

William M. Jones, Ph.D.

Contact	Penny Hall Rm. 235 Professional Webpage Google Scholar	Coastal Carolina University Conway, SC, 29526 wjones@coastal.edu (o) (843) 349-4142
Current	Professor of Computer Science at Coastal Carolina University Guest Scientist at Los Alamos National Laboratory University Collaborator at Ultrascale Systems Research Center@LANL Adj. Asst. Prof. of Electrical and Computer Eng. at Clemson University	(2017 - present) (2023 - present) (2014 - present) (2012 - present)
Prior	Joint Faculty Researcher at National Security Education Center@LANL Guest Visitor at Los Alamos National Lab (NMC) Joint Faculty Researcher / Sabbatical at Los Alamos National Laboratory Chair of Computing Sciences at Coastal Carolina University Associate Prof. of Computer Science at Coastal Carolina University Research Scientist at Los Alamos National Lab (NMC) Visiting Professor of CS at Huaqiao University in Xiamen China Assistant Prof. of Computer Science at Coastal Carolina University Assistant Prof. of Electrical and Computer Eng. at US Naval Academy Vist. Inst. of Electrical and Computer Eng. at Clemson University GTR of Electrical and Computer Eng. at Clemson University Adjunct Faculty of Mathematics at Tri-County Technical College Res. Associate for Dept. of Physics and Astronomy at Clemson University Res. Assistant in Electrical and Computer Eng. at Clemson University	(2019 - 2023) (Summers 20{14,18,19,20,21,22}) Spring 2019 (2012 - 2018) (2013 - 2017) (Summers 20{15,16,17}) (12/2015,02/2017) (2008-2013) (2006-2008) (2006) (2003 - 2005) (2002-2003) (2002) (1999 - 2002)
Education	Clemson University <i>Ph.D. in Computer Engineering</i> Emphasis: Parallel computing GPA: 3.87/4.00 <i>M.S. in Computer Engineering</i> Emphasis: Computer system architecture GPA: 3.79/4.00 <i>B.S. in Computer Engineering</i> Minor: Modern languages with emphasis in Spanish Ranked: 2 nd out of 23 in major, 56 th out of 1378 in the university. Summa Cum Laude with Departmental Honors GPA: 3.90/4.00 Coastal Carolina University <i>B.A. in Spanish</i> GPA: 4.00/4.00	Clemson SC 2001–2005 1999–2000 1995–1999 Conway SC 2013–2017
Research Experience	Coastal Carolina University – CS Department <i>Assistant & Associate Professor & Professor:</i> Conducting resilience studies in the context of parallel and distributed systems, particularly in computational grids and parallel file systems. Investigating the deployment of field-programmable gate arrays across several computer science courses. Mentored several CCU and Clemson students in undergraduate research projects in conjunction with Los Alamos National Laboratory and Clemson University. New Mexico Consortium / Los Alamos Nat. Lab. – USRC <i>Research Scientist:</i>	Conway SC June 2008–present Los Alamos NM May/June 2015, May 2016, July/August 2017 Studied algorithm-based fault tolerance mechanisms for matrix multiplication and fast fourier transform under soft-error fault injection by working in conjunction with a team from the Ultra Scale Research Center (USRC) of the NMC.

United States Naval Academy – ECE Department**Annapolis MD***Assistant Professor:*

August 2006–May 2008

Expanded existing job scheduling research to include simulation-based studies of application resilience and job checkpointing.

Clemson University – ECE Department**Clemson SC***Research Assistant:* August 1999–December 2001, August 2002–December 2005

Conducted research for Dr. Walt Ligon in the area of computational cluster allocation, scheduling, and resource management simulation and system software. Lead the design and implementation efforts of our custom multi-cluster simulator. Mentored two masters students and one undergraduate. Presented published results at two well known conferences. Demoed our work at Supercomputing 2004 as part of the NASA booth.

Clemson University – Department of Physics and Astronomy**Clemson SC***Research Associate:*

January 2002–August 2002

Conducted research for Dr. Michael Hickey in the area of parallel numerical simulations. Ported existing simulation code from Windows Digital Visual FORTRAN to Linux GNU FORTRAN. Parallelized simulation using MPI for deployment on computational clusters.

Teaching Experience**Coastal Carolina University – CS Department****Conway SC***Asst/Asc/Full Professor:*

Summer '08 - present

(15) Taught PHYS 235, a calculus-based introductory AC/DC electric circuit theory course. (*taught for the department of applied physics and engineering sciences*)

(14) Taught CSCI 110, a service course that includes a treatment of enterprise business applications.

(13) Taught CSCI 130, an introduction to computer science based on the Brookshear textbook.

(12) Taught CSCI 130L, an introductory programming laboratory course using the Python programming language.

(10,11) Taught CSCI 140 and 140L, a first course in Java (or C) programming that includes treatment of data types, condition, iteration, functions and basic file I/O and exception handling.

(9) Taught CSCI 150, a second course in Java (or C++) programming that includes treatment of OO-design and an introduction to elementary data structures and algorithms.

(8) Taught CSCI 170, an introduction to professional ethics, particularly focused on computer security, privacy, and cyber-ethical issues.

(7) Taught CSCI 207, an advanced introduction to programming in C and C++ in the Linux environment.

(6) Taught CSCI 209, an advanced intriduction to programming in JAVA using Eclipse. (China, 2015,2017).

(5) Taught CSCI 210, an introduction to computer organization and assembly programming, including a strong component of combinational logic design and implementation on an FPGA. (*completely revised course content to integrate new lab hardware*)

(4) Taught CSCI 307, an introduction to electrical engineering that focused primarily on AC/DC circuit analysis and complex power.(*created new course in support of the CCU / Clemson University 3+2 engineering program*)

(3) Taught CSCI 310, an introduction to computer architecture, including a strong component of sequential logic design on an FPGA and advanced assembly programming.

