
- ICSE-2013 (demos committee), San Francisco, CA, May 2013
- CTS-2013, San Diego, CA, May 2013
- rBPM-2012 at BPM-2012, Tallinn, Estonia, September 2012
- JCKBSE-2012, Rhodos Island, Greece, August 2012
- VLC-2012 at DMS-2012, Miami Beach, FL, August 2012
- ICSOFT-2012, Rome, Italy, July 2012
- SEDE-2012, Los Angeles, CA, June 2012
- IWSSA-2012 at CAiSE-2012, Gdansk, Poland, June 2012
- CTS-2012, Denver, CO, May 2012
- HCI-2012, Baltimore, MD, May 2012
- CSEDU-2012, Porto, Portugal, April 2012
- CAINE-2011, Honolulu, Hawaii, November 2011
- SBLP-2011, Sao Paulo, Brazil, September 2011
- ITA-2011, Wrexham, Wales, September 2011
- rBPM-2011 at BPM-2011, Clermont-Ferrand, France, September 2011
- VLC-2011 at DMS-2011, Florence, Italy, August 2011
- IIMSS-2011, Athens, Greece, July 2011
- ICSOFT-2011, Sevilla, Spain, July 2011
- IWSSA-2011 at CAiSE-2011, London, UK, June 2011
- SEDE-2011, Las Vegas, NV, June 2011
- CTS-2011, Philadelphia, PA, May 2011
- HCI-2011, Washington, DC, May 2011
- CSEDU-2011, Noordwijkerhout, The Netherlands, May 2011
- ICCIT-2011, Aqaba, Jordan, March 2011
- SPLASH-2010 (formerly OOPSLA) – demos committee, Reno, NV, October 2010
- SBLP-2010, Salvador, Bahia, Brazil, September 2010
- VLC-2010 at DMS-2010, Oak Brook, IL, October 2010
- rBPM-2010 at BPM-2010, Hoboken, NJ, September 2010
- HCI-2010 Maui, HI, August 2010
- IIMSS-2010, Baltimore, MD, July 2010
- ICSOFT-2010, Athens, Greece, July 2010
- SEDE-2010, San Francisco, CA, 2010
- CTS-2010, Chicago, IL, May 2010
- CSEDU-2010, Valencia, Spain, April 2010
- IWWSA-2009 at OTM-2009, Vilamoura, Portugal, November 2009
- HCI-2009, St. Thomas, Virgin Islands, November 2009
- ADVCOM-2009, Sliema, Malta, October 2009
- ICSEA-2009, Porto, Portugal, September 2009

- VLE-SE-2009 at VLC-2009/DMS-2009, San Francisco, CA, September 2009
  - ITA-2009, Wrexham, Wales, UK, September 2009
  - SBLP-2009, Gramado, Rio Grande do Sul, Brazil, August 2009
  - ICSoft-2009, Sofia, Bulgaria, July 2009
  - HCI KbE 2009 at IIMS-2009, Mogliano Veneto, Italy, July 2009
  - SNPD-2009, Daegu, Korea, May 2009
  - CTS-2009, Baltimore, MD, May 2009
  - CATA-2009, New Orleans, LA, April 2009
  - ITNG-2009, Las Vegas, NV, April 2009
  - CATA-2009, New Orleans, LA, April 2009
  - CSEDU-2009 Lisbon, Portugal, March 2009
  - ACHI-2009, Cancun, Mexico, February 2009
- Reviewer for the books:
    - Alejandro Pena-Ayala (editor), *Intelligent and Adaptive Educational-Learning Systems*, Springer, 2012 (reviewed 1 chapter)
    - Benjamin Wah (editor), *Encyclopedia of Computer Science and Engineering*, Wiley & Sons, 2008 (reviewed 1 chapter)
    - Pierre Tiako (ed.), *Designing Software-Intensive Systems*, IGI Global, 2007 (rev. 2 chapters).
    - Encyclopedia of Medical Devices and Instrumentation, 2006 (reviewed 1 chapter)
    - Roger Pressman, *Software Engineering: A Practitioner's Approach*, 6<sup>th</sup> Edition, McGraw-Hill, 2004 (reviewed the entire book).
- Reviewer for the journals:
    - Information Systems Frontiers (co-editor of a 2017 special issue on "Disaster Management and Information Systems")
    - Multimedia Tools and Applications
    - Computer Standards and Interfaces
    - Computer Languages, Systems, and Structures
    - Automated Software Engineering Journal
    - ACM Data Base for Advances in Information Systems
    - IEEE Transactions on Engineering Education
    - Journal of Science of Computer Programming
    - Journal of Systems and Software
    - Computer Security Journal
    - Journal of the Information Technology Research
    - Future Generation Computer Systems
    - Journal of Supercomputing
    - Transactions of the South African Institute of Electrical Engineers (SAIEE)
    - MDPI Future Internet
  - Attended the MGE@MSA Doctoral Mentorship Institute (mentoring of graduate students from under-represented groups) in 2006, 2007, and 2009.
  - Primary delegate of the Northern Nevada Section to the IEEE World Congress, 2005.
  - Member of NSF review panels for program solicitations Science of Design and Software Engineering and Programming Languages, 2007-2008.



- External referee for promotion and tenure applications of faculty members from:
  - Yarmouk University, Jordan, 2017
  - Glyndwr University, Wrexham, Wales, UK, 2015
  - International Islamic University of Malaysia (IIUM), 2014
  - Seattle University, WA, USA, 2012
  - University of Texas at Tyler, TX, USA, 2010
  - Glyndwr University, Wrexham, Wales, UK, 2008

### **Internal Services**

- Member of the UNR Outstanding Undergraduate Research Faculty Mentor Award committee (2012–2016, 2018).
- Member of UNR Undergraduate Research Awards review panels (2004 and 2005) and of the UNR Network for Undergraduate Research (since 2004).
- Member of College of Engineering's Faculty Excellence Awards committee (2017–2018).
- Member of College of Engineering's Curriculum Committee (2015–2016).
- Member of the College of Engineering's Scholarships Committee (2006–2009).
- Co-organizer (with Dr. Yantao Shen, EBME) of the College of Engineering's Senior Capstone Innovation Day, an event attended on average by about 600 participants (2014, 2016, 2018).
- Chair of the Faculty Evaluation Committee, CSE Department (for years 2010, 2011, 2013, 2014).
- Chair of the Assessment Committee, CSE Department (2011–2012).
- Chair of the CSE/EBME/IEEE Colloquia Committee (2004–2009).
- Chair of two Hiring Committees for administrative faculty, CSE Department (2009).
- Chair of the Search Committee for three big data positions (2014–2016).
- Chair of the Undergraduate Committee (2015–2016).
- Member of several Search Committees of the CSE Department (2003, 2006, 2008, 2012, 2018).
- Member of the Assessment Committee, CSE Department (2010–2011).
- Member of the Graduate Committee, CSE Department (2004–2007 and 2010–2015).
- Member of the Undergraduate Committee, CSE Department (2002–2004, 2007–2009, 2017–2018).
- Involved in several Nevada Bound events (orientation of high school students at UNR) and College of Engineering Days at UNR (since 2002).

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### **Professional Affiliations**

- Association of Computer Machinery (ACM), member since 2004.
  - Institute of Electrical and Electronics Engineers (IEEE), member since 2004.
  - IEEE Computer Society, member since 2004.
  - International Society for Computers and their Applications (ISCA), member since 2002.
  - IEEE, vice-chair (elected) of the Northern Nevada Section 2005-2010.
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