

# **Letha Margaret Hughes Etzkorn**

Computer Science Department  
The University of Alabama in Huntsville  
Huntsville, AL 35899

**Research Interests:** Cybersecurity (Digital Forensics, Security Patterns), Software Engineering (software metrics, program comprehension, software reuse), , Middleware, Cloud Computing and Internet of Things, Distributed Systems (Web services, Mobile and Intelligent Agents), Team Collaboration Research, Knowledge-based Systems and Natural Language Understanding (ontology analysis, program comprehension applications), Computer Networks, Computer Science/Engineering Education

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## **EDUCATION**

**Ph.D. (Computer Science), University of Alabama in Huntsville, 1997**

*Dissertation Title: A Metrics-Based Approach to the Automated Identification of Object-Oriented Reusable Software Components. Advisor: Dr. Carl G. Davis*

**M.S. (Computer Science), University of Alabama in Huntsville, 1992**

**M.S.E.E. (Electrical Engineering), Georgia Institute of Technology, 1982**

**B.E.E. (Electrical Engineering), Georgia Institute of Technology, 1980**

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## **EXPERIENCE SUMMARY/PROFESSIONAL EMPLOYMENT HISTORY**

**Chair**, Dept. of Computer Science, Dec 15. 2021-present.

**Interim Chair**, Dept. of Computer Science, Aug 2021-Dec.14, 2021.

**Associate Chair**, Dept. of Computer Science, Fall 2017-Aug 2021.

**Professor**, Dept. of Computer Science, UAH, Fall 2010-present

**Associate Professor**, Dept. of Computer Science, UAH, 2004-2009

**Assistant Professor**, Dept. of Computer Science, UAH, 1998-2004

**Lecturer**, Dept. of Computer Science, UAH, 1993-1998

**Senior Design Engineer**, Motorola Transmission Products Div., 1989-1990

**Senior Design Engineer**, Hayes Microcomputer Products, Inc., 1985-1989

**Electronics Engineer**, Lockheed-Georgia Company, 1982-1984

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## **PROFESSIONAL MEMBERSHIPS**

**Senior Member**, Institute. of Electrical and Electronics Engineers (IEEE), since 1999

**Professional Engineer**, Georgia, since 1987

Member of Association for Computing Machinery, since 1991

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## **HONORS AND AWARDS**

Computer Science Departmental Award (Masters), 1992

Paper (“A Knowledge-Modeling Approach to Evaluating Student Essays in Engineering Courses”) selected as one of two papers from the Journal of Engineering Education in year 2007 to be included in the Annals of Research in Engineering Education, 2008

Amateur Radio Extra Class License, since 1986

National Merit Finalist and Four Year Scholarship Winner, 1976

Honor societies include: Phi Kappa Phi, Upsilon Pi Epsilon, Omicron Delta Kappa, Sigma Xi

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## PRESENTATIONS

“Improved Code Clone Categorization,” (together with Dr. Kraft and Dr. Carver from Univ of Ala.), Alabama A&M University, Nov. 17, 2009.

“New Kinds of Software Metrics: Program Understanding Metrics and Ontology Metrics,” University of Alabama in Birmingham seminar series, Nov. 30, 2007.

“Metrics for Object-Oriented Software,” Huntsville Chapter of the IEEE, Tuesday, October 12, 2004

“Information Extraction in Software Reusability Analysis,” Computer Science Department Technical Seminar, The University of Alabama in Huntsville, Huntsville, AL, April 2, 2006.

“Reuse Assessment: A Metrics-Based Approach to the Automated Identification of Object-Oriented Reusable Components,” Computer Science Department Technical Seminar, The University of Alabama in Huntsville, Huntsville, AL, March 3, 1995.

“The X.25 Protocol in the Hayes V-Series Modems,” Hayes Microcomputer Products Technical Seminar, Norcross, GA, May 18, 1988.

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## CAREER TO DATE

### Computer Science Dept., Univ. of Ala. in Huntsville

- **Chair, Dec 15, 2021 - present**
  - Continued working on ABET review, ran department during COVID outbreak
  - Started working heavily on marketing of CS department
  - Organized faculty searches for 3 candidates
- **Interim Chair, Aug 2021-Dec 14, 2021**
  - Organized ABET review, ran department during COVID outbreak
- **Associate Chair, Fall 2017-Aug 2021**
  - Supervising CS SACS and ABET accreditation
  - Examining CS student retention
  - Setting up collaborative research meetings both within UAH and outside UAH to enhance CS research funding
  - Working to establish domestic CS graduate student recruitment activities
- **Professor, Fall 2010-present**
- **Associate Professor August 2004-July 2010**
- **Assistant Professor August 1998-July 2004**

### Major Responsibilities:

- Teach courses in several areas, including Cloud Computing, software engineering, client/server (middleware), networking, architecture, among others. Have taught more than 29 different courses. See teaching summary.
- Working with several PhD students and MS thesis students. Have graduated 17 PhD students and 6 MS thesis students. See teaching summary.
- Have published more than 100 refereed papers. See research publications.
- PI or co-PI on more than \$5.1 million in grants and contracts. See research funding summary.

**Some Current Activities:** (see service summary for more complete list)

- Member Editorial Board, PeerJ Computer Science, 2015-present

**Some Previous Activities:** (see service summary for more complete list)

- Associate Editor/Member Editorial Board for the International Journal of Computers and Applications (Taylor&Francis), 2006-2017
- Member program committee Cyber and Information Security Research Conference (CISRC 2017, CISRC 2016)
- Member of Editorial Board for Software Engineering journal, ACTA Press, 2011-2014
- Member of Editorial Board and Section Editor for The Open Software Engineering Journal, 2008-2014
- Member of Editorial Board/Associate Editor for Advances in Software Engineering journal, Hindawi Publishing, 2008-2012
- Chair, University SACS COC Effectiveness Committee, 2014/15 academic year
- Chair, Faculty Appeals Committee, 2011/12 academic year
- Faculty Senate president 2009/10 academic year
- Graduate Council, 2004-2009
- Served on NSF Review Panel, April 2010
- Faculty Advisor, Campus ACM 1998-2003
- Program Chair, ACM Southeast Conference 2004
- Guest Editor (co-editor was Dr. Tim Menzies from West Virginia University), Special Issue on Information Retrieval for Program Comprehension, Empirical Software Engineering journal, Vol 14, No. 1, February, 2009.
- Member program committee Cyber and Information Security Research Conference (CISRC 2017, CISRC 2016)
- Member program committee National Cyber Summit (2016)
- Member program committee IASTED international Conference on Software Engineering (SE13)
- IASTED International Conference on Software Engineering and Applications (SEA 2006, SEA 2007, SEA 2008, 2009, 2010, 2011, 2012, 2013, 2014)
- Member program committee IASTED international Conference on Software Engineering (SE14)
- Member program committee IEEE International Conference on Program Comprehension (ICPC 2008)
- Chair, doctoral symposium Southeast Software Engineering Conf., 2002 and 2003

**Lecturer, Computer Science Dept., Univ. of Ala. in Huntsville, (1/93-8/98)**

Taught a wide variety of courses, in software engineering, computer architecture, operating systems, and programming. Taught both graduate and undergraduate courses.

**Quality Research, Huntsville, AL (5/92-7/92)**

Participated in National Test Bed CASE tool experiment. Worked for the Strategic Defense Command (now SMDC) on a team evaluating Cadre Teamwork. Received a letter of commendation from the SMDC for my work on this project.

**Research Assistant, The University of Alabama in Huntsville, (2/91-12/91)**

Performed mathematical analysis of atmospheric data. FORTRAN programming.

**Senior Design Engineer, Motorola Transmission Products Div., Huntsville, AL (1/89-9/90)**

Had sole responsibility for the real time firmware for an 8 port statistical multiplexer running the X.25 protocol. This included the design and implementation of an X.25 packet layer, LAPB link layer, and CCITT PAD (X.28, X.29, X.3). Wrote interrupt drivers. Implemented a

multitasking operating system/executive. Also supported an X.25 modem project. Directed the Telenet certification of the X.25 modem project. C language , Z80, 8031 assembly language

**Senior Design Engineer, Hayes Microcomputer Products, Inc. Norcross, GA, (6/85-1/89)**

Designed and implemented real time firmware for the Hayes V-series modems. This included the design and implementation of an X.25 packet layer, large portions of a CCITT PAD (X.28, X.29, X.3), and high level control firmware for all Hayes V-series modems, including the first Hayes V.42 modem. Was involved in the design and development of a message-passing operating system that was used in all Hayes V-series modems. Was involved in the setup of a code management system/development environment. Was responsible for certification of the Hayes X.25 modems using the Telenet, Defense Data Network, and Tymnet certification tests, as well as connection tests to Compuserve and various other networks. In a separate project at Hayes, was responsible for test specifications and a test set for digital and analog surface mount hybrids. C language, Z80 assembly language.

**Electronics Engineer, Lockheed-Martin (formerly Lockheed-Georgia Company), Marietta, GA (4/82-1/84)**

Designed and implemented a graphics terminal driver program, in JOVIAL on a MIL STD 1750A computer, for the C5-B project. Also wrote communications driver for a MIL STD 1553 bus interface card. Hardware design and software for a TI 990 computer/IEEE 488 interface card. Software for a TI 990 computer based display system. JOVIAL programming, MIL STD 1750A assembly language, TI 990/TI 9900 assembly language.

**Teaching Assistant, The Georgia Institute of Technology, Atlanta, GA (3/81-3/82)**

Taught an operational amplifier laboratory course.

**Student Assistant, The Georgia Tech Research Institute, Atlanta, GA (4/79-9/79)**

Assisted engineers with projects, some programming.