(2) Taught CSCI 425, a database systems course that includes an analysis of functional dependencies, normal forms, relational-algebra, as well as hands-on development of complete database driven applications and systems.

(1) Taught CSCI 473, an introduction to parallel computing, including a strong component of performance metrics, algorithm analysis, and programming using MPI and OpenMP.

United States Naval Academy – ECE Department**Annapolis MD***Assistant Professor:*

F '06 - S '08

(4) Taught EE 242, a digital logic course including synchronous state machine design and implementation as well as an introduction to VHDL and PLD/FPGA programming.

(2,3) Taught EE 301 and 302, a non-major core course sequence in DC/AC circuit analysis and communications including phasors, power-factor correction, synchronous machines, AM, FM, spread-spectrum, and LAN networking.

(1) Taught EE 488, a senior-level course in computer architecture.

Clemson University – ECE Department**Clemson SC***Visiting Instructor:*

S '06

(3) Taught ECE 329, an operating systems course that addresses fundamental structures and issues that arise in the analysis and implementation of computer systems.

Graduate Teacher of Record:

S '03–S '05, S '06

(2) Taught ECE 307, a first course in electrical engineering to provide non-Electrical Engineering majors with a knowledge of DC and AC circuit theory, AC power distribution, electrical devices, and an introduction to computer engineering and digital systems.

Teaching Assistant:

F '99–F '02

(1) Taught ECE L371, a C language oriented microcomputer interfacing laboratory, and served as a mentor to other teaching assistants for several semesters.

Tri-County Technical College – Department of Mathematics**Pendleton SC***Adjunct Faculty:*

F '02, S '03, Summer '03

(2) Taught MAT 102, an intermediate algebra course.

(1) Taught MAT 110, a college algebra course.

Industry Experience**Square D Company – Engineering Systems****Nashville TN; Cedar Rapids IA***Student Engineer:*

Summers 1998, 1997

Designed and implemented GUI report generation tool. Assisted in development of training class. Designed and implemented PERL-based HTML search tool. Learned CADD 5 CAD interface and basic usage.

Santee Cooper – Management Information Systems**Conway SC***Student Analyst:*

Summer 1996

Implemented and administered Novell NetWare networks. Installed and configured client-side workstations and applications. Provided technical support and troubleshooting.

Continuing Education**Clemson University Office of Teaching Effectiveness and Innovation****Date Taken**

(5) Workshop: Learning Gains in Large Classes: Best Practices 01-07-2005

(4) Blackboard Introductions: Getting Started 01-06-2005

(3) Workshop: Course Design and Development Made Easy and Logical 08-06-2004

(2) Workshop: How to Get Your Students to Do the Readings 07-28-2004

(1) Workshop: Teaching and Managing Large Classes 07-14-2004

Professional Service

(8) Registered Reviewer for the J. of Parallel and Distributed Computing 2006 - present

(7) Registered Reviewer for the Cluster Computing Journal 2009 - present

(6) Prog. Comm. for SRMPDS at IACC Intl. Conf. on Parallel Processing 2008 - present

(5) Prog. Comm. for Intl. Conf. on Electro/Information Technology 2008

(4) Reviewer for EuroPar (Scheduling and Load Balancing - Topic 3) 2008

(3) Prog. Comm. for SRMPDS at IEEE Intl. Conf. on Parallel and Dist'd. Systems 2007

(2) Prog. Comm. for GreenCom at IEEE Cluster 2007

(1) Committee Co-Chair for IEEE SoutheastCon (Software Competition) 2001

Extramural Service	(10) Conway High School , Conway, SC	
	. Career and Technology Education Advisory Committee (CTE)	2021 - present
	(9) St. James High School , Murrells Inlet, SC	
	. Career and Technology Education Advisory Committee (CTE)	2020 - present
	(8) Horry Georgetown Technical College , Conway, SC	
	. External Advisory Committee for Information Technology	2014 - present
	(7) Horry County School District , Conway, SC	
	. Career and Technology Education Advisory Committee	2017 - present
	(6) South Carolina Academy of Science , Columbia, SC	
	. Selection Committee for Governor's Awards for Excellence in Science	2012 - 2022
	. Judging College Science Fair – Trident Tech	April 5th, 2014
	(5) Clemson University , Clemson, SC	
	. PhD Committee Member – ECE Department	2013 - 2018
	. Xeon Phi Training Workshop w/ CCU students	Sept 2014
	. Adjunct Assistant Professor	2012 - present
	(4) National Science Foundation , Washington DC	
	. XSEDE Campus Champion	2013 - 2022
	. Panel Reviewer - Cyber-Physical Systems	April 2015
	(3) Conway High School , Conway, SC	
	. Career and Technology Advisory Committee	2014 - 2015
	. On-site ROTC Presentation on CS, IS, and IT	2015
. CCU Department Tour and Presentation for ROTC students	2015	
(2) Other Community Outreach , various		
. Creek Bridge High School On-site Visit	May 2, 2016	
. North Vista Tigerbots Depart. Tour / Robotics	Feb. 2, 2016	
. Great Decisions Foreign Policy Presenter	Feb 2015	
(1) Televised Interviews with Local Media , various		
. WPDE – Mitigating Hacking	July 18, 2016	
. WPDE – Credit Card Chips	Mar. 2, 2016	
. WMBF – Ransomware	Feb. 10, 2016	

