

DAVID J. NICKLES

UNIVERSITY OF HAWAI'I AT MĀNOA, INFORMATION AND COMPUTER SCIENCES

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EDUCATION

-- UNIVERSITY OF HAWAI'I AT MĀNOA, PH.D. IN PROGRESS

Computer Science

Specializations: Distance Learning, Online Media Spaces, and Computer Graphics

Qualifications: Data Security, Software Engineering, Networks, Human-Computer Interaction, Bioinformatics, AI and Graphics.

M.S. CLEMSON UNIVERSITY, 2000

Computer Engineering

Specializations: Software Engineering, Advanced Computer Architectures, Parallel Computing, Networks.

B.S. Clemson University, 1996

Major: Computer Engineering, Minor: Mathematics

Specializations: Circuit Design and Analysis, Digital Signal Processing, Software Engineering and Formal Methods.

Sub-specializations: linear algebra, calculus, differential equations, discrete mathematics, statistics and probability and advanced engineering mathematics.

B.A. Clemson University, 1991

Major: Biological Sciences, Minor: Fine Arts

Specializations: Ecology, Developmental Biology, Physiology, Genetics

Sub-specializations: Acting, Creative Writing, Digital Music Composition, Painting, Art and Architectural History and Design.

PROFESSIONAL POSITIONS

JANUARY 2000-PRESENT

INSTRUCTOR – NON-TENURE FACULTY

Nine-month instructional faculty includes teaching, research and service. Courses include theory/practice in computer technology, algorithms and analysis, software design, development and production; Expertise in distance education strategies and audio/video broadcast instructional design. Major research areas are technology affordances in distance education. Scholarship includes research assistance and grant writing activity.

PROFESSIONAL HONORS

Member: The National Society of Collegiate Scholars – Initiated 2004.
Nominee: Excellence in Teaching Award 2003.

IN THE NEWS

Chang, C. *Hawaii Calls Podcasts*. MidWeek. Honolulu, HI. April 12, 1996.

Tyre, P. *Professor In Your Pocket*. Newsweek. New York, NY. Nov. 28, 2005.

Cruz, C. *UH-Manoa Offering 'Podcast' Class* KITV 4 News, Honolulu, HI.
Internet Broadcasting Systems, Inc., TheHawaiiChannel.com, Oct. 22, 2005.

Cohen, JS. *Missed class? Try a Podcast*. Chicago Tribune. Chicago, IL. Oct. 20, 2005.

RESEARCH

REFEREED COMPETITIVE GRANTS

Nickles, D., Ogawa, M. (2005) Applied Technology Redesign for Large Enrollment Introductory Courses, Implementation Award. University of Hawaii – Department of Information Technology Services. **\$60,000.**

RESEARCH ASSISTANT FOR REFEREED COMPETITIVE GRANTS OUTSIDE THE UNIVERSITY

Suthers, D., Kajioka, V.: (1999) Researcher for Development Grant for Hawaii Networked Learning Communities – National Science Foundation. Research yielded Implementation Grant Award to Hawaii Department of Education for **\$16,000,000**

PROFESSIONAL PUBLICATIONS

Ogawa, M. & **Nickles, D.** (2006). *Improving Students Perceptions in Large-enrollment Courses Through Podcasting*. In T. Reeves & S. Yamashita (Eds.), Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education October 13, 2006 (pp. 250-254). Chesapeake, VA: AACE.

Okimoto, H., **Nickles D.**, Ogawa, M. (2006). *Podcasting for Increased Student Learning and Reducing Costs*. In T. Reeves & S. Yamashita (Eds.), Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education October 13, 2006 (pp. 146-147). Chesapeake, VA: AACE.

Nickles D. & Ogawa, M. (2006) *A Case Study to Determine the Effectiveness of Podcasting in a Large-enrollment Course*. TCC 2006: Technology Remix: What Do Students Say? Technology, Colleges & Community Worldwide Online Conference: April, 2006.

Ogawa, M. & **Nickles D.** (2006) *Evaluation of SimNet Simulation Software in Large-enrollment Courses*. TCC 2006: Technology Remix: What Do Students Say? Technology, Colleges & Community Worldwide Online Conference: April, 2006.