**Goodyear Tire&Rubber Company, Gadsden, AL (6/78-9/78)**

Drafting, engineer's assistant.

**Operator, WREK Radio, The Georgia Institute of Technology, Atlanta, GA (4/77-6/78)**

Monitored transmitter, automated music devices. Held third class radiotelephone license.

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## Summary of Teaching Accomplishments and Highlights

So far, I have taught more than **29 different courses** at UAH (including different versions of a course), 30+ different courses if ind. study and thesis and dissertation courses are included.

### Current List of Courses taught:

<u>Graduate Courses:</u>	<u>Undergraduate Courses:</u>
CS799—Doctoral Dissertation	CS499—Senior Project: Team Software Development
CS796—Intelligent and Mobile Agents	CS495—Selected Topics in Computer Science
CS795—Selected Topics in Computer Science	CS495—Metrics Analysis Course
CS699—Master’s Thesis	CS495—Secure Software
CS695—Selected Topics in Computer Science	CS490—Introduction to Operating Systems
CS685—Computer Security	CS490—Systems Software
CS670—Computer Networks	CS485—Intro to Computer Security
CS668—Software Studio II	CS470—Intro. To Computer Networks
CS666—Software Studio I	CS454—Introduction to Cloud Computing
CS652—Object-oriented Design	CS453—Client/Server Computing
CS650—The Software Engineering Process	CS413—Computer Architecture (undergraduate)
CS586—Microprocessor Architecture	CS309—Switching Theory (Digital Logic)
CS585—Intro. to Computer Security	CS308—Computer Organization and Assembly Language Programming
CS570—Intro. To Computer Networks	CS207, CS208—Computer Science II: Data Structures (C and Pascal)
CS554--Intro. to Cloud Computing	CS121, CS107, CS108—Computer Science I: Intro. to programming (C++, C, and Pascal)
CS553—Client/Server Computing	
CS552—Analysis and Design Patterns	
CS552—Object-Oriented Design	
CS513—Computer Architecture	

### Dissertation and Thesis Students Advised:

<u>Ph.D. Students Who Have Graduated</u>		
Dr. Mohammad Shojaeshafiei (co-advised with Dr. Michael Anderson)	A Measurable Cybersecurity Quality Framework and Its Application to the Department of Transportation	Fall, 2020
Dr. Julien McKinney Young	Measuring Solution Intelligence: A Path Walking Simulator of Multiple Autonomous Robots on a Dynamic Graph	Spring, 2016
Dr. Zhiqiang (John) Wu	An Approach to Finding Good Anchor Nodes in Ontologies	Summer, 2015
Dr. Amr Desouky	A Qualitative Analysis of Object Oriented Runtime Cohesion and Complexity	Spring, 2014
Dr. Matthew Beard	The Relationship to Software Quality Characteristics to Code Clones	Spring, 2013
Dr. Ruchira Mathur	Object Oriented Runtime Software Quality Analysis	Summer, 2011
Dr. Dan Schrimpsheer	Dynamic Generation of Reduced Ontologies to Support Resource Constraints of Mobile Devices	Summer, 2011
Dr. Kevin Keen	Measuring and Comparing Group Intelligence of Mobile and Intelligent Agents on a Mobile Robotics Platform	Summer, 2010
Dr. Stacy K. Lukins	Source Code Retrieval for Bug Localization using Latent Dirichlet Allocation, and its Relationship with Stability of Agilely Developed Software	Spring, 2009
Dr. Patricia L. Roden	An Examination of Stability and Reusability in Highly Iterative Software	Fall, 2008
Dr. Maureen Raley	Metrics for Risk Determination in Large-Scale Distributed Systems Maintenance	Spring, 2008
Dr. Craig Eichelkraut	A Mobile Agent Based Approach For Optimizing Real-Time Geographically Distributed Control Systems Using Swarm Intelligence	Spring, 2008
Dr. Bradley L. Vinz	A Synergistic Approach to Program Comprehension: Combining Code Understanding with Comment Understanding	Spring, 2008
Dr. Hector Olague	Assessing Maintainability: Information Theory, Metrics and Iterative Software Processes	Fall, 2006
Dr. Haining Yao	A Semantic-Based Approach for Software Reusable Component Classification and Retrieval	Fall, 2005
Dr. Anthony M. Orme	A Measurement Oriented Approach to E-Commerce Distributed Transactions Based on a Mobile/Intelligent Agent Framework	Spring, 2005

Dr. Cara Stein Gall	Semantic Metrics for Source Code and Design	Summer, 2004
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<b>MS Thesis Students Who Have Graduated</b>			
Matthew Beard	The Accuracy of Information Retrieval Based Bug Localization Techniques	MSSE	Summer, 2011
David Michal	A Comparison of Development Environments for Mobile Autonomous Robots: Player/Stage Gazebo vs. Microsoft Robotics Developer Studio	MSCS	Fall, 2010
Richard Dabney	A Fault-Tolerant Approach To Test Control Utilizing Dual Redundant Processors	MSCS	Spring, 2006
Owen Funkhouser	Comparing UML Use Cases to Internal Program Documentation in Object-Oriented Code	MSSE	Fall, 2004
Stephen Quattlebaum	A Comparison of the Results of Object-Oriented Metrics in C++ and Java	MSCS	Summer, 2004
Raed Shatnawi	A Comparison of Modern Object-Oriented Programming Languages and Compilers Using Standard Gang of Four Design Patterns	MSSE	Fall, 2003

## **Curriculum Development:**

- Directed Computer Science department hardware laboratory, 2010-2017
- Co-developed a new course in Digital Forensics, first taught Spring, 2018.
- Created a new course in Cloud Computing, course first taught Spring 2016.
- Served on committee to revamp and combine MSSE program, 2015.
- Completely revamped MSSE program, spring 2012 (with Dr. Harry Delugach). Deleted several courses, completely refocused 3 courses.
- Developed a robotics laboratory for the Computer Science department 2007/2008 academic year
  - Developed software to run the robots, fall 2007
  - Instituted laboratory in both freshman and senior courses. Included:
    - Developed course materials, fall 2007 and spring 2008
    - Ran laboratory myself for a senior course (CS470), fall 2007
    - Supervised and trained GTAs, 2007-2015.
    - In concert with CS121 instructors and TA, developed course assignment for CS121 and organized laboratory operation, spring 2008. Similarly for CS470/CS570 and CS553 in Fall, 2008. Added CS321 and CS668 in spring 2009.
- From Fall 2007 through Fall 2012, I redeveloped CS553, Client/Server Architectures to teach client server concepts using web services as well as dotNet and CORBA technologies
- In Fall, 2004, I served on a departmental committee to completely reorganize the software engineering curriculum.
  - As part of this reorganization of the software engineering curriculum, I refocused CS552, Object Oriented Design, to different areas. It is now called CS552, Analysis and Design Patterns
- In Spring, 2004, I largely revamped CS552 (originally Object Oriented Design, became Analysis and Design Patterns), with new content for approx. half the course
- In 2001/2002, served as chair of the departmental architecture committee when we reorganized all 4 of our architecture courses, according to ACM/IEEE guidelines
- In Fall, 2001, I redeveloped CS553, Client/Server Architectures, to teach modern client/server concepts illustrated by newly developed CORBA technologies. At that point in time, CS553 had not been taught for several years; the original developer of the course had left the university. Topics in the course were outdated.

- In Fall, 2000 and Spring, 2001, I developed an initial internet/networking laboratory for the CS department.
- In Fall, 2000, Dr. Mary Ellen Weisskopf and I investigated improvements to laboratory assignments for the computer science operating systems courses





## Research Accomplishments and Highlights

### PUBLICATIONS:

At the current time, I have **published or had accepted** more than **100 refereed publications**.

**Publications include:**

1. **48 refereed journal articles**
  - 46 fully peer-reviewed
  - 2 editorially-reviewed
2. **79 refereed conference papers**
  - 72 fully peer-reviewed conference papers
  - 7 reviewed-abstract conference papers
3. **4 technical reports**
4. **6 final reports on grants or contracts**
5. **1 workshop paper (invited)**
6. **1 textbook (*Introduction to Middleware*, Taylor & Francis, by Etkorn)**
7. **7 other publications, including:**
  - 1 ACM Proceedings for which I was the editor (Dr. Seong-Moo Yoo from ECE was co-editor)

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### PROPOSAL HISTORY:

I have had **accepted** greater than **\$5.1 million in total funding as PI or co-PI**, this includes:

- **17 external research grants/contracts for which I was PI or co-PI**
- **4 equipment grant proposals**
- **4 instructional proposals**

I have also served as Senior Personnel for approx **\$117K** in funding.

Funding Agencies include: National Science Foundation (NSF), National Security Agency (NSA), National Aeronautics and Space Administration (NASA), U.S. Army, various commercial companies, among others.

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## Publications:

### Legend:

- For journals, the *Thomson Scientific ISI/SCI impact factors* are indicated where available.
- Another well known rating system for Computer Science journals and conferences is the *Australia and New Zealand Computing Research and Education (CORE)* journal rankings and conference rankings. These rankings are provided where available. Both the 2008 and 2007 rankings are provided.
- *Conference acceptance rates* are indicated where they are available.
- “In final preparation” means there is a draft that has been gone over many times and is close to submission. Articles in earlier states are not listed.
- My current and former **PhD Students’** (including those already graduated) names shown in **Purple**.
- My current and former **MS Thesis students’** (including those already graduated) names shown in **Red**.