Service	Coastal Carolina University	Conway SC
	(15) University ChantiCREW Volunteer Shift Freshmen Move-in	Summer 2021
	(14) University Sino-American Cooperation on Higher Education and Professional Development (CHEPD) Faculty Fellow	2019 - present
	(13) University Organizer for \$1M endowment for MS IST	2015 - 2018
	(12) University Prospective Student Faculty Call Campaign	2013 - 2015
	(11) University Graduate Faculty	2016 - present
	(10) University Celebration of Inquiry Presenter	2014, 2016
	(9) University New Chairs Academy Presenter	2014, 2016
	(8) University Taught at Huaqiao University - Xiamen, China	Dec. 2015, Feb. 2017
	(7) University CeTEAL Contributor	Dec 2015
	(6) University Great Decisions Foreign Policy Presenter	Feb 2015
	(5) University Interview for CCU Giving Campaign	2015
	(4) University Experiential Learning Fair Presenter	2012
	(3) University Campus Security Authority	Fall 2011 - 2013
	(2) University Faculty Senate Member	Fall 2010 - Spring 2011
	(1) University Judicial Board Member	Spring 2009
	(8) College GUPTA COS P&T Committee	2020 - present
	(7) College "One Talk One Time Presenter"	2013 - 2021
	(6) College Grand Strand Tech Expo Presenter	2012 - 2015
	(5) College Computational Linguistics Project	2015
	(4) College Advising Workshop Contributor	2014

- (3) **College** COS Board of Visitors Presenter April 2014
- (2) **College** COS Progression Mag. Contributor Winter 2013
- (1) **College** Committee on Revising Student Eval. Forms Fall 2009 - Fall 2010

- (19) **Departmental** “Graduate School and Internships Talk” Fall20{19,21,22}
- (18) **Departmental** Search Chair (Lecturer) Summer 2022
- (17) **Departmental** Search Chair (AP) 2021 - 2022
- (16) **Departmental** Search Chair (AP) 2020 - 2021
- (15) **Departmental** Curriculum Oversight Committee Fall 2020 - present
- (14) **Departmental** Computer Science Curriculum Committee Fall 2018 - present
- (13) **Departmental** Chair of Computing Sciences Aug. 2012 - Aug. 2018
- (12) **Departmental** Aided in MS IST Creation 2015
- (11) **Departmental** UPE Concluding Remarks Speaker Fall 2012 - 2017
- (10) **Departmental** Numbers and Bytes Presenter 2015, 2016
- (9) **Departmental** ABET Assessment Committee 2008 - 2012
- (8) **Departmental** Theoretical Track Curriculum Committee 2008 - 2013
- (7) **Departmental** Faculty Search Committee 2009 - 2010
- (6) **Departmental** Numbers and Bytes Club Faculty Adviser 2009 - 2014
- (5) **Departmental** Project Mentor (Machine Language Simulator) 2008 - 2009

- United States Naval Academy, Elec. and Comp. Eng. Dept** **Annapolis MD**
- (4) **Departmental** Curriculum Committee Member 2006 - 2008
 - (3) **Departmental** Recruitment Committee Member 2006 - 2008
 - (2) **Departmental** Project Mentor (Voice Transformation Device) 2006 - 2007
 - (1) **Departmental** Project Mentor (Improvised Explosive Device Detector) 2007 - 2008

Contracts and Grants

Submitted since appointment at Coastal Carolina University as Professor

Total awarded as Professor: **\$2,198,645**, (*\$2,198,645 externally, \$0.00 internally, \$2,198,645 as PI*) (**\$2,295,835** – through 8/2029, overall while at CCU)
(*values represent awarded amounts, not necessarily expenditures*)

(19) (*awarded*) – “Applied Machine Learning”, New Contract from Los Alamos National Laboratory, William M. Jones (PI), 8/16/2024-8/15/2029, (fully executed 03/14/2024), **\$531,621.00**, five years, (*externally funded*).

(18) (*awarded*) – “HPC Storage Exploration”, New Contract from Los Alamos National Laboratory, William M. Jones (PI), 7/1/2024-6/30/2027, (executed 6/4/2024), **\$248,113.00**, three years, (*externally funded*).

(17) (*awarded*) – “HPC Storage System Exploration”, New Contract from Los Alamos National Laboratory, William M. Jones (PI), 7/21/2023-6/30/2024, **\$55,000.00**, one year, (*externally funded*).

(16) (*awarded*) – “Scheduling Simulation for Production HPC”, New Contract from Los Alamos National Laboratory, William M. Jones (PI), Craig Walker (CCU staff), 1/06/2023-9/30/2025, **\$659,045.00**, three years, (*externally funded*).

(15) (*awarded*)– “Contract Modification for HPC Scheduler Research”, Contract modification to increase funding / expand the scope of work from Los Alamos National Laboratory, William M. Jones (PI), Craig Walker, 8/16/2021-8/15/2022, **\$54,322.00**, change in ceiling amount, one year, (*externally funded*).

(14) (*awarded*) – “HPC Scheduler Resilience Research”, New Contract from Los Alamos National Laboratory, William M. Jones (PI), Dylan Wallace, Craig Walker, Braeden Slade, Gavin Bailey, Blakley Parker, Nicklaus Przybylski (Coastal Carolina undergraduates / graduates), 8/16/2019-8/15/2024, **\$468,944.00**, five years, (*externally funded*).

(13) (*awarded*) – “Algorithm-based Fault Tolerance using F-SEFI”, Contract Modification and Extension, New Mexico Consortium, Los Alamos National Laboratory, William M. Jones (PI), Alex Poulos, Megan Hickman, Dakota Fulp, Dan Hine, Dylan Wallace, Cannon McIntosh (Coastal Carolina undergraduates / graduates), 9/01/2017-9/30/2019, **\$127,602.63**, (*externally funded*).

**Contracts
and Grants**

Submitted during appointment at Coastal Carolina University as Associate Prof.

