Wayne Buckhanan
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269-605-4408

Education

PhD	Electrical Engineering, University of Notre Dame, March 2013 "Wideband Chip-to-Chip Interconnects for High Performance Computing"
MSEE	Electrical Engineering, University of Notre Dame, May 2008
BS	Computer Science; Math & Physics minors, Andrews University, August 1999
Grad	Applied Math & Computer Science, Indiana University South Bend, no degree Software Engineering, Andrews University, no degree US Particle Accelerator School, U.C.Berkeley Extension, no degree US Particle Accelerator School, Stanford University, no degree
UG	Independent Study, Brigham Young University, no degree

Research Interests

Technology Platforms for Teaching & Learning	Modeling Human Communication
IoT / Embedded / Wearable Computing	Adult Developmental Models

Teaching & Research Experience

Associate Professor of Engineering & Computer Science
Jul 2017 – now — Andrews University — Berrien Springs, MI

ChangeWorks® Faculty
Mar 2017 – now — Institute for Productive Tension — Davidson, NC

Associate Professor of Computer Science
Jul 2016 – Jan 2017 — Pacific Union College — Angwin, CA

Assistant Professor of Computer Science
Jul 2013 – Jun 2016 — Pacific Union College — Angwin, CA

Research Associate
May 2006 - Mar 2013 — University of Notre Dame — Notre Dame, IN

High School Facilitator
Aug 2012 - Jan 2013 — Door Prairie Adventist Christian School — La Porte, IN

Research Associate
May 2008 - Aug 2008 — Sandia National Laboratories — Albuquerque, NM

Teaching Assistant, Electrical Engineering
Aug 2006 - May 2007 — University of Notre Dame — Notre Dame, IN

Instructor of Mathematics and Computer Science
Aug 2003 - May 2006 Ancilla College Donaldson, IN

Adjunct Faculty of Mathematics
Jan 2002 - May 2003 Ancilla College Donaldson, IN

Teaching Assistant, High School Mathematics
Aug 1997 - Jun 1998 Andrews University/Berrien County Intermediate School District
Berrien Springs, MI

Tutor, Mathematics
Apr 1995 - Jun 1998 Andrews University Berrien Springs, MI

Tutor/Lab Assistant, Physics
Jun 1997 - Jul 1997 Andrews University Berrien Springs, MI

Undergraduate Research Assistant, Physics
Oct 1995 - Dec 1996 Andrews University Berrien Springs, MI

Tutor/Lab Assistant, Physics
Jun 1996 - Jul 1996 Andrews University Berrien Springs, MI

Tutor, Computer Science - C Programming
Apr 1996 - Jun 1996 Andrews University Berrien Springs, MI

Courses Taught

Post-Secondary:
Introductory Algebra
Intermediate Algebra
College Algebra
Computer Literacy I
Information Technology Fundamentals
CIS Fundamentals*
Computer Programming: C++
Java
Computer Networking*
Data Structures*
Discrete Math*
Topics: Game Design*
Object Oriented Programming*
Programming Languages: Perl*
Introduction to Computers*
Internet Programming
Individual Programming Language Study
Computer Architecture
Objects & Frameworks*
Computer Graphics
Operating Systems
Computer Science Seminar
Data Structures & Algorithms I
Software Engineering*
Survey of Computer Science
Circuit Theory
Computer Science Senior Project
Assembly Programming
Team Software Project*
Computer Languages
Community Project in Engineering
Logic Circuit Design
Virtual Instrumentation
Topics: Innovation & Entrepreneurship[+]

Professional & General Interest:
Introduction to Neuro-Linguistic Programming*
NLP Practitioner Training[+]
Introduction to 4MAT Instructional Design*
4MAT Primer*
Accessing Your Personal Genius
Coach Essentials*