<b>Peer Reviewed Articles in International Journals</b>
<b>SUBMITTED OR IN FINAL PREPARATION</b>

<b>Peer Reviewed Articles in International Journals</b>		
<b>PUBLISHED OR ACCEPTED</b>		
	<b>Publisher and/or Affiliation</b>	<b>Journal Impact and Ranking Information, other Information (where available)</b>
1.	<b>Shojaeshafiei, M., Etkorn, L.,</b> and Anderson, M. “Analytic Hierarchy Process-based Fuzzy Measurement to Quantify Vulnerabilities of Web Applications, International Journal of Computer Networks and Communications (IJCNC), No. 4, July 2020.	
2.	Coe, D., Kulick, J., Milenkovic, A., <b>Etkorn, L.</b> “VIRTUALIZED IN-SITU SOFTWARE UPDATE VERIFICATION : Verification of Over-the-Air Automotive Software Updates”, <i>IEEE Vehicular Technology</i> , Vol. 15, Issue: 1, Feb. 2020, pp.84-90.	<b>IEEE</b>

3.	<b>Wu, J.,</b> J., Gholston, S., and <b>Etzkorn, L.</b> ,"An Approach to Finding Good Anchor Nodes in Ontologies," <i>International Journal of Computers and Applications</i> , Dec, 2017.	<b>Taylor &amp; Francis</b>	
4.	Delugach, H., <b>Etzkorn, L.H.</b> , Carpenter, S., Utley, D. "A Knowledge Capture Approach for Directly Acquiring Team Mental Models," <i>International Journal of Human-Computer Studies</i> , Volume 96, Issue C, December 2016, pp. 12-21.	<b>Elsevier</b>	<i>SCI Impact Factor: (2016: 1.476)</i>
5.	Biggers, L.R. , Bocovich, C. , Capshaw, R., Eddy, B.P., <b>Etzkorn, L.H.</b> and Kraft, N.A. "Configuring Latent Dirichlet Allocation Based Feature Location." <i>Empirical Software Engineering</i> , Vol. 19, 2014, pp. 465-500.	<b>Springer</b>	<i>Australia CORE Ranking: (2008: A), SCI Impact factor (2011: 1.854)</i>
6.	<b>Schrimpsheer, D.</b> , and <b>Etzkorn,L.</b> , "A Model to Predict Quality of a Reduced Ontology for Web Service Discovery on Mobile Devices," <i>The Knowledge Engineering Review</i> , Vol. 29, Issue 2, March 2014,pp.201-216..	<b>Cambridge University Press</b>	<i>Australia CORE Ranking: (2008: B), SCI impact factor (2008:1.588)</i>
7.	Sandra Carpenter, Harry Delugach, <b>Letha Etzkorn</b> , Julie Fortune, and Dawn Utley, "How Instructional Format (Voice and Modality) Influences Subsequent Performance: An Empirical Study", <i>Intl. Jour. of Teaching and Learning in Higher Education</i> , Vol. 25, No. 1, 2013, pp.59-65.		
8.	<b>Lukins, S.</b> , Kraft, N., and <b>Etzkorn, L.</b> , "Bug Localization Using Latent Dirichlet Allocation," <i>Information and Software Technology</i> , 52(9): 972-990, 2010.	<b>Elsevier</b>	<i>Australia CORE Ranking: (2008: B; 2007: B), SCI impact factor (2003: 0.632; 2008: 1.2)</i>
9.	<b>Stein C.</b> , <b>Etzkorn,L.</b> , Gholston, S., Farrington, P., Utley, D., Cox, G., and Fortune, J., "Semantic Metrics: Metrics Based on	<b>Taylor &amp; Francis</b>	<i>Australia CORE Ranking: (2008: B), SCI impact factor (2003: 0.789; 2007: 0.753)</i>

	Semantic Aspects of Software,” <i>Applied Artificial Intelligence</i> , Vol. 23, Issue 1, January 2009, pp.44-77.		
10.	<b>Orme, Anthony Mark, Yao, Haining, Etkorn, Letha,</b> “Complexity Metrics for Ontology Based Information,” <i>International Journal of Technology Management</i> , Vol. 47, No. 1/2/3, 2009, pp.161-173.	<b>Inderscience Publishers</b>	<i>SCI impact factor (2007: 0.356)</i>
11.	Cox, G., Hughes, William E., <b>Etkorn, Letha H.</b> , and Weisskopf, Mary E., “Predicting Computer Science PhD Completion: A Case Study,” <i>IEEE Transactions on Education</i> , Vol. 52, No. 1, Feb. 2009, pp.137-143.	<b>IEEE Education Society</b>	<i>Australia CORE Ranking: (2008: B), SCI impact factor (2005: 0.644; 2007: 0.815)</i>
12.	<b>Vinz, B.L,</b> and <b>Etkorn, L.H.</b> , “Improving Program Comprehension by Combining Code Understanding with Comment Understanding,” <i>Knowledge-Based Systems</i> , Vol. 21, Issue 8, December, 2008, pp. 813-825.	<b>Elsevier</b>	<i>Australia CORE Ranking: (2008: B; 2007: A), SCI impact factor (2003: 0.825; 2007: 0.574)</i>
13.	<b>Olague, Hector M., Etkorn, Letha H.</b> , Messimer, Sherri L., and Delugach, Harry, “An Empirical Validation of Object-Oriented Class Complexity Metrics and Their Ability to Predict Error-Prone Classes in Highly Iterative, or Agile, Software,” <i>Journal of Software Maintenance and Evolution</i> , Vol. 20, Issue 3, May/June 2008, pp. 171-197.	<b>Wiley InterScience</b>	<i>Australia CORE Ranking: (2008: B; 2007: B), SCI impact factor (2007) 0.765</i>
14.	<b>Yao, Haining, Etkorn, L.</b> , and Virani, S., “Automated Classification and Retrieval of Reusable Software Components,” <i>Journal of the American Society for Information Science and</i>	<b>Wiley Interscience</b>	<i>Australia CORE Ranking: (2008: A*; 2007: A), SCI impact factor (2006: 1.555; 2007: 1.436)</i>

	<i>Technology</i> , 59(4), February, 2008, pp.613-627.		
15.	<b>Funkhouser, O., Etzkorn, L.,</b> and Hughes, W.E., "A Lightweight Approach to Software Validation By Comparing UML Use Cases with Internal Program Documentation Selected Via Call Graphs," <i>Software Quality Journal</i> , Vol. 16, No. 1, March, 2008, pp. 131-156.	<b>Springer</b>	<i>Australia CORE Ranking: (2008: C), SCI impact factor (2006: 0.4; 2007: 0.543)</i>
16.	Carter, Donna M, Aygun, Ramazan, Cox, Glenn, Weisskopf, Mary Ellen, <b>Etzkorn, Letha</b> , "The Effect of Uncontrolled Concurrency on Model Checking," <i>Concurrency and Computation: Practice and Experience</i> , Vol. 20, No. 12, August, 2008, pp. 1419-1438.	<b>Wiley Interscience</b>	<i>Australia CORE Ranking: (2008: A; 2007: A), SCI impact factor (2007: 1.154)</i>
17.	<b>Gall, C. (Stein), Lukins, S., Etzkorn, L.,</b> Gholston, S., Farrington, P., Utley, D., Fortune, J., and Virani, S., "Semantic Software Metrics Computed from Natural Language Design Specifications," <i>IET Software (formerly IEE Proceedings Software)</i> , Vol. 2, No. 1, February, 2008, pp. 17-26.	<b>IET (Institute for Engineering and Technology), the professional institution for engineering and technology in the UK</b>	<i>Australia CORE Ranking: (2008: B), SCI impact factor (2006: 0.64)</i>
18.	<b>Olague, H., Etzkorn, L.,</b> Gholston, S., and <b>Quattlebaum, S.</b> , "Empirical Validation of Three Software Metrics Suites to Predict Fault-Proneness of Object-Oriented Classes Developed Using Highly Iterative or Agile Software Development Processes," <i>IEEE Transactions on Software Engineering</i> , Vol. 33, No. 6, June, 2007, pp. 402-419.	<b>IEEE Computer Society</b>	<i>Australia CORE Ranking: (2008: A*; 2007: A+), SCI impact factor (2006: 2.132; 2007: 2.105)</i>

<p>19. <b>Dabney, Richard, Etkorn, Letha,</b> and Cox, Glenn, “A Fault-Tolerant Approach to Test Control Utilizing Dual Redundant Processors,” <i>Advances in Engineering Software</i>, Vol. 39, No. 5, May 2008, pp. 371-383.</p>	<p><b>Elsevier</b></p>	<p>Australia CORE Ranking: (2008: B), SCI impact factor (2006: 0.431; 2007: 0.529)</p>
<p>20. Carpenter, Sandra L., Delugach, Harry S., <b>Etkorn, Letha H.</b>, Farrington, Phillip A., Fortune, Julie L., Utley, Dawn R., Virani, Shamsnaz S., “A Knowledge-Modeling Approach to Evaluating Student Essays in Engineering Courses,” <i>Journal of Engineering Education</i>, Vol. 96, No. 3, July, 2007, pp.227-238.</p> <ul style="list-style-type: none"> <li>selected as one of two papers from the Journal of Engineering Education in year 2007 to be included in the Annals of Research in Engineering Education, 2008</li> </ul>	<p><b>American Society for Engineering Education</b></p>	<p>Listed as one of the core journals in the field of Advanced Learning Technologies by the <a href="#">TENCompetence Project</a>;</p> <p>“JEE is the mostly widely read educational research journal in engineering education with 8,000 subscribers in over 70 countries, and it is the most highly cited education journal currently ranked first in the categories of education and educational research on the Thomson ISI Science Citation Index and the Social Science Citation index.” <a href="http://www.asee.org/publications/jee/">http://www.asee.org/publications/jee/</a> [last accessed Dec 2008]</p> <p>SCI impact factor (2006: 0.304; 2007: 0.3)</p>
<p>21. Cox, Glenn W., Gholston, Sampson E., Utley, Dawn, <b>Etkorn, Letha, Stein, Cara,</b> Farrington, Philip, Fortune, Julie, “Empirical Validation of the RCDC and RCDE Semantic Complexity Metrics for Object-Oriented Software,” <i>Journal of Computing and Information Technology</i>, Vol. 15, No. 2, 2007, pp. 1-10.</p>	<p><b>University Computing Centre, Zagreb, Croatia</b></p>	<p>Australia CORE Ranking: (2008: C)</p>
<p>22. <b>Orme, Anthony M.</b>, and <b>Etkorn, Letha,</b> “A Parallel Methodology for Reduction of Coupling in Distributed Business-to-Business E-Commerce Transactions,” <i>Journal of Electronic Commerce in Organizations</i>, Vol. 5, No 3, July-September, 2007, pp. 52-67. (later re-published as a book</p>	<p><b>Publication of the Information Resources Management Association, Idea Group Publishing</b></p>	