Total awarded: **\$81,010.58** (\$81,010.58 externally, \$0.00 internally, \$81,010.58 as PI)

(12) (*awarded*) – “Algorithm-based Fault Tolerance using F-SEFI”, Contract Modification and Extension, New Mexico Consortium, Los Alamos National Laboratory, William M. Jones (PI), Scott Lavigne, Alex Poulos, Terry Grove (Coastal Carolina undergraduates), 10/18/2016, **\$24,239.72**, one year, (*externally funded*).

(11) (*awarded*) – “Algorithm-based Fault Tolerance using F-SEFI”, Contract Modification and Extension, New Mexico Consortium, Los Alamos National Laboratory, William M. Jones (PI), Claude Davis (Clemson undergraduate), Scott Lavigne (Coastal Carolina undergraduate), 9/29/2015, **\$38,000.00**, one year, (*externally funded*).

(10) (*awarded*) – “Algorithm-based Fault Tolerance using F-SEFI”, New Mexico Consortium, Los Alamos National Laboratory, William M. Jones (PI), Claude Davis (Clemson undergraduate), 11/01/2014, **\$13,000.00**, one year, (*externally funded*).

(9) (*awarded*) – “Supercomputing 2013 Travel Expenses – Booth Presentation on Computational Discovery at Coastal Carolina University”, Clemson University Cyberinstitute, William M. Jones (PI), Brian W. Atkinson (CCU undergraduate), 11/16/2013, **\$3,376.96**, (*externally funded*).

(8) (*awarded*) – “XSEDE 2013 Travel Expenses – Invitation to become a member of the XSEDE Campus Champion Program”, Clemson University Cyberinstitute, William M. Jones (PI), 7/22/2013, **\$2,393.90**, (*externally funded*).

**Contracts
and Grants**

Submitted during appointment at Coastal Carolina University as Assistant Prof.

Total awarded: **\$70,177.04** (\$69,377.04 externally, \$800.00 internally, \$63,360.04 as PI)

(7) (*awarded*) – “NVIDIA CUDA Teaching Center Program”, NVIDIA Corporation, William M. Jones (PI), D. Brian Larkins (CO-I), H. Erin Rickard (CO-I), 05/01/2012, CCU #34-1806, **\$5,045.50**, equipment donation, (*external grant*).

(6) (*not awarded*) – “Establishment of a Center for Computational Science to Enhance Research and Education”, NSF/SC EPSCoR/IDeA Track II Pre-proposal, Michael Roberts (PI), D. Brian Larkins (CO-I), Varavut Limpasuvan (CO-I), William M. Jones (CO-I), 11/18/2011, submitted and accepted at state-level, but NSF withdrew all Track II money, **\$187,040.34**, (*external grant*).

(5) (*awarded*) – “Building Redundancy into OrangeFS”, Clemson University/US Department of Energy, Subaward # 1536-219-2007492 via Primary Award # DE-SC0001984, William M. Jones (PI), 06/01/2011 - 08/31/2012, CCU #31-2723, **\$54,236.00**, (*external contract*).

(*Note: CCU computer science undergraduates, Brian Atkinson and Ben Whetstone hired for a 15-month period and Ben Whetstone, for a 3-month period.*)

(4) (*awarded*) – “LittleFE 2011 Buildout Event Travel and Conference Award”, Supercomputing Education Program and the Shodor Education Foundation, D. Brian Larkins (PI), William M. Jones (CO-I), 06/2011, CCU #34-2317, **\$6,817.00**, (*external grant*).

(3) (*awarded*) – “Professional Activities Mini-grant”, Coastal Carolina University/College of Science, William M. Jones (PI), 02/03/2011, **\$800.00**, (*internal grant*), (with D. Brian Larkins).

(2) (*awarded*) – “Supercomputing 2010 Travel Expenses”, Clemson University Cyberinstitute, TA#T0636, 2007492-Cyberinstitute-DOE#2-2803, William M. Jones (PI), 11/13/2010, reimbursed, **\$2693.14**, (*externally funded*).

(1) (*awarded*) – “Resilience Seminar Invited Talk Travel Expenses”, Los Alamos National Laboratory/Center for Non-linear Studies, HPC-5 / 3V050A, William M. Jones (PI), 07/06/2009 - 07/17/2009, reimbursed, **\$585.40 + per diem**, (*externally funded*).

Publications
(Section I)