Saiki SM Jr., Nakatsu C, **Nickles D**, Sherstyuk A, Holten JR IV, Caudell TP, Saland L, Wax, D, Lozanoff S, Alverson, DC (2005): Reification of Abstract Bio-Medical Concepts in Interactive Virtual Environments to Enhance learning: A Renal Fly-Through Model. *Medicine Meets Virtual Reality MMVR 12: Journal of International Association of Medical Science Educators*; 15:19, 2005

Alverson DC, Saiki SM Jr, Caudell TP, Summers K, Panaiotis, Sherstyuk A, **Nickles D**, Holten J, Goldsmith T, Stevens S, Kihmm K, Mennin S, Kalishman S, Mines J, Serna L, Mitchell S, Lindberg M, Jacobs J, Nakatsu C, Lozanoff S, Wax DS, Saland L, Norenberg J, Shuster G, Keep M, Baker R, Buchanan HS, Stewart R, Bowyer M, Liu A, Muniz G, Coulter R, Maris C, Wilks D. (2005) *Distributed immersive virtual reality simulation development for medical education*. *Journal of International Association of Medical Science Educators*; 15:19-30, 2005

Stevens SM, Goldsmith TE, Summers KL, Sherstyuk A, Kihmm K, Holten JR, Davis C, **Nickles D**, Maris C, Stewart R, Wilks D, Saland L, Wax D, Panaiotis, Saiki S, Alverson D, Caudell TP. (2005) *Virtual Reality Training Improves Students' Knowledge Structures of Medical Concepts*. *Studies in Health Technology and Informatics*; 111:519–525, 2005

Alverson DC, Saiki SM, Jacobs J, Saland L, Keep MF, Norenberg J, Baker R, Nakatsu C, Kalishman S, Lindberg M, Wax D, Mowafi M, Summers KL, Holten J IV, Greenfield J, Aalseth E, **Nickles D**, Sherstyuk A, Haines K, Caudell TP (2004): *Distributed Interactive Virtual Environments for Collaborative Experiential Learning and Training Independent of Distance over Internet2*. in *Medicine Meets Virtual Reality 12; Building a Better You: The Next Tools for Medical Education, Diagnosis, and Care* Volume 98 *Studies in Health Technology and Informatics* Edited by: James D. Westwood, Randy S. Haluck, Helene M. Hoffman, Greg T. Mogel, Roger Phillips, and Richard A. Rob. IOS Press, Amsterdam, The Netherlands; 98:7-12, 2004

Mowafi MY, Summers KL, Holten J, Greenfield JA, Sherstyuk A, **Nickles D**, Aalseth E, Takamiya W, Saiki S, Alverson D, Caudell TP (2004): *Distributed Interactive Virtual Environments for Collaborative Medical Education and Training: Design and Characterization*. in *Medicine Meets Virtual Reality 12; Building a Better You: The Next Tools for Medical Education, Diagnosis, and Care* Volume 98 Studies in Health Technology and Informatics Edited by: James D. Westwood, Randy S. Haluck, Helene M. Hoffman, Greg T. Mogel, Roger Phillips, and Richard A. Rob. IOS Press, Amsterdam, The Netherlands; 98:259-261, 2004

PROFESSIONAL ABSTRACTS

Saiki SM Jr., Nakatsu C, **Nickles D**, Sherstyuk A, Holten JR IV, Caudell TP, Saland L, Wax, D, Lozanoff S, Alverson, DC: *Reification of Abstract Bio-Medical Concepts in Interactive Virtual Environments to Enhance learning: A Renal Fly-Through Model*. *Medicine Meets Virtual Reality 12; Newport Beach, CA, 2004*

Mowafi MY, Summers KL, Holten J, Greenfield JA, Sherstyuk A, **Nickles D**, Aalseth E, Takamiya W, Saiki S, Alverson D, Caudell TP: *Distributed Interactive Virtual Environments for Collaborative Medical Education and Training: Design and Characterization*. *Medicine Meets Virtual Reality 12; Newport Beach, CA, 2004*