	chapter in <u>Consumer Behavior, Organizational Development, and Electronic Commerce: Emerging Issues for Advancing Modern Socioeconomics</u> , Ed. Mehdi Khosrow-Pour, published by IGI Global).		
23.	<b>Orme, A., Yao, H., and Etzkorn, L.</b> , “Indicating Ontology Data Quality, Stability, and Completeness Throughout Ontology Evolution,” <i>Journal of Software Maintenance and Evolution</i> , Vol. 19, Issue 1, January/February 2007, pp. 49-75.	<b>Wiley InterScience</b>	<i>Australia CORE Ranking: (2008:B; 2007: B), SCI impact factor (2007: 0.765)</i>
24.	<b>Stein, Cara, Letha Etzkorn, Sampson Gholston, Phillip Farrington, Julie Fortune.</b> "A Knowledge-Based Cohesion Metric for Object-Oriented Software," <i>INFOCOMP Journal of Computer Science</i> , vol. 5, no. 4, December 2006, pp. 44-53.	<b>Department Of Computer Science, Federal University of Lavras, (UFLA) Brazil</b>	<i>Australia CORE Ranking: (2008: C)</i>
25.	<b>Yao, Haining, and Etzkorn, Letha,</b> “Automated Conversion Between Different Knowledge Representation Formats,” <i>Knowledge-Based Systems</i> , Vol. 19, Issue 6, Oct. 2006, pp. 404-412.	<b>Elsevier</b>	<i>Australia CORE Ranking: (2008: B; 2007: A), SCI impact factor (2003: 0.825; 2007: 0.574)</i>
26.	<b>Olague, Hector M., Etzkorn, Letha H, Li, Wei, and Cox, Glenn,</b> “Assessing Design Instability in Iterative (Agile) Object-Oriented Projects,” <i>Journal of Software Maintenance and Evolution</i> , Vol. 18, Issue 4, July/August 2006, pp.237-266	<b>Wiley InterScience</b>	<i>Australia CORE Ranking: (2008: B; 2007: B), SCI impact factor (2006: 0.636; 2007: 0.765)</i>
27.	Cox, Glenn, <b>Etzkorn, Letha,</b> and Hughes, William E., “Cohesion Metric for Object-Oriented Systems Based on Semantic	<b>Taylor &amp; Francis</b>	<i>Australia CORE Ranking: (2008: B), SCI impact factor (2003: 0.789, 2007: 0.753)</i>

	Closeness from Disambiguity,” <i>Applied Artificial Intelligence</i> , Vol. 20, No. 5, May-June, 2006, pp. 419-436.		
28.	<b>Orme, Anthony M., Yao, Haining, and Etzkorn, Letha</b> , “Coupling Metrics for Ontology-Based Systems,” <i>IEEE Software</i> , Vol. 23, No. 2, March/April 2006, pp. 102-108.	<b>IEEE Computer Society</b>	<i>Australia CORE Ranking: (2008: B), SCI impact factor ( 2005: 1.333; 2007: 1.462)</i>
29.	<b>Shatnawi, Raed, Etzkorn, Letha, and Hughes, W.E.</b> , “Comparing Object-Oriented Languages Using Design Patterns,” <i>International Journal of Computers and Applications</i> , Vol. 27, No. 4, 2005, pp. 228-236.	<b>ACTA Press</b>	<i>Australia CORE Ranking: (2008: C), This journal is a merge of 3 earlier journals: 1) Int. Journal of Mini and Microcomputers (first published in 1979); 2) Int. Journal of Parallel and Distributed Systems; and 3) Journal of Microcomputer Applications which had SCI impact factor (1994) 0.123</i>
30.	<b>Stein, C., Cox, G., Etzkorn, L., Gholston, S., Virani, S., Farrington, P., Utley, D., Fortune, J.</b> , “Exploring the Relationship Between Cohesion and Complexity,” <i>Journal of Computer Science</i> , 1(2), 2005, pp. 137-144.	<b>Science Publications</b>	<b>NOTE:</b> available on amazon.com [last accessed 11/10/08] <b>Exploring the relationship between cohesion and complexity.: An article from: Journal of Computer Science</b> by Cara Stein, Glenn Cox, and Letha Etzkorn ( <b>Digital</b> - Jan 16, 2008) - <b>HTML</b> <b>Buy: \$9.95</b>
31.	<b>Yao, Haining, Orme, Anthony M., Etzkorn, Letha</b> , “Cohesion Metrics for Ontology Design and Application,” <i>Journal of Computer Science</i> , 1(1), 2005, pp. 107-113.	<b>Science Publications</b>	
32.	<b>Etzkorn, Letha, Gholston, Sampson E., Fortune, Julie L., Stein, Cara E., Utley, Dawn, Farrington, P.A., and Cox, G.W.</b> , “A Comparison of Cohesion Metrics for Object-Oriented Systems,” <i>Information and Software Technology</i> , Vol. 46, Issue 10, August 2004, pp. 677-687.	<b>Elsevier</b>	<i>Australia CORE Ranking: (2008: B; 2007: B), SCI impact factor (2003: 0.632; 2007: 0.581)</i>



<p><b>33.</b> Naji, Hamid R., Wells, B. Earl, <b>Etzkorn, Letha</b>, "Creating An Adaptive Embedded System by Applying Multi Agent Techniques to Reconfigurable Hardware," <i>Future Generation Computer Systems</i>, Volume 20, Issue 6, August 2004, Pages 1055-1081.</p>	<p><b>Elsevier</b></p>	<p><i>Australia CORE Ranking: (2008: A; 2007: A),</i> <i>SCI impact factor (2005: 0.555; 2007: 1.095)</i></p>
<p><b>34.</b> Naji, Hamid R., <b>Etzkorn, Letha</b>, Wells, B. Earl "Applying MultiAgent Techniques to Reconfigurable Systems," <i>Advances in Engineering Software</i>, Volume 35, Issue 7, July 2004, Pages 401-413.</p>	<p><b>Elsevier</b></p>	<p><i>Australia CORE Ranking: (2008: C),</i> <i>SCI impact factor (2006: 0.431; 2007: 0.529)</i></p>
<p><b>35.</b> <b>Etzkorn, L.H.</b>, Gholston, S., Weisskopf, M.E., "A Study of Student Performance in Combined Courses," <i>Journal of Information Systems Education</i>, Vol 15 (2), July, 2004.</p>	<p><b>Education Special Interest Group (EDSIG) of the Association of Information Technology Professionals (AITP)</b></p>	<p><i>Australia CORE Ranking: (2008: C)</i></p>
<p><b>36.</b> <b>Etzkorn, Letha</b>, Gholston, Sampson, and Hughes, William E., Jr., "A Semantic Entropy Metric," <i>Journal of Software Maintenance and Evolution</i>, Vol. 14, Issue 4, July/August, 2002, pp. 293-310.</p>	<p><b>Wiley InterScience</b></p>	<p><i>Australia CORE Ranking: (2008: B; 2007: B),</i> <i>SCI impact factor (2002: 0.722; 2007: 0.765)</i></p>
<p><b>37.</b> <b>Etzkorn, Letha</b>, Davis, Carl, and Bowen, Lisa, "The Language of Comments in Computer Software: A Sublanguage of English," <i>Journal of Pragmatics</i>, Vol. 33, No. 11, 2001, pp.1731-1756.</p>	<p><b>Elsevier</b></p>	<p><i>SCI impact factor (2005: 0.566; 2007: 484)</i></p>
<p><b>38.</b> <b>Etzkorn, Letha</b>, Hughes, William Evans, Jr., and Davis, Carl, "Automated Reusability</p>	<p><b>Elsevier</b></p>	<p><i>Australia CORE Ranking: (2008: B; 2007: B)</i> <i>SCI impact factor (2003: 0.632;</i></p>