Obtained since appointment at Coastal Carolina University as Professor

- (33) William M. Jones, Craig Walker, Vivian Hafener, Warren Graham, Nathan DeBardeleben, Steven Senator, “[Incorporating Staggered Planned Maintenance Reservations to Improve Performance in Computational Clusters](#), ” **IEEE Conference of Cluster Computing / Workshop on Monitoring and Analysis for High Performance Computing Systems Plus Applications**, October 2023.
- (32) Nicklaus Przybylski, William M. Jones, Nathan DeBardeleben, “[Online Detection and Classification of State Transitions of Multivariate Shock and Vibration Data](#), ” **IEEE High Performance Extreme Computing (HPEC) 2022**, September 2022.
- (31) Yun Sil Jeon, Alejandro Muñoz Garcés, Lindsey Bell, William M. Jones, “[Secuencia Gramatical para la Enseñanza del Español como Lengua Extranjera: Nuevas Ideas](#)” **Revista Iberoamericana de Lingüística: RIL** , N 16, pps. 59-76, ISSN 1887-407X, December 2021.
- (30) Nathan DeBardeleben, Tom Burr, Stephen Penton, Craig Walker, Josip Loncaric, William M. Jones, “[Statistical Framework for Two-Party Acceptance Testing of HPC Systems for Reliability](#), ” **Fault Tolerance for HPC at eXtreme Scale (FTXS) Workshop at The International Conference for High Performance Computing, Networking, Storage, and Analysis (SC21)** , November 2021.
- (29) Craig Walker, Braeden Slade, Gavin Bailey, Nicklaus Przybylski, Nathan DeBardeleben, William M. Jones, “[Exploring the Tradeoff Between Reliability and Performance in HPC Systems](#), ” **IEEE High Performance Extreme Computing (HPEC) 2021**, September 2021.
- (28) Dylan Wallace, William M. Jones, Robert Robey, Laura Monroe, Terry Grové, Nathan DeBardeleben, “[Impact of Contextual Error Correction Techniques in CLAMR](#) ”, **IEEE SoutheastCon 2020** , March 2020.
- (27) Alexandra Poulos, Dylan Wallace, Robert Robey, Laura Monroe, Vanessa Job, Sean Blanchard, William M. Jones, Nathan DeBardeleben, “[Improving Application Resilience by Extending Error Correction with Contextual Information](#) ”, **Fault Tolerance for HPC at eXtreme Scale (FTXS) Workshop at The International Conference for High Performance Computing, Networking, Storage, and Analysis (SC18)** , November 16, 2018.
- (26) Megan Hickman, Dakota Fulp, Elisabeth Baseman, Sean Blanchard, Hugh Greenburg, William M. Jones, Nathan DeBardeleben, “[Enhancing HPC System Log Analysis by Identifying Message Origin in Source Code](#) ”, **The 29th IEEE International Symposium on Software Reliability Engineering (ISSRE 2018): Industry Track** , October 15-18, 2018.

Publications
(Section II)

Obtained since appointment at Coastal Carolina University as Associate Professor

(25) Laura Monroe, [William M. Jones](#), Scott R. Lavigne, Claude H. Davis IV, Qiang Guan and Nathan DeBardleben, “[On the Inherent Resilience of Integer Operations](#)”, **Euro-par 2016: 22nd International European Conference on Parallel and Distributed Computing / 9th Workshop on Resiliency in High Performance Computing (Resilience) in Clusters, Clouds, and Grids**, August 22 - 26, 2016 (*accepted for publication, in press*).

(24) Qiang Guan, Nathan DeBardleben, Sean Blanchard, Song Fu, Claude H. Davis IV, and [William M. Jones](#) “[Analyzing the Robustness of HPC Applications Using a Fine-Grained Soft Error Fault Injection Tool](#)”, **Innovative Research and Applications in Next-Generation High Performance Computing**, IGI Global, DOI: 10.4018/978-1-5225-0287-6.ch011, June, 2016 (*book chapter, in print*).

(23) Laura Monroe, [William M. Jones](#), Scott R. Lavigne, Claude H. Davis IV, Qiang Guan and Nathan DeBardleben, “[On the Resilience of Integer Operators](#)”, **SELSE 2016 – 12th Workshop on Silicon Errors in Logic - System Effects**, Austin, TX, USA, March 29-30, 2016 (*paper and poster; article copyright retained, informal proceedings only on USB distribution, poster published with conference*).

(22) Qiang Guan, Nathan DeBardleben, Brian Atkinson, Robert Robey, [William M. Jones](#), “[Towards Building Resilient Scientific Applications: Resilience Analysis on the Impact of Soft Error and Transient Error Tolerance with the CLAMR Hydrodynamics Mini-App](#)”, **CLUSTER 2015 – 2015 IEEE International Conference on Cluster Computing**, Chicago, IL, USA, September 8-11, 2015 (*paper and presentation*).

(21) Brian Atkinson, Walter Ligon III, Nathan DeBardleben, Qiang Guan, Sean Blanchard, Bob Robey, [William M. Jones](#), “[Fault Injection, Detection, and Correction in CLAMR Using F-SEFI](#)”, **Salishan 2015 – Conference on High Speed Computing**, Gleneden Beach, Oregon, April 27, 2015, (*poster, by invitation only at annual US DOE tri-lab conference, no official dissemination*).

(20) Brian Atkinson, Walter Ligon III, Nathan DeBardleben, Qiang Guan, Sean Blanchard, Bob Robey, [William M. Jones](#), “[Fault Injection, Detection, and Correction in CLAMR Using F-SEFI](#)”, **SC14 – International Conference for High Performance Computing, Networking, Storage and Analysis**, New Orleans, LA, November 17-21, 2014, (*two-page abstract and poster*).

(19) Brian Atkinson, Nathan DeBardleben, Qiang Guan, Bob Robey, [William M. Jones](#), “[Fault Injection Experiments With the CLAMR Hydrodynamics Mini-App](#)”, **Proceedings of the 25th IEEE International Symposium on Software Reliability Engineering (ISSRE)**, November 3-6, 2014, Naples, Italy, doi:10.1109/ISSREW.2014.51 (*paper and presentation*).

(18) D. Brian Larkins, [William M. Jones](#) and H. Erin Rickard, “[Using FPGAs as a Reconfigurable Teaching Tool Throughout CS Systems Curriculum](#)”, **Proceedings of the 44th ACM technical symposium on Computer Science Education**, March 6, 2013, Denver, CO, doi:10.1145/2445196.2445316 (*paper and presentation*).

Publications
(Section III)

Obtained during appointment at Coastal Carolina University as Assistant Professor

(17) William M. Jones and D. Brian Larkins, “[Introduction to Using FPGAs in the Computer Science Curriculum](#)”, Workshop 10 SIGCSE ‘12, **Proceedings of the 43rd ACM technical symposium on Computer Science Education**, (three-hour workshop presentation with peer-reviewed abstract publication), February 29, 2012, Raleigh, NC, doi:10.1145/2157136.2157333. (*abstract and workshop presentation*).