Secondary:
HS Bible*
HS Project Course*

* *Newly developed*
[+] *Team taught*

Certifications

Trainer of Applied Neuro Synergy (Global Association of Applied Neuro Synergy)
Certified & Licensed ChangeWorks® Trainer (Institute for Productive Tension)
Certified & Licensed MasterStream® Sales Trainer (Institute for Productive Tension)
Octalysis Gamification Framework – Level 1 Certification (Octalysis Group)
ChangeWorks® Elite (Institute for Productive Tension)
Certified MasterStream® Sales Professional (Institute for Productive Tension)
Neuro-Semantic / NLP Trainer (International Society of Neuro-Semantics)
Trainer of Neuro-Linguistic Programming (The Society of NLP)
4MAT® Instructional Design Trainer (About Learning, Inc)
4MAT® Instructional Design Practitioner (4MAT 4Business)
Language and Behavior (LAB) Profile Practitioner (Success Strategies)

Committees, Service Work, and Outreach

Faculty, Third 90 Network (Kalamazoo), 2017-now, Michigan Colleges Alliance
Faculty Advisor, Engineering Senior Design Projects, 2017-now, Andrews University
Faculty Supervisor, Community Project/Coding class, 2017, AU/Ruth Murdoch Elementary School
Chair, Innovation & Entrepreneurship "Maker Space" Subcommittee, 2017-now, Andrews University
Participant, Industrial Partnership Council, 2017-now, Andrews University
Invited Member, Academic Advisory Board, 2017-now, GAANS
Invited Talk, "From Bit to Brains," 2016, Andrews University
Faculty, Pacific Quest Middle School Outreach Program, 2016, Pacific Union College
Member, Faculty Development, Research, and Honors Committee, 2015-2016, Pacific Union College
Mentor, Google Summer of Code, 2015, Network Time Foundation
Invited Talk, "Our Developing View of God: Christianity, Morals, and Kohlberg," 2015, PUC CRSS
Primary Contributor, Computer Science/Math/Physics Program Review, 2014, Pacific Union College
Trainer, Instructional Design In-Service for Nursing Faculty, 2014, Pacific Union College
Invited Reviewer, ACM Transactions on Architecture and Code Optimization, 2014, ACM
Advisor, CS Undergrad Students, 2013-2017, Pacific Union College
Judge, DPACS Educational Fair, Spring 2013, Door Prairie Adventist Christian School
Invited Talk, "Wideband Chip-to-Chip Interconnects for HPC," 2013, Pacific Union College
AV Trainer/Coordinator, 2012-2013, La Porte Seventh-day Adventist Church
Judge, DPAS Educational Fair, Spring 2011, Door Prairie Adventist School
Small Group Coordinator/Leader, 2010-2013, La Porte Seventh-day Adventist Church
Website Coordinator, 2009-2013, La Porte Seventh-day Adventist Church
Participant, Ancilla College Outreach Fact Finding Mission, Spring 2004, Mexico
Chair, Technology Committee, 2004-2005, Ancilla College
Faculty Advisor/Technical Editor, Student Newspaper, 2003-2005, Ancilla College
Faculty Advisor, Games Club, 2003-2005, Ancilla College
Member, Technology Committee, 2003-2006, Ancilla College
Advisor, CIS Undergrad Students, 2003-2006, Ancilla College
Lead, Information Technology Program Review, 2003-2004, Ancilla College
Participant, Short Term Mission Trip, Dec 1997, Venezuela
Participant, Short Term Mission Trip, Dec 1995, Honduras

Technical Experience

Founder, Lead Trainer
Nov 1997 - now — Mercs LLC — South Bend, IN

Field Producer / Webmaster
Jan 2009 - now — Wright Place TV Show — Rancho Cucamonga, CA

Vice President of e-Presence / Webmaster
Jan 2015 – now — Institute of Neuro-Semantics USA — Silver Spring, MD

Senior Software Engineer – Mobile App Development
Nov 2014 - May 2015 — Simpleology / Construct Zero, Inc — San Bruno, CA