	Quality Analysis of OO Legacy Software," <i>Information and Software Technology</i> , Vol. 43, No. 5, April, 2001, pp. 295-308.		2007: 0.581)
39.	Li, Wei, <b>Etzkorn, Letha</b> , Davis, Carl, and Talburt, John "An Empirical Study of Design Evolution in an Object-Oriented System," <i>Information and Software Technology</i> , Vol. 42, No. 6, April, 2000, pp. 373-381.	<b>Elsevier</b>	<i>Australia CORE Ranking: (2008: B, 2007: B)</i> <i>SCI impact factor (2003: 0.632; 2007: 0.581)</i>
40.	<b>Etzkorn, Letha</b> , Bowen, Lisa, and Davis, Carl, "An Approach to Program Understanding by Natural Language Understanding," <i>Natural Language Engineering</i> , Vol. 5, Issue 5, March, 1999, pp. 219-236. <a href="#">An Approach to Program Understanding by Natural Language Understanding</a>	<b>Cambridge University Press</b>	<i>Australia CORE Ranking: (2008: A, 2007: A)</i>
41.	Bansiya, Jagdish, Davis, Carl, and <b>Etzkorn, Letha</b> , "An Entropy Based Complexity Measure for Object-Oriented Designs," <i>Theory and Practice of Object Systems</i> , Vol. 5, No. 2, May, 1999, pp.1-9.	<b>Wiley InterScience</b>	<i>Combined with Concurrency: Practice and Experience in 2000 to form Concurrency and Computation: Practice and Experience, Australia CORE Ranking: 2007: A, SCI impact factor (2003: 0.569)</i>
42.	<b>Etzkorn, Letha</b> , Bansiya, Jagdish, and Davis, Carl, "Design and Complexity Metrics for OO Classes," <i>Journal of Object-Oriented Programming</i> , Vol. 12, No., 1, March,1999,pp. 35-40. <a href="#">joop2.pdf</a>	<b>SIGS Publications</b>	<i>Australia CORE Ranking: (2007:B), SCI impact factor (1999: 0.306)</i>
43.	Bansiya, J., <b>Etzkorn, L.</b> , Davis, C., and Li, W., "A Class Cohesion Metric for Object-Oriented Design," <i>Journal of Object-Oriented Programming</i> , Vol. 11, No. 8, January, 1999, pp. 47-52. <a href="#">joop1.pdf</a>	<b>SIGS Publications</b>	<i>Australia CORE Ranking: (2007: B), SCI impact factor (1999: 0.306)</i>
44.	<b>Etzkorn, L.</b> , Davis, C., and Li, W., "A Practical Look at the Lack of Cohesion in Methods Metric,"	<b>SIGS</b>	<i>Australia CORE Ranking: (2007: B), SCI impact factor (1999: 0.306)</i>

	<i>Journal of Object-Oriented Programming</i> , Vol. 11, No. 5, Sept. 1998, pp.27-34. <a href="#">joop.pdf</a>	<b>Publications</b>	
<b>45.</b>	<b>Etzkorn, L.H.</b> , and Davis, C.G., "Automatically Identifying Reusable OO Legacy Code," <i>IEEE Computer</i> , Vol. 30, No. 10, October, 1997, pp. 66-71.	<b>IEEE Computer Society</b>	<i>Australia CORE Ranking (2008: B), SCI impact factor ( 2003: 1.552; 2007: 1.367)</i> <i>This is the IEEE Computer Society's Flagship Publication</i>
<b>46.</b>	<b>Etzkorn, L.H.</b> , and Davis, C.G., "Automated Object-Oriented Reusable Component Identification," <i>Knowledge-Based Systems</i> , Vol. 9, Issue 8, Dec. 1996, pp. 517-524.	<b>Elsevier</b>	<i>Australia CORE Ranking: (2008: B; 2007:A)</i> <i>SCI impact factor (2003: 0.825; 2007: 0.574)</i>

<b>Editorially Reviewed Articles</b>		
	<b>Publisher and/or Affiliation</b>	<b>Journal Impact and Ranking Information (where available)</b>
1. <b>Etzkorn, Letha</b> , Sherrill, Joel, and O'Guin, Ron, "The CORBA Notification Service: Applicability in a Real Time, Embedded Environment," <i>Embedded Systems Programming (renamed Embedded Systems Design)</i> , Oct, 2002.	<b>CMP Media LLC</b>	
2. <b>Ironsides, E.</b> , <b>Etzkorn, L</b> , Zajac, D., "Examining CORBA Interoperability," <i>Dr. Dobbs' Journal</i> , June, 2001, pp. 111-122.	<b>CMP Media LLC</b>	<i>Australia CORE Ranking: (2007: A)</i> <i>SCI impact factor (2003: 0.098; 2007: 0.048)</i>

<b>Peer Reviewed Conference Publications</b>
<b>SUBMITTED</b>
<b>NONE AT THIS TIME</b>

## Peer Reviewed Conference Publications

### PUBLISHED OR ACCEPTED

	Acceptance Rate and Conference Ranking (where available)
1. <b>Shojaeshafiei, Mohammad, Etkorn, Letha,</b> Anderson, Michael, “Multiple Layers of Fuzzy Logic to Quantify Vulnerabilities in IoT”, 6 <sup>th</sup> International Conference on Networks and Communications (NCO 2020), Toronto, Canada, July 11-12, 2020.	
2. Winningham, J., Coe, D., Kulick, J., Milenkovic, A., <b>Etkorn, L.</b> , “A Single-Board Computing Constellation Supporting Integration of Hands-On Cybersecurity Laboratories into Operating Systems Courses”, <i>National Cyber Summit 2020</i> , June 2-4, 2020.	
3. <b>Shojaeshafiei, Mohammad, Etkorn, Letha,</b> Anderson, Michael, “Network Systems Vulnerability Quantification Using Multi-layered Fuzzy Logic based on GQM”, <i>National Cyber Summit 2020</i> , Huntsville, AL, June 2-4, 2020.	
4. <b>Shojaeshafiei, Mohammad, Etkorn, Letha,</b> Anderson, Michael, “Cybersecurity Framework Requirements to Quantify Vulnerabilities based on GQM,” <i>National Cyber Summit 2019</i> , Huntsville, AL, June 4-6, 2019.	
5. Meade, W., <b>Etkorn, L.</b> , Zhang, H., “The Missing Element: A Discussion of Autism Spectrum Disorders in Computer Science,” <i>Proceedings of the American Society for Engineering Education</i> , Daytona Beach, FL, March 4-6, 2018.	
6. <b>McKinney-Young, J. Etkorn, L.</b> Crowd-Sourced, Cloud-Based Applications Support Real- Time, Decentralized, Ad-hoc, Emergency Management Services at the Individual Level: A Case Study. <i>Proceedings of the 17th International Conference on Internet computing and Internet of Things (ICOMP'16)</i> , July 2016, pp. 119-124.	
7. <b>McKinney-Young, J. Etkorn, L.</b> Comparing the Group Intelligence of Static Agents versus Mobile Agents in a Mobile Autonomous Environment , <i>Proceedings of the 18th Int'l Conf on Artificial Intelligence (ICAI'16)</i> , July 2016, pp. 88-93.	
8. <b>McKinney-Young, J. Etkorn, L.</b> Comparing An Object Oriented Runtime Complexity Metric To Depth First Search Complexity with Mobile Agents in a Mobile Autonomous Environment . <i>Proceedings of the 14th International Software Engineering Research and Practice Conference (SERP '16)</i> , July 2016, pp. 181-186.	

9. Coe, D., Kulick, J., Milenkovic, A., Kim, S., <b>Etzkorn, L.</b> “An Approach to Securing Cloud and Internet of Things Applications,” <i>National Cyber Summit</i> , Poster Session, June 7-9, 2016.	
10. Johnston, R, Kim, S., Coe, D., <b>Etzkorn, L.</b> , Kulick,J., Milenkovic, A.,”Xen Network Flow Analysis for Intrusion Detection,” <i>Proceedings of the 11<sup>th</sup> Annual Cyber and Information Security Research Conference</i> , Oak Ridge TN, April 5-7, 2016.	
11. <b>Jones, J., Etzkorn, L.H.</b> , “Analysis of Digital Forensics Live System Acquisition Methods to Achieve Optimal Evidence Preservation,” <i>Proceedings of IEEE SoutheastCon 2016</i> , Norfolk, VA, March 30-April 3, 2016, pp.1-6.	
12. <b>Zhijiang (John) Wu, Etzkorn, L.H.</b> ,” Validation of an Approach for Finding Good Anchor Nodes in Ontologies in the Semantic Web”, <i>Proceedings of IEEE SoutheastCon 2015</i> , April 9-16, 2015, Fort Lauderdale, FL, pp. 1-6.	
13. <b>Desouky, A., Beard, M.D. Etzkorn, L. H.</b> , “A Qualitative Analysis of Code Clones and Object Oriented Runtime Complexity,” <i>IEEE International Conference For Convergence Of Technology (IEEE I2CT '14)</i> , April 6-8, Pune, India, 2014.	
14. <b>Wu, John</b> , and <b>Etzkorn, L.H.</b> ,” An Approach For Finding Good Anchor Nodes in Ontologies in the Semantic Web,” <i>Proceedings of the 52nd Annual Southeast Regional Conference (ACMSE '14)</i> , March 28-29, Kennesaw, Georgia, 2014.	
15. <b>Desouky, A. F., Etzkorn, L. H.</b> , Object Oriented Cohesion Metrics: A Qualitative Empirical Analysis of Runtime Behavior. <i>Proceedings of the 52nd Annual Southeast Regional Conference (ACM-SE14)</i> , March 28-29, Kennesaw, Georgia, 2014.	
16. <b>Desouky, Amr F., Etzkorn, Letha H.</b> “An Object-Oriented Runtime Complexity Metric Based on Iterative Decision Points,” <i>Proceedings of the 11<sup>th</sup> International Conference on Software Engineering Research and Practice (SERP '13)</i> , July 22-25, Las Vegas, NV, July 2013.	
17. <b>Beard, Matthew</b> , Kraft, Nicholas, and <b>Etzkorn, Letha</b> , “Code Clones in Rhino: A Case Study,” <i>Proceedings of the 16<sup>th</sup> International Conference on Software Engineering and Applications</i> (SEA 2012), Nov. 12-14, Las Vegas, NV, 2012.	
18. Carpenter, S., Utley, D, Delugach, H., and <b>Etzkorn, L.</b> (2012), “Measuring shared mental models without prior knowledge of the task: Metrics for mental model convergence and distinctiveness,” <i>Interdisciplinary Network of Group Researchers</i> , Poster session, Chicago, IL, July, 2012,	
19. Lindsey, Michael C. , Coe, David J., Kulick, Jeffrey, <b>Etzkorn, Letha</b> , and Fu, Yujian “Design of Safety Critical Survivable Systems Using Autonomic and Semantic Web Methodologies”, <i>Proceedings of the International Conference on Software Engineering Research and Practice</i> (SERP'12) Las Vegas, NV,	Acceptance rate 26%