(16) D. Brian Larkins, H. Erin Rickard, and [William M. Jones](#), “[Using FPGAs Across the Computer Science Curriculum](#)”, Poster 17 SIGCSE ‘12, **Proceedings of the 43rd ACM technical symposium on Computer Science Education**, (poster presentation and peer-reviewed abstract publication), February 29, 2012, Raleigh, NC, doi:10.1145/2157136.2157379. (*abstract and poster presentation*).

(15) [William M. Jones](#), John T. Daly, Nathan A. DeBardleben, “[Application Monitoring and Checkpointing in HPC: Looking Towards Exascale Systems](#)”, **50th ACM Southeast Regional Conference, ACMSE 2012**, Tuscaloosa, AL, USA, March 29-31, 2012, pp. 262-267, doi:10.1145/2184512.2184574.

(14) [William M. Jones](#) and D. Brian Larkins, “[Integrating Digital Logic Design and Assembly Programming Using FPGAs in the Classroom](#)”, **49th ACM Southeast Regional Conference, ACMSE 2011**, Kennesaw, Georgia, March 24-26, 2011, pp. 13-18, doi:10.1145/2016039.2016053.

(13) D. Brian Larkins and [William M. Jones](#), “[Targeting FPGA-based Processors for an Implementation-Driven Compiler Construction Course](#)”, **49th ACM Southeast Regional Conference, ACMSE 2011**, Kennesaw, Georgia, March 24-26, 2011, pp. 31-35, doi:10.1145/2016039.2016056.

(12) [William M. Jones](#), John T. Daly, Nathan A. DeBardleben, “[Impact of Sub-optimal Checkpoint Intervals on Application Efficiency in Computational Clusters](#)”, **19th ACM International Symposium on High Performance Distributed Computing, HPDC 2010**, Chicago, Illinois, June 20-25, 2010, pp. 276-279, doi:10.1145/1851476.1851509.

(11) John Stamey and [William M. Jones](#), “Green Web Science”, **Web Science Conference 2010**, Raleigh, North Carolina, April 26-27, 2010 (*abstract*).

(10) [William M. Jones](#), “[Network-aware Selective Job Checkpoint and Migration to Enhance Co-allocation In Multi-cluster Systems](#)”, **Journal of Concurrency and Computation: Practice and Experience**, Special Issue: Advanced Strategies in Grid Environments, September 10, 2009, v. 21, n. 13, pp. 1672-1691, doi:10.1002/cpe.1394.

Publications
(Section IV)

Obtained during appointment at US Naval Academy as Assistant Professor

- (9) [William M. Jones](#), John Daly, Nathan DeBardeleben, “[Application Resilience: Progress in Spite of Failure](#)”, **Workshop on Resiliency in High-Performance Computing, held in conjunction with the 8th IEEE International Symposium on Cluster Computing and the Grid**, Lyon, France May, 2008, pp. 789-794, doi:10.1109/CCGRID.2008.99.
- (8) [William M. Jones](#), “[Using Checkpointing to Recover from Poor Multi-site Parallel Job Scheduling Decisions](#)”, **The 5th International Workshop on Middleware for Grid Computing (MGC 2007), held in conjunction with the ACM/IFIP/USENIX 8th International Middleware Conference 2007**, Newport Beach, California, November 2007, doi:10.1145/1376849.1376851.
- (7) [William M. Jones](#), “[The Impact of Error in User-Provided Bandwidth Estimates on Multi-site Parallel Job Scheduling Performance](#)”, **19th IASTED International Conference on Parallel and Distributed Computing and Systems**, Cambridge, Massachusetts, November 19, 2007.

Publications
(Section V)

Obtained before appointment at US Naval Academy as Assistant Professor

- (6) [William M. Jones](#), Walter B. Ligon III, “[Ensuring Fairness Among Participating Clusters During Multi-site Parallel Job Scheduling](#)”, **International Conference on Parallel and Distributed Computing, Second International Workshop on Scheduling and Resource Management for Parallel and Distributed Systems**, Minneapolis, Minnesota, July 12, 2006, pp. 109-114, doi:10.1109/ICPADS.2006.44.
- (5) [William M. Jones](#), Walter B. Ligon III, Nishant Shrivastava, “[The Impact of Information Availability and Workload Characteristics on the Performance of Job Co-allocation in Multi-clusters](#)”, **International Conference on Parallel and Distributed Computing**, Minneapolis, Minnesota, July 12, 2006, pp. 123-134, doi:10.1109/ICPADS.2006.105.
- (4) [William M. Jones](#), Louis W. Pang, Daniel Stanzione, Walter B. Ligon III, “[Characterization of Bandwidth-aware Meta-schedulers for Co-allocating Jobs Across Multiple Clusters](#)”, **Journal of Supercomputing, Special Issue on the Evaluation of Grid and Cluster Computing Systems**, Springer Science and Business Media B.V, Vol. 34, No. 2, November 2005, pp. 135 - 163, doi:10.1007/s11227-005-2337-x.
- (3) [William M. Jones](#), Louis W. Pang, Daniel Stanzione, Walter B. Ligon III, “[Bandwidth-aware Co-allocating Meta-schedulers for Mini-grid Architectures](#)”, **International Conference on Cluster Computing (Cluster)**, September 2004, pp. 45 - 54, doi:10.1109/CLUSTER.2004.1392600.
- (2) [William M. Jones](#), Louis W. Pang, Daniel Stanzione, Walter B. Ligon III, “[Job Communication Characterization and its Impact on Meta-scheduling Co-allocated Jobs in a Mini-grid](#)”, **International Parallel and Distributed Processing Symposium (IPDPS): Workshop on Performance Modeling, Evaluation, and Optimization of Parallel and Distributed Systems**, April 2004, doi:10.1109/IPDPS.2004.1303317.
- (1) Nathan A. DeBardeleben, Adam Hoover, [William M. Jones](#), Walter B. Ligon III, “[Parallelization Techniques for Spatial-Temporal Occupancy Maps from Multiple Video Streams](#)”, **International Parallel and Distributed Processing Symposium (IPDPS): Workshop on Parallel and Distributed Computing in Image Processing, Video Processing, and Multimedia**, pp. 202–209, May 2000, doi:10.1007/3-540-45591-4_27.