Alverson DC, Saiki SM, Jacobs J, Saland L, Keep MF, Norenberg J, Baker R, Nakatsu C, Kalishman S, Lindberg M, Wax D, Mowafi M, Summers KL, Holten J IV, Greenfield J, Aalseth E, **Nickles D**, Sherstyuk A, Haines K, Caudell TP: *Distributed Interactive Virtual Environments for Collaborative Experiential Learning and Training Independent of Distance over Internet2*. *Medicine Meets Virtual Reality 12; Newport Beach, CA, 2004*

Alverson DC, Saiki SM Jr, Caudell TP, Summers K, Panaiotis, Sherstyuk A, **Nickles D**, James Holten², Goldsmith T, Stevens S, Mennin S, Kalishman S, Mines J, Serna L, Mitchell S, Lindberg M, Jacobs J, Nakatsu C, Lozanoff S, Wax DS, Saland L, Norenberg J, Shuster G, Keep M, Baker R, Stewart R, Kihmm K, Bowyer M, Liu A, Muniz G, Coulter R, Maris C, Wilks D. *Distributed Immersive Virtual Reality Simulation for Training and Performance Assessment*. Telemedicine and Advanced Technology Research Center, 5TH Annual Advanced Medical Technology Review, "Enabling Technologies to Make a Difference". Long Beach, CA, January 27, 2005

RESEARCH ASSISTANT IN PROFESSIONALLY PUBLISHED WORK

Suthers, D. et al. *Using Learning Object Meta-Database of Primary and Secondary Resources*, International Conference on Computers in Education, November 21-24, 2000, Taipei, Taiwan

Suthers, D. et al. *Evaluating the Learning Object Metadata for K-12 Educational Resources*. IEEE Explore. 2001;371-374.

INSTRUCTIONAL REDESIGN PROJECT GRANTS

Nickles, D. Ogawa M. (2005) *ICS101: Tools for the Information Age (Introducing Technology into Introductory Large-Enrollment Courses)*. University of Hawaii, Information & Technology Services, associated internal sub-grant listed above. **\$60,000**

Nickles, D. (2001) *ICS101: Tools for the Information Age for Asynchronous Learning Networks*. University of Hawaii, Outreach College, internal sub-grant from Sloan Foundation Grant. **\$1,500**

Suthers, D., **Nickles, D.** (2000) *ICS311: Analysis of Algorithms for Asynchronous Learning Networks*. University of Hawaii, Outreach College, internal sub-grant from Sloan Foundation Grant. **\$3,000**

TEXTBOOKS

Nickles, David J. (2003-04) *Tools for the Information Age: ICS101 Selected Readings*, Boston: McGraw-Hill Primis Custom Publishing, Second Edition ISBN 0-07-201621-3

Nickles, David J. (2002) *Tools for the Information Age: ICS101 Selected Readings*, Boston: McGraw-Hill Primis Custom Publishing, First Edition ISBN 0-07-267853-4

PODCASTS

Nickles, David J. (2005-06) *Tools for the Information Age: ICS101 Lectures* [Syndicated Web Radio]. Honolulu, HI: University of Hawaii.

- Episode 1: The World Wide Web (2005).
- Episode 2: The Internet (2005).
- Episode 3: Computer Protocols (2005).
- Episode 4: The eXtensible Markup Language (2005).
- Episode 5: Presentation Skills (2005).
- Episode 6: Better Presentations and Microsoft Powerpoint (2005).
- Episode 7: Spreadsheets, Microsoft Excel and Logic (2005).
- Episode 8: The Portable Document Format (2005).
- Episode 9: Computer and Data Security (2005).
- Episode 10: Foundations of Computer Graphics & Bitmapped Graphics (2005).
- Episode 11: Vector Computer Graphics (2005).
- Episode 12: The Hypertext Markup Language (2005).
- Episode 13: Web Design and Cascading Style Sheets (2005).
- Episode 14: The Scalable Vector Graphics for web animation (2005).
- Episode 15: The Synchronized Multimedia Integration Language (2005).

TEACHING

COURSES

ICS 101 – TOOLS FOR THE INFORMATION AGE

Fundamental concepts and terms of computer technology, application software for problem solving, computer technology trends and impact on individuals and society.