July 2012.	
20. Baker, Steven, <b>Beard, Matthew</b> , <b>Etzkorn, Letha</b> , “A Case Study of Software Quality and Reuse,” <i>Proceedings of the 50<sup>th</sup> ACM Southeast Conference</i> , Tuscaloosa, AL, March 29-31, ACM New York, NY,2012.	
21. <b>Beard, Matthew</b> , Kraft, Nicholas A., <b>Etzkorn, Letha H.</b> , Lukins, Stacy K, Measuring the Accuracy of Information Retrieval Based Bug Localization Techniques. <i>Proceedings of the 8th IEEE Working Conference on Reverse Engineering( WCRE 2011)</i> , Limerick, Ireland, October 17-20, 2011, pp.124-128	Acceptance rate 27/104 = 25.9% (full papers)
22. Biggers, Lauren R , Eddy, Brian P., Kraft, Nicholas A., <b>Etzkorn, Letha H.</b> : Toward a metrics suite for source code lexicons. <i>Proceedings of the IEEE 27th International Conference on Software Maintenance (ICSM 2011)</i> , Williamsburg, VA, USA, September 25-30, 2011, pp. 492-495.	Acceptance rate: 38% (Early Research Achievements Track)
23. Corley, C.S., Kraft, N.A., <b>Etzkorn, L.H.</b> , and <b>Lukins, S.K.</b> ,”Recovering Traceability Links between Source Code and Fixed Bugs via Patch Analysis,” <i>Proceedings of the International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE '11)</i> , Honolulu, HI, May 23, 2011, ACM New York, NY, pp. 31-37.	Acceptance rate: 44%
24. <b>Michal, David S.</b> , and <b>Etzkorn, Letha</b> , “A Comparison of Player/Stage/Gazebo and Microsoft Robotics Developer Studio,” <i>Proceedings of the ACM Southeast Conference</i> , Kennesaw, GA, March 24-26, 2011.	
25. <b>Mathur, Ruchira, Keen, Kevin</b> , and <b>Etzkorn, Letha</b> , “Towards a Measure of Object Oriented Runtime Cohesion Based on Number of Instance Variable Accesses ,” <i>Proceedings of the ACM Southeast Conference</i> , Kennesaw, GA, March 24-26, 2011.	
26. Carpenter, S., Delugach, H., <b>Etzkorn, L.</b> , Fortune, J., Utley, D., and Virani, S.,“The Effect of Shared Mental Models on Team Performance,” <i>Proceedings of the Industrial Engineering Research Conference</i> , Institute of Industrial Engineers. Cancun, Mexico, June 5-9, 2010.	
27. <b>Mathur, R., Keen, K.J.</b> , and <b>Etzkorn, L.H.</b> , "Towards an Object-Oriented Complexity Metric at the Runtime Boundary based on Decision Points in Code," <i>Proceedings of the ACM Southeast Conference</i> , Oxford, MS, Apr.15-17, 2010.	
28. <b>Shrimpsher, Dan, Wu, Zhijiang, Orme, Anthony M.</b> , and <b>Etzkorn, Letha</b> ,”Dynamic Ontology Version Control,” <i>Proceedings of the ACM Southeast Conference</i> , Oxford, MS, Apr.15-17, 2010.	
29. <b>Keen, K., Mathur, R.</b> , and <b>Etzkorn,L.</b> , “Towards a Measure of Software Intelligence Employing a Runtime Complexity Metric,” <i>Proceedings of the IASTED Software Engineering and Applications (SEA) Conference (SEA 2009)</i> , Cambridge, MA, Nov. 2-4, 2009.	

<p>30. <b>Schrimpscher, Dan</b> and <b>Etz Korn, L.</b>, “An Empirical Quality Model for Web Service Ontologies to Support Mobile Devices,” <i>Proceedings of the Third International Symposium on Empirical Software Engineering and Measurement (ESEM 2009)</i>, Lake Buena Vista, FL, Oct. 15-16,2009, pp. 447-450.</p>	<p><i>Australia 2007 Conf. Ranking: A</i></p>
<p>31. <b>Keen, Kevin</b>, and <b>Etz Korn, Letha</b>,”Predicting Students Grades in Computer Science Courses Based on Complexity Measures of Teacher’s Lecture Notes,” <i>Journal of Computing Sciences in Colleges</i>, Vol. 24, No. 5, May, 2009, pp. 44-48.</p>	
<p>32. <b>Schrimpscher, Dan</b> and <b>Etz Korn, L.</b>, “Sub-Graphing Web Service Ontologies to Support Resource Constraints of Mobile Devices,” <i>Proceedings of the 47<sup>th</sup> Annual ACM Southeast Conference</i>, Clemson, SC, March 19-21, 2009</p>	
<p>33. Virani, S., <b>Etz Korn, L.</b>, Gholston, S., Farrington, P., Utley, D., and Fortune, J., “Investigation of Domain Effects on Software,” <i>Proceedings of the 47<sup>th</sup> Annual ACM Southeast Conference</i>, Clemson, SC, March 19-21, 2009</p>	
<p>34. Carpenter, S., Delugach, H., <b>Etz Korn, L.</b>, Fortune, J., Utley, D., Farrington, P, and Virani, S.,”Studying Team Shared Mental Models,” <i>Proceedings of the 3<sup>rd</sup> ACM International Conference on the Pragmatic Web (ICPW ’08)</i>, Uppsala, Sweden, Sept. 29-30, 2008, pp. 39-46.</p>	
<p>35. <b>Lukins, Stacy</b>, Kraft, Nicholas, and <b>Etz Korn, Letha</b>, “Source Code Retrieval For Bug Localization Using Latent Dirichlet Allocation,” <i>Proceedings of the 15th IEEE Working Conference on Reverse Engineering (WCRE 2008)</i>, Antwerp, Belgium, Oct. 15-18, 2008, pp.155-164.</p>	<p><i>Australia 2007 Conf. Ranking: B, Acceptance rate 20/70 = 28.6% (full papers)</i></p>
<p>36. <b>Vinz, Brad</b>, and <b>Etz Korn, Letha</b>, "Combined Code Understanding and Comment Understanding," <i>Proceedings of the 2008 International Conference on Software Engineering Research and Practice (SERP'08)</i>, Las Vegas, Nevada, USA, July 14-17, 2008, pp. 55-60.</p>	
<p>37. <b>Vinz, Brad</b>, and <b>Etz Korn, Letha</b>, "Comments as a Sublanguage: A Study of Comment Grammar and Purpose," <i>Proceedings of the 2008 International Conference on Software Engineering Research and Practice (SERP'08)</i>, Las Vegas, Nevada, USA, July 14-17, 2008, pp. 17-23.</p>	
<p>38. Virani, Shamsnaz, Messimer, Sherri, <b>Roden, Patricia</b>, and <b>Etz Korn, Letha</b>, “Software Quality Management Tool for Engineering Managers,” <i>Proceedings of the Industrial Engineering Research Conference, Institute of Industrial Engineers</i>, Vancouver, B.C.,Canada, May 17-21, 2008, pp.1401-1406.</p>	

39. <b>Keen, Kevin, and</b> Etzkorn, Letha, “A Brief Survey of Mobile Agents on Mobile Robotic Platforms,” <i>ACMSE 2008 poster session</i> , Auburn, AL, March 28-29,2008.	
40. <b>Vinz, Brad, and</b> Etzkorn, Letha, “A Study of Comment Abstraction, Coupling, and Placement,” <i>Proceedings of the 11<sup>th</sup> IASTED International Conference on Software Engineering and Applications</i> , Cambridge,MA, Nov. 19-21, 2007, pp. 290-296.	<i>Australia 2007 Conf. Ranking: C, Acceptance rate ~63%,</i>
41. <b>Roden, Patricia L., Etzkorn, Letha,</b> Virani, Shamsnaz, and Messimer, Sherri, and <b>Vinz, B.L.,</b> “A Validation of the Entropy-Based SDI <sub>e</sub> Metric,” <i>Proceedings of the 11<sup>th</sup> IASTED International Conference on Software Engineering and Applications</i> , Cambridge,MA, Nov. 19-21, 2007, pp.57-65.	<i>Australia 2007 Conf. Ranking: C, Acceptance rate ~63%,</i>
42. <b>Roden, Patricia L.,</b> Virani, Shamsnaz, <b>Etzkorn, Letha H.,</b> and Messimer, Sherri, “An Empirical Study of the Relationship of Stability Metrics and the QMOOD Quality Models over Software Developed Using Highly Iterative or Agile Software Processes,” <i>Proceedings of the 7<sup>th</sup> IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM '07)</i> , Paris, France, Sept. 30-Oct 1, 2007, pp.171-179..	<i>Acceptance rate 19/74 = 25.7%</i>
43. <b>Etzkorn, Letha H.,</b> Messimer, Sherri L., and <b>Olague, Hector M.,</b> “A Principal Components Analysis of Class Metrics in Three Object-Oriented Class Metrics Suites,” <i>Proceedings of the International Conference on Software Engineering Research and Practice (SERP '07)</i> , Las Vegas, NV, USA, June 25-28, 2007, pp. 397-406.	<i>Acceptance rate 29% for regular/research papers.</i>
44. <b>Eichelkraut, C., and</b> Etzkorn, L.H., “Describing Agent Based Real-Time Distributed Systems using Design Patterns,” <i>Proceedings of the 45<sup>th</sup> Annual ACM Southeast Conference</i> , Winston-Salem, NC, March 23-24, 2007, pp. 156-161.	<i>Acceptance rate 59%</i>
45. <b>Orme, Anthony M., and</b> Etzkorn, Letha, “A Coupling Metric for B2B e-Commerce Systems,” <i>Proceedings of the International Conference on e-Learning, e-Business, Enterprise Information Systems, e-Government, and Outsourcing (EEE '06)</i> , Las Vegas, NV, June 26-29, 2006, pp.85-88.	
46. <b>Olague, Hector, Etzkorn, Letha,</b> and Cox, Glenn, “An Entropy-Based Approach to Assessing Object-Oriented Software Maintainability and Degradation,” <i>Proceedings of the International Conference on Software Engineering Research and Practice (SERP '06)</i> , June 26-29, 2006, Las Vegas, USA, vol. 1, pp. 642-652.	
47. <b>Raley, Maureen and</b> Etzkorn, Letha, “Management Metrics in Risk Determination During A Widely Distributed Computer System Upgrade,” <i>Proceedings of the International Conference on Software Engineering Research and Practice (SERP '06)</i> , June 26-29, 2006, Las Vegas, USA, pp. 734-740.	
48. <b>Vinz, Brad, and</b> Etzkorn, Letha, “A Synergistic Approach to Program Comprehension,” <i>Proceedings of the 14<sup>th</sup> IEEE</i>	<i>Acceptance rate</i>