**Invited
Talks**

(Section I)

Given since appointment at Coastal Carolina University as Associate Professor

(14) “Multiplicative Resilience: A Soft Error Fault Injection Study”, Clemson University Booth, **International Conference for High Performance Computing, Networking, Storage, and Analysis**, November 19, 2015, Austin, TX.

(13) “Multiplicative Resilience: A Double-Edged Sword”, New Mexico Consortium / Ultra Scale Research Center, **Los Alamos National Laboratory**, June 4, 2015, Los Alamos, NM.

(12) “Evaluating the Fault-Tolerance of the CLAMR Hydrodynamics Mini-App with the F-SEFI Fault Injector”, Clemson University Booth, **International Conference for High Performance Computing, Networking, Storage, and Analysis**, November 19, 2014, New Orleans, LA.

(11) “ABFT Matrix Multiplication: Theory, Practice, ... & more Practice”, New Mexico Consortium / Ultra Scale Research Center, **Los Alamos National Laboratory**, July 27, 2014, Los Alamos, NM.

(10) “Computational Discovery at Coastal Carolina University”, Clemson University Booth, **International Conference for High Performance Computing, Networking, Storage, and Analysis**, November 19, 2013, Denver, CO.

(9) “OrangeFS Next: SID Cache”, Clemson University Booth, (*with Brian W. Atkinson, CCU undergraduate*), **International Conference for High Performance Computing, Networking, Storage, and Analysis**, November 13, 2012, Salt Lake City, UT.

**Invited
Talks**

(Section II)

Given during appointment at Coastal Carolina University as Assistant Professor

(8) “Introduction to Using FPGAs in the Computer Science Curriculum”, Workshop 10 SIGCSE ‘12, **Proceedings of the 43rd ACM technical symposium on Computer Science Education**, (workshop presentation, three hours, with D. Brian Larkins and peer-reviewed abstract publication), doi:110.1145/2157136.2157333, February 29, 2012, Raleigh, NC.

(7) “Cross-Institution Grid Classroom: One Year Later ”, Clemson University Booth, **International Conference for High Performance Computing, Networking, Storage, and Analysis**, November 14, 2011, Seattle, WA.

(6) “Cross-Institution Grid Classroom ”, Clemson University Booth, **International Conference for High Performance Computing, Networking, Storage, and Analysis**, November 13-19, 2010, New Orleans, LA.

(5) “FPGAs In The Classroom: Practice and Experience ”, **4th Annual Computer Security Conference**, Wednesday, April 15, 2010, 3:30 PM - 4:10 PM, Myrtle Beach, SC.

(4) “Impact of Non-optimal Checkpoint Intervals on Application Efficiency in Cluster Computing: Preliminary Findings ”, **Center for Non-linear Studies Seminar on Resilience and Fault Tolerance, Los Alamos National Laboratories**, Tuesday, July 07, 2009, 3:30 PM - 5:00 PM, CNLS Conference Room (TA-3, Bldg 1690), Los Alamos, NM.

(3) “Integrating Field Programmable Gate Arrays Across a Computer Science Curriculum”, **3rd Annual Computer Security Conference**, Myrtle Beach, SC, March 27, 2009.

(2) “Engineering Brief: Pancake Cookers”, **Coastal/Clemson 3+2 Pre-Engineering Program Presentation**, CS Department, Coastal Carolina University, November 18, 2008.

Invited Talks

(Section III)

Given before appointment at Coastal Carolina University as Assistant Professor

(1) “Nuclear Stockpile Stewardship, Trials and Tribulations: A Computing Perspective”, **2nd Annual Computer Security Conference**, Myrtle Beach, SC, April 18, 2008.

Other Presentations

(Section I)

Given during appointment at Coastal Carolina University as Assistant Professor

(6) William M. Jones and Brian Atkinson, “CCU Shining Student: Cyberinfrastructure Student Engagement Program”, **Coastal Today Show #482**, (CCU Antheneum on Vimeo: <http://vimeo.com/38451791>), March 12-18, 2012, Conway, SC.

(5) “Analog to Digital Conversion”, **Numbers & Bytes Meeting**, Friday, February 04, 2011, 4:00 PM - 5:00 PM, CS Department, Coastal Carolina University.

(4) “Green Computing”, **9th Celebration of Inquiry Conference**, (with Dr. John Stamey), Coastal Carolina University, February 15, 2010, 9:30 AM - 10:20 AM, Wall 309, Conway, SC.

(3) “An Introduction to VHDL: Using, Altera’s Quartus II IDE”, **Numbers & Bytes Meeting**, CS Department, Coastal Carolina University, October 20, 2008.

Other Presentations

(Section II)

Given before appointment at Coastal Carolina University as Assistant Professor

(2) “Parallel Programming”, **EE482 Seminar, ECE Department**, US Naval Academy, Spring 2007.

(1) Taught “Memory Debugging Using Valgrind, Electric Fence, and gdb”, **Summer Undergraduate Research Program**, Clemson University, Summer 2004, Summer 2003.

Posters

(Section I)

Presented during appointment at Coastal Carolina University as Assistant Professor

(10) D. Brian Larkins, H. Erin Rickard, and William M. Jones, “Experiential Learning Opportunities Inside the Computer Science Curriculum: Parallel Computing, FPGAs, and Robots”, CCU College of Science Booth, **Grand Strand Technology Expo**, (poster only, no paper publication) March 21, 2012, Myrtle Beach, SC.