Partner, Chief Technical Officer
Sep 2013 - Sep 2014 — Fundraising Matters — Barrington, IL

Technical Editor / Faculty Co-advisor, The Ancilla Times (Student Newspaper)
Nov 2003 - May 2005 — Ancilla College — Donaldson, IN

Web Applications Developer
June 2000 - Oct 2001 — Golden Dome Media — South Bend, IN

Programmer/Analyst
July 1998 - Nov 1999 — Andrews University — Berrien Springs, MI

Contract Programmer
Aug 1995 - Oct 1995, June 1997 - Sept 1997
Simulation Resources, Inc. — Berrien Springs, MI

Unix Support Staff
Aug 1995 - May 1996 — Andrews University — Berrien Springs, MI

Technical Editor, CAST (Student Directory)
Aug 1996 - Sept 1996, Aug 1998 - Sept 1998, Aug 1999 - Sept 1999
Andrews University — Berrien Springs, MI

Assistant Editor, CAST (Student Directory)
Aug 1995 - Sept 1995 — Andrews University — Berrien Springs, MI

Memberships

IEEE - Institute of Electrical and Electronics Engineers
IEEE/CS - Institute of Electrical and Electronics Engineers Computer Society
IEEE/ES - Institute of Electrical and Electronics Engineers Education Society
IEEE/ComSoc - Institute of Electrical and Electronics Engineers Communications Society
ACM - Association for Computing Machinery
SIAM - Society for Industrial and Applied Mathematics

Citations

W. Buckhanan, "Instructional Design for Online Courses", invited talk in *Experts in the Trenches* series, Tiny Little Businesses, December, 2017.

W. Buckhanan, "Here Comes The Sun" in *How to Crush it in Business Without Crushing Your Spirit: How Entrepreneurs Can Overcome Depression and Find Success,* E. Violette, editor. Create A Splash, 2017

W. Buckhanan, "Beyond Fun And Gamification: Applying Motivational Lessons from Games" Adventist Online Learning Conference, October 12, 2017.

D. Chakeres, W. Buckhanan and V. Andrianarijaona, "Systematic harmonic power laws inter-relating multiple fundamental constants", APS April Meeting 2017, Washington, DC, 2017.

M. Khan, Q. Zheng, D. Kopp, W. Buckhanan, J. Kulick, P. Fay, A. Kriman, and G. H. Bernstein. "Thermal Cycling Study of Quilt Packaging," J. Electronic Packaging. 137(2), 021008, June, 2015.

D. Kopp, M. Khan, Q. Zheng, M. Padberg, J. Kulick, W. Buckhanan, G. Bernstein, and P. Fay, "Ultra-wideband Chip-to-Chip Interconnects to 220 GHz for Si-based Millimeter-Wave Systems," 2014 IEEE Int. Interconnect Technol. Conf. (IITC), San Jose, CA, May, 2014.

W. Buckhanan. "Wideband Chip-to-Chip Interconnects for High Performance Computing," PhD, University of Notre Dame, 2013.

W. Buckhanan. "Tech + Local + Global → 21st Century Skills," TEDxYouth@PaloVerdeStreet, Jan, 2013. http://mercs.net/TED

I. Hanninen, W. Buckhanan, M. Niemier, and G. H. Bernstein. "Network on Metachip Architectures," Proc. of the Fifth International Workshop on Network on Chip Architectures (NoCArc '12). ACM, New York, NY, USA, 5-10.

W. Buckhanan, M. Niemier, and G.H. Bernstein. "Bridging the HPC Processor-Memory Gap with Quilt Packaging," 2010 18th Biennial University/Government/Industry In Micro/Nano Symposium (UGIM), pp. 1-3. IEEE, 2010.