<p><i>International Conference on Program Comprehension</i>, Athens, Greece, June 14-16, 2006, pp. 69-73.</p>	<p>(for short papers) 48%</p>
<p>49. <b>Eichelkraut, Craig</b> and <b>Etzkorn, Letha</b>, "Optimization of Military Distributed Control Systems Using a Mobile Agent-based Approach," <i>Proceedings of the Agent Directed Simulation Conference (ADS '06)</i>, The Society For Modeling and Simulation International, Huntsville, AL, April 2-6, 2006, pp. 41 – 47.</p>	<p>Acceptance rate ~50%</p>
<p>50. <b>Eichelkraut, Craig</b> and <b>Etzkorn, Letha</b>, "An Approach for Developing Real-Time Distributed Systems using an Agent Architecture Description Language," <i>Proceedings of the 44<sup>th</sup> Annual ACM Southeast Conference</i>, Melbourne, FL, March 10-12, 2006, pp. 506 – 511.</p>	<p>Acceptance rate (full paper) 100/244 = 41%</p>
<p>51. <b>Olague, H.</b>, and <b>Etzkorn, L.</b>, "An Information Theory Word-Based Metric to Evaluate Software Maintainability and Reusability," <i>Proceedings of the 2005 International Conference on Software Engineering Research and Practice (SERP '05)</i>, Las Vegas, NV, June 27-30, 2005, pp.921-927.</p>	
<p>52. <b>Olague, H.</b>, and <b>Etzkorn, L.</b>, "A Simple Entropy-Based Software Complexity Metric," <i>Proceedings of the 2005 International Conference on Software Engineering Research and Practice (SERP '05)</i>, Las Vegas, NV, June 27-30, 2005, pp.928-934.</p>	
<p>53. <b>Raley, Maureen</b>, and <b>Etzkorn, Letha</b>, "Entropy Metrics-Based Approach to Risk Analysis in the Maintenance Phase of Large-Scale Computer Systems," <i>Proceedings of the 2004 International Conference on Software Engineering Research and Practice (SERP '04)</i>, Las Vegas, NV, June 21-24, 2004, pp. 883-889.</p>	
<p>54. <b>Yao, Haining</b>, and <b>Etzkorn, Letha</b>, "Conversion from Conceptual Graph Model to Resource Description Framework Model," <i>Conceptual Structures at Work: Contributions of the 12<sup>th</sup> International Conference on Conceptual Structures (ICCS '04)</i>, Huntsville, AL, July 19-23, 2004, pp. 98-114.</p>	<p>Australia 2007 Conf. Ranking: A</p>
<p>55. <b>Stein, Cara</b>, <b>Etzkorn, Letha</b>, Cox, Glenn, Farrington, Philip, Gholston, Sampson, Utley, Dawn, and Fortune, Julie, "A New Suite of Semantic Metrics for Object-Oriented Software." <i>Proceedings of the 1st International Workshop on Software Audits and Metrics (SAM 2004)</i>, Porto, Portugal, April 13-14, 2004, pp. 49-58.</p>	<p>Acceptance rate = 10/16 =62%</p>
<p>56. <b>Raley, Maureen</b>, and <b>Etzkorn, Letha</b>, "Case Study: Lessons Learned During a Nationwide Computer System Upgrade," <i>Proceedings of the 42<sup>nd</sup> Annual ACM Southeast Conference</i>, Huntsville, AL, April 2-3, 2004, pp.363-368.</p>	<p>Acceptance rate (full paper) 73/134=55.5%</p>
<p>57. <b>Stein, Cara</b>, <b>Etzkorn, Letha</b>, Utley, Dawn, Farrington, Philip, Cox, Glenn, Fortune, Julie, and Gholston, Sampson, "Computing Software Metrics from Design Documents," <i>Proceedings of the 42<sup>nd</sup> Annual ACM Southeast Conference</i>, Huntsville, AL, April</p>	<p>Acceptance rate (full paper) 73/134=55.5%</p>

2-3, 2004, pp. 146-151.	
58. Yao, Haining, and Etkorn, Letha, "Towards a Semantic-based Approach for Software Reusable Component Classification and Retrieval," <i>Proceedings of the 42<sup>nd</sup> Annual ACM Southeast Conference</i> , Huntsville, AL, April 2-3, 2004, pp. 110-115.	Acceptance rate (full paper) 73/134=55.5%
59. Cox, Glenn, and Etkorn, Letha, "The Effectiveness of Battery-Conserving Protocols in Wireless LANs," <i>IEEE Sarnoff Symposium on Advances in Wired and Wireless Communications</i> , Princeton, NJ, April 26-27, 2004, pp.137-140.	
60. Orme, A.M., Etkorn, L.H., "An Enabling Mobile/Intelligent Agent Framework for Distributed Logistics Management Solutions," <i>Proceedings of 6th World Multiconference on Systemics, Cybernetics and Informatics</i> , Orlando, FL, July 27-30, 2003, pp. 470-479. (Winner, Best paper, Management Information Systems session)	
61. Cox, G.W., Etkorn, L., and Pajnigara, Z. "On Battery Conservation Strategies for Wireless Protocols," <i>Proceedings of the 2003 International Conference on Wireless Networks (ICWN '03)</i> , Las Vegas, NV, June 23-26, 2003, CSREA Press, pp.335-340.	
62. Cox, G.W., and Etkorn, L., "Power-Related Performance of 802.11 Protocols," <i>Proceedings of the 2003 International Conference on Wireless Networks (ICWN '03)</i> , Las Vegas, NV, June 23-26, 2003, CSREA Press, pp. 322-327.	
63. Naji, Hamid R., Etkorn, Letha, Adhami, Reza, Wells, B. Earl, "Parallel Image Processing with Agent-based Reconfigurable Hardware," <i>Proceedings of the 15<sup>th</sup> International Conference on Parallel and Distributed Computing Systems (PDCS 2002)</i> , Louisville, KY, September 2002.	
64. Naji, Hamid Reza, Etkorn, Letha, and Wells, B. Earl, "Hardware Agents: A New Approach to Support Development and Management of Information Systems," <i>Proceedings of the 6th World Multiconference on Systemics, Cybernetics and Informatics</i> , Orlando, FL, July 14-18, 2002.	
65. Etkorn, Letha and Delugach, Harry, "Towards a Semantic Metrics Suite for Object-Oriented Design," <i>Proceedings of the 34<sup>th</sup> International Conference on Technology of Object-Oriented Languages and Systems, TOOLS 34 (TOOLS USA)</i> , July 30-August 4, 2000, IEEE Computer Society Press, Los Alamitos, CA, 2000, pp. 71-80.	Australia 2007 Conf. Ranking: B, Acceptance Rate ~33%
66. Etkorn, L.H., Davis, C.G., Bowen, L.L., Wolf, J.C., Wolf, R.P., Yun, M.Y., Vinz, B.L., Orme, A.M., Lewis, L.W., "The Program Analysis Tool for Reuse: Identifying Reusable Components," <i>Proceedings of the Eleventh Annual International Florida Artificial Intelligence Research Symposium Conference (FLAIRS</i>	Australia 2007 Conf. ranking: C

'98), Sanibel Island, Florida, May 17-20, 1998, published by AAAI Press, Menlo Park, California, 1998, pp. 121-125.	
67. <b>Etzkorn, L.H.</b> , Davis, C.G., Bowen, L.L., Etzkorn, D.B., Lewis, L.W., Vinz, B.L., and Wolf, J.C., "A Knowledge-Based Approach to Object-Oriented Legacy Code Reuse," <i>Proceedings of the Second IEEE International Conference on Engineering of Complex Computer Systems (ICECCS '96)</i> , Montreal, Quebec, Canada, Oct. 21-25, 1996, IEEE Computer Society Press, Los Alamitos, CA, 1996, pp. 39-45.	<i>Australia 2007 Conf. Ranking: A, Acceptance rate ~35%</i>
68. <b>Etzkorn, L.H.</b> , "A Metrics-Based Approach to the Automated Identification of Object-Oriented Reusable Components: A Short Overview," <i>ACM OOPSLA '95 Doctoral Symposium</i> , Austin, TX, Oct. 16-19, 1995.	<i>Australia Conf. Ranking: A+</i>
69. <b>Etzkorn, L.H.</b> , and Davis, C.G., "A Metrics-Based Approach to the Automated Identification of Object-Oriented Reusable Components: A Short Overview," <i>ACM OOPSLA '95 Poster session</i> , Austin, TX, Oct. 16-19, 1995.	<i>Australia Conf. Ranking: A+</i>
70. <b>Etzkorn, L.H.</b> , and Davis, C.G., "Automated Object-Oriented Reusable Component Identification," <i>Proceedings of the Second International Symposium on Knowledge Acquisition, Representation, and Processing (KARP '95)</i> , Auburn, AL, Sept. 27-30, 1995 (an extended version was later published in <i>Knowledge-Based Systems</i> journal, see journal articles).	
71. <b>Etzkorn, L.H.</b> , and Davis, C.G., "Knowledge-Based Object-Oriented Reusable Component Identification," <i>Proceedings of the Eighth Annual Florida AI Research Symposium</i> , Melbourne Beach, FL, April 27-29, 1995, pp. 97-101.	<i>Australia 2007 Conf. ranking: C</i>
72. <b>Etzkorn, L.H.</b> , and Davis, C.G., "A Documentation-related Approach to Object-Oriented Program Understanding," <i>Proceedings of the IEEE Third Workshop on Program Comprehension</i> , Washington, D.C., Nov. 14-15, 1994, pp. 39-45.	

<b>Workshop Papers</b>
<b>PUBLISHED OR ACCEPTED</b>
1. <b>Etzkorn, Letha H.</b> , "Semantic Metrics, Conceptual Metrics, and Ontology Metrics: An Analysis of Software Quality Using IR-based Systems, Potential Applications and Collaborations," position paper (invited) <i>Information Retrieval Based Approaches in Software Evolution, International Conference on Software Maintenance, Philadelphia, PA, Sept. 25-27, 2006. Available at <a href="http://www.cs.wayne.edu/~amarcus/icsm2006/">http://www.cs.wayne.edu/~amarcus/icsm2006/</a>, Australia Conf. Ranking: A</i>

## Reviewed Abstract Conference Papers

### PUBLISHED OR ACCEPTED

1. **Etzkorn, Letha**, Menon, Vineetha, "Successful Transformation from Example to Role Model," *Mentoring Circles, Grace Hopper Celebration 2019*, Oct 1-4, 2019 accepted.
2. **Etzkorn, Letha**, "Cybersecurity in Education: Cloud, Software Defined Network, and Intrusion Detection Modules," *Southeast Symposium on Contemporary Engineering Topics (SSCET 18)*, August 3, 2018.
3. Cox, G., Datta, A., and **Etzkorn, Letha**, "A Modeling Approach to Support Performance Comparison of Competing Peer-to-Peer Networks," *Huntsville Simulation Conference*, 2005.
4. **Etzkorn, L.H.**, **Stein, C.**, Cox, G.W., Gholston, S., Utley, D., Farrington, P., "Examining a Semantic Metrics Suite for Object-Oriented Design," *Proceedings of the 4<sup>th</sup> Annual NASA Office of Safety and Mission Assurance Software Assurance Symposium*, OSMA SAS 2004, Morgantown, West Virginia, July 20-22, 2004.
5. **Orme, Anthony Mark**, **Etzkorn, Letha**, "Trading Partner Logistics Management Automation and Simulation with Collaboration Protocol Agreements and Mobile/Intelligent Agents," *Huntsville Simulation Conference HSC03*, Huntsville, AL, October 30-31, 2003.
6. **Etzkorn, L.H.**, **Stein, C.**, Cox, G.W., Gholston, S., Utley, D., Farrington, P., "Investigating a Semantic Metrics Suite for Object-Oriented Design," *Proceedings of the 3<sup>rd</sup> Annual NASA Office of Safety and Mission Assurance Software Assurance Symposium*, OSMA SAS 2003, Morgantown, West Virginia, July 30-Aug 1, 2003.
7. **Etzkorn, Letha**, "A Critical Examination of Entropy Metrics," *ACM Mid-Southeast Conference*, Gatlinburg, TN, Nov. 11-12, 1999.
8. **Etzkorn, L.H.**, "An Overview of the PATricia System: A System for Object-Oriented Reusable Component Identification," *ACM Mid-Southeast Conference*, Gatlinburg, TN, Nov. 9-10, 1995, (*Winner, third prize, graduate student competition*).
9. **Etzkorn, L.H.**, "Automated Object-Oriented Reusable Component Identification: An Overview," *ACM Mid-Southeast Conference*, Gatlinburg, TN, Nov. 10-11, 1994.

## Final Reports on Grants and Contracts

1. **Etzkorn, L.** Final Report for SHF: Small: Collaborative Research: Improving Code Clone Categorization, National Science Foundation, 2013.
2. **Etzkorn, L.**, Gholston, S., Utley, D., Farrington, P, Cox, G., **Lukins, S.**, Fortune, J., and Virani, S., Final Report for NASA Semantic Metrics for Object-Oriented Design, 2005.
3. Utley, D, **Etzkorn, L.**, Farrington, P, Gholston, S., Fortune, J., and Virani, S., Final Report

on NASA Advanced Engineering Environment Metrics, 2005.

4. Cox, G., and **Etzkorn, Letha H.**, Final Report for UAH Instructional Minigrant Web-Based Tools to Enhance the Teaching of Digital Logic Design and Computer Architecture, October, 2002.
5. **Etzkorn, Letha H.**, Final Report for Army Contract F/DOD/ARMY/AMCOM/CORBA Support for Missile Guidance, Jan. 2002.
6. **Etzkorn, Letha H.**, Final Report for UAH Research Mini-Grant, Knowledge-Bases for Program Understanding, Sept. 2001.
7. **Etzkorn, Letha H.**, **Ironside, E.**, Feasibility Study on the Use of CORBA in the Environment of the U.S. Army Test, Maintenance, and Diagnostic Equipment Activity," Final report for Army Contract F/DOD/ARMY/AMCOM/Common Object Request Broker Architecture (CORBA) Interface Research and Development, Jan. 2001.

## Textbooks

1. Etzkorn, Letha Hughes, *Introduction to Middleware: Web Services, Object Components, and Cloud Computing*, CRC Press, Taylor & Francis Group, 2017.

## Other Publications

Click on [Technical reports](#), for copies of all UAH CS department technical reports, including mine

2. **Etzkorn, Letha**, "Cybersecurity in Education: Cloud, Software Defined Network, and Intrusion Detection Modules," *Southeast Symposium on Contemporary Engineering Topics (SSCET) and UAH Engineering Forum*, Huntsville, AL, August 3, 2018.
3. Biggers, Lauren, Eddy, Brian P., Kraft, Nicholas, **Etzkorn, Letha H.**, "An Empirical Study of Relationships between Source Code Lexicons," Technical Report # SERG-2011-02, Department of Computer Science, University of Alabama, April, 2011.
4. **Etzkorn, Letha**, and Yoo, Seong-Moo (Sam), Eds, *Proceedings of the 42<sup>nd</sup> Annual Association for Computing Machinery Southeast Conference (ACMSE '04)*, published by ACM, April, 2004.
5. **Etzkorn, Letha Hughes**, "The Use of a Simple Methodology for Flip Flop Conversion as an Aid in Teaching Synchronous Sequential Circuits in a Digital Systems Design Course," TR-UAH-CS-1998-01, Computer Science Department, The University of Alabama in Huntsville, October, 1998.
6. **Etzkorn, Letha**, Davis, Carl, and Li, Wei, "A Statistical Comparison of Various Definitions of the LCOM Metric," Technical Report TR-UAH-CS-1997-02, Computer Science Department, The University of Alabama in Huntsville, Huntsville, AL, April, 1997.
7. **Etzkorn, L.H.**, Davis, C.G., Vinz, B.L, Wolf, R.P., Wolf, J.C., Yun, M.Y., Bowen, L.L., Orme, A.M., Lewis, L.W., and Etzkorn, D.B., "An Examination of Object-Oriented Reuse Views in the PATricia System," Technical Report TR-UAH-CS-1997-01,

Computer Science Department, The University of Alabama in Huntsville, Huntsville, AL, Jan., 1997.

8. **Etzkorn, L.H.**, and Davis, C.G., "C++ Reusable Component Identification," poster, Sigma Xi Research Day, March 16, 1996 (*Winner, first place Computational Sciences Category*).
9. **Etzkorn, L.H.**, and Davis, C.G., "An Approach to Object-Oriented Program Understanding," Technical Report TR-UAH-CS-1995-01, Computer Science Department, The University of Alabama in Huntsville, Huntsville, AL, Sept. 1995.

## Service Accomplishments and Highlights

### PROFESSIONAL SERVICE

#### *Currently Serving as:*

- Numerous times have been external reviewer for tenure and promotion, and also promotion to full professor, at several universities around the world, USA and elsewhere
- Member of Editorial Board for PeerJ Computer Science, 2015-present
- Member of Review Board, International Journal of Applied Intelligence (Springer), 2013-present

#### *Previously Served as:*

- Associate Editor/Member of Editorial Board for International Journal of Computers and Applications, Taylor & Francis, 2006-2017
- Member of Program Committee for Cyber and Information Security Research Conference (CISRC 2017)
- Member of Editorial Board and Section Editor, The Open Software Engineering journal, Bentham Open publishing, 2008-2014
- Member of Editorial Board for Software Engineering journal, ACTA Press, 2011-2014
- Member of Editorial Board/Associate Editor for Advances in Software Engineering journal, Hindawi Publishing, 2008-February 2012
- Program Chair for ACM Southeast Conference (ACMSE 2004)
- Guest editor (co-editor was Dr. Tim Menzies from West Virginia