ICS 211 – INTRODUCTION TO COMPUTER SCIENCE II

The course teaches basic data structures for use as problem solving solutions. Data Structure Design, Algorithms and their complexity analysis, introduction to software engineering, searching and sorting algorithms, and basic graph theory are covered. The course emphasizes objected oriented design and implementation. Basic computer graphics and user interfaces are also introduced. Java is the programming language and development platform, and programs are developed in the context of delivery for the World Wide Web. The course follows an interactive hands on approach. Students produce a number of software programs, and write short essays and make presentations describing various concepts and technologies.

ICS 390 – COMPUTING ETHICS

A lecture/discussion/internship course on ethical issues and instructional techniques for students leading a laboratory section of ICS 101 (Tools for the Information Age). Pre: 101 and consent.

ICS 491 – INTERACTIVE MULTIMEDIA SIMULATIONS

This course is a experimental course on video game console programming for the Sony PlayStation console. Emphasis was on good game design and implementation specifics of the Sony PlayStation API. The course requires learning a graphics and sound APIs, C/C++ programming, double frame buffering, real time sprite management, and some reverse engineering.

ICS 499 – DIRECTED READING AND/OR COMPUTER PROJECT

This course is an elective in the Computer Science Program. The purpose of the course is to allow students and faculty to pursue projects of mutual interest. It serves as additional practical experience for the student. My past students have included: acting as research assistants, video game console programming, mobile devices/cell phone programming and medical informatics database programming.

INVITED PRESENTATIONS AND WORKSHOPS

Meet Your Favorite Professor Breakfast, Univeristy of Hawaii, Access to College Excellence (ACE) program - Fall 2005.

Meet Your Favorite Professor Breakfast, Univeristy of Hawaii, Access to College Excellence (ACE) program – Double Invitation, Spring 2004.

Meet Your Favorite Professor Breakfast, Univeristy of Hawaii, Access to College Excellence (ACE) program – Double Invitation, Fall 2003.

PARTNERSHIPS

EXTERNAL

Apple Computer, Inc., 2004-Present

Hawaii Department of Education, Advanced Technology Research (DOE ATR), 1999-00

Hawaii High Tech Development Corporation (HTDC), 2002

Metrowerks, Inc., 2002-2003

Sony Electronics Corp., 2002-Present

Univeristy of New Mexico, School of Medicine (UNM SOM), 2002-04

UNM High Performance Computing, Education & Research Center (HPCERC), 2002-04.

INTERNAL

University of Hawaii, Outreach College, 2000-01

University of Hawaii, John A. Burns School of Medicine (JAB SOM), 2002-04

Univeristy of Hawaii, JAB SOM Telehealth Program, 2002-04

SERVICE

UNIVERISTY ADVISORIES

UHM Chapter of National Society of Collegiate Scholars (NSCS), Founding Faculty Advisor, Spring 2004 to present.

Gamma Apple Pi, Founding Faculty Advisor, UHM Chapter of User Group for technologies produced by Apple Computer, Fall 2002 to Fall 2004

Big Island Learning Community Field Trip, Mentor, Univeristy of Hawaii, Access to College Excellence (ACE) program - Fall 2002.

Big Island Learning Community Field Trip, Mentor, Univeristy of Hawaii, Advisor to Chris Colgrove for establishing Ocean's Research Outreach Podcast - Fall 2005.

LOCAL

Hawaii Food Bank Food Drive, Honolulu, HI, Advisor for Christmas Holiday Canned Food Drive – Fall 2005, Fall 2006.

President Theodore Roosevelt High School, Honolulu, HI, Advisor for Good Idea Grant to integrate Podcasting in High School Pedagogy – Spring 2006.

Niigata Computer Senmon Gakko. Students from Niigata, Japan. Keynote: *Trends of the Hawaii Computer Industry* – October, 2005.

Hawaii Technology Showcase, Mililani Town Center, Hawaii High Technology Development Corporation (HTDC) – Fall 2002.

INTERNATIONAL TRAVEL

Republic of Ireland, Northern Ireland/UK (2008)

Italy (2005)

Japan (2004, 2005, 2007, 2008)

England/UK (1996)

Germany, Austria, France, Denmark, Italy (1992)

Mexico (1987, 1992)

The Bahamas (1983, 1991)