D. Kopp, W. Buckhanan, M. A. Khan, J. Kulick, C. Liang, M. Padberg, R. Savino, P. Fay, and G. H. Bernstein, "Quilt Packaging of RF Systems with Ultrawide Bandwidths," Indiana RF Alliance Workshop, W. Lafayette, IN, April, 2010.

W. Buckhanan, "Re/Start with Strong Social Media Character," in *Age of Conversation 3: It's Time to Get Busy!* edited by D. McLellan and G. Heaton, 2010.

D. Kopp, W. Buckhanan, M. A. Khan, J. Kulick, C. Liang, M. Padberg, R. Savino, G. H. Bernstein, and P. Fay, "Quilt Packaging of RF Systems with Ultra-Wide Bandwidths," IMAPS Advanced Technology Workshop on RF and Microwave Packaging, paper TP11, San Diego, CA, 2009.

C. Liang, W. Buckhanan, A. Carter, P. Fay, M. Khan, D. Kopp, J. Kulick, Y. Lee, M. Padberg, R. Savino, G. Snider, and G. H. Bernstein, "Novel Packaging via Solder Joints at Chip Edges," Proc. 5th Intl. Conf. on Device Packaging, Scottsdale, AZ, 2009.

G. H. Bernstein, J. Bonath, J. Brockman, W. Buckhanan, A. Carter, S. Dai, P. Fay, M. Khan, D. Kopp, J. Kulick, A. Kriman, Y. Lee, C. Liang, D. Myers, M. Niemier, M. Padberg, R. Savino, and G. Snider, "Quilt Packaging - a Quasi-Monolithic Way to Merge Technologies and Size Scales," Proc. Foundations of Nanoscience (FNANO09), Snowbird, UT, 2009.

C. Liang, R. Savino, J. Kulick, D. Kopp, W. Buckhanan, G. Snider, P. Fay, and G. H. Bernstein, "Solderability Study on Immersion Tin Coated on Cu Nodules for Chip-to-Chip Connection," MRS Spring Meeting, San Francisco, April, 2009.

W. Buckhanan, "Teaching is Marketing is Teaching," in *The Age of Conversation 2: Why Don't They Get It?* edited by G. Heaton and D. McLellan, 2009.

W. Buckhanan and P. Myers, *Six Steps For Change,* Trance Scribe Press, 2009.

G. H. Bernstein, Q. Liu, G. Snider, A. Tong, W. Buckhanan, J. Kulick, D. Kopp, and P. Fay, "Quilt Packaging: A New Paradigm in Interchip Communications," Sandia National Lab, Albuquerque, NM, August 2007.

P. Fay, G. H. Bernstein, Q. Liu, G. Snider, A. Tong, W. Buckhanan, J. Kulick, and D. Kopp, "Quilt Packaging – A New Approach to Integration for High Performance Systems," DARPA Exascale Computing Meeting, Atlanta, GA, July 2007.

G. H. Bernstein, Q. Liu, J. Kulick, W. Buckhanan, A. Tong, G. Snider, and P. Fay, "Interchip Interconnects and Transistorless Computing," University of Tennessee at Knoxville, Knoxville, TN, March, 2007.

G. H. Bernstein, Q. Liu, J. Kulick, W. Buckhanan, A. Tong, G. Snider, and P. Fay, "Interchip Interconnects and Transistorless Computing," University of Alabama in Huntsville, February, 2007.

G. H. Bernstein, Q. Liu, J. Kulick, W. Buckhanan, A. Tong, G. Snider, and P. Fay "Interchip Interconnects and Transistorless Computing," University of Texas at Dallas, Dallas, TX, January, 2007.

G. H. Bernstein, Q. Liu, M. Yan, A. Tong, J. Kulick, W. Buckhanan, G. Snider, and P. Fay, "Fabrication and Characterization of Quilt Packaging: A Novel Inter-Chip Communication Paradigm for System-in-Package (SiP)," International Workshop on 3S(SOP, SIP, SOC) Electronics Technologies, Atlanta, September, 2006.

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