(9) D. Brian Larkins, H. Erin Rickard, and William M. Jones, “Using FPGAs Across the Computer Science Curriculum”, Poster 17 SIGCSE ‘12, **Proceedings of the 43rd ACM technical symposium on Computer Science Education**, (poster presentation and peer-reviewed abstract publication), doi:10.1145/2157136.2157379, February 29, 2012, Raleigh, NC.

(8) William M. Jones and Walter B. Ligon III, “Cross-Institution Grid Classroom: Teaching Parallel Programming Over the Grid”, Clemson University Booth, **International Conference for High Performance Computing, Networking, Storage, and Analysis** , (poster and invited talk, no paper publication) November 12-18, 2011, Seattle, WA.

(7) D. Brian Larkins and William M. Jones, “Integrating Field-Programmable Gate Array Devices Across the Computer Science Curriculum ”, CCU College of Science Booth, **Grand Strand Technology Expo** , (poster only, no paper publication) March 14, 2011, Myrtle Beach, SC.

(6) William M. Jones and Walter B. Ligon III, “Cross-Institution Grid Classroom ”, Clemson University Booth, **International Conference for High Performance Computing, Networking, Storage, and Analysis** , (poster and invited talk, no paper publication) November 13-19, 2010, New Orleans, LA.

(5) William M. Jones, Taylor Baldwin (*CCU student*), John T. Daly, Nathan A. DeBardeleben, “Failure Test Harness and the Impact of Sub-optimal Checkpoint Intervals on Application Efficiency,” **2009 National High Performance Computing Workshop on Resilience**, (poster only, no paper publication) August 12, 2009, Arlington, VA.

(Note: Worked with CCU computer science undergraduate, Taylor Baldwin, while he was interning at Los Alamos National Lab.)

(4) William M. Jones, John T. Daly, Nathan A. DeBardeleben, “Impact of Sub-optimal Checkpoint Intervals on Application Efficiency,” **19th ACM International Symposium on High Performance Distributed Computing, HPDC 2010** , (poster and paper publication), Chicago, Illinois, June 20-25, 2010.

Posters
(Section II)

Presented before appointment at Coastal Carolina University as Assistant Professor

(3) William M. Jones, Louis W. Pang, Nishant Shrivastava, Walter B. Ligon III, “Intelligent Parallel Job Schedulers For Computational Multi-clusters,” **National Science Foundation Site Visit for Center for Advanced Engineering Fibers and Films**, (poster only, no paper publication), Clemson, SC, April 5-6, 2005.

(2) William M. Jones, Louis W. Pang, Nishant Shrivastava, Walter B. Ligon III, “BeoSim: Computational Grid Scheduling,” Clemson University Booth, **International Conference for High Performance Computing, Networking, Storage, and Analysis** , (poster only, no paper publication), November 6-12, 2004, Pittsburgh, PA.

(1) William M. Jones, Louis W. Pang, Walter B. Ligon III, “Scheduling Parallel Jobs In A Mini-grid,” **National Science Foundation Site Visit for Center for Advanced Engineering Fibers and Films**, (poster only, no paper publication), Clemson, SC, 2004.

Professional Associations

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| (4) South Carolina Academy of Science , Member | 2012 - present |
| (3) Institute of Electrical and Electronics Engineers , Member | 2000 - present |
| (2) Association for Computing Machinery , Member | 2012 - present |
| (1) ACM Special Interest Group on Comp. Sci. Education , Member | 2012 - present |

Recognition

- | | |
|---|------------------|
| (2) SC Academy of Science: Distinguished Service Award | March 25, 2023 |
| (1) CCU Guest Coach at Senior Day: Guest of Derrick Frasier | November 5, 2011 |

References

Dr. Michael H. Roberts

Executive Vice President of Research and Emerging Initiatives
Dean of the College of Science
P.O. Box 261954, Coastal Carolina University. Conway, SC 29526-6054
phone: (843) 349-2282, fax: (843) 349-2926, email: mroberts@coastal.edu

Dr. Nathan A. DeBardleben

Research Scientist
High Performance Computing Integration (HPC-5)
Ultrascale Systems Research Center (USRC)
MS T001, P.O. Box 1663, Los Alamos National Laboratory, Los Alamos, NM 87545
phone: (505) 412-1069, email: ndebard@lanl.gov

Dr. Walter B. Ligon III

Associate Professor
Electrical and Computer Engineering Department
105 Riggs Hall, Clemson University. Clemson, SC 29634-0915
phone: (864) 656-1224, fax: (864) 656-5910, email: walt@clemson.edu

Dr. Pradip K. Srimani

Professor
Computer Science Department
401 Edwards Hall, Clemson University. Clemson, SC 29634
phone: (864) 656-7552, fax: (864) 656-0145, email: psriman@clemson.edu

Dr. John N. Gowdy

Professor
Electrical and Computer Engineering Department
105 Riggs Hall, Clemson University. Clemson, SC 29634-0915
phone: (864) 656-5249, fax: (864) 656-5910, email: jgowdy@clemson.edu

Dr. Michael P. Hickey

Professor
Department of Physical Sciences
Embry-Riddle Aeronautical University
600 S. Clyde-Morris Blvd. Daytona Beach, FL 32114
phone: (386) 226-7059, fax: (386) 226-6621, email: Michael.Hickey@erau.edu

Dr. Adam W. Hoover

Associate Professor
Electrical and Computer Engineering Department
105 Riggs Hall, Clemson University. Clemson, SC 29634-0915
phone: (864) 656-3377, fax: (864) 656-5910, email: ahoover@clemson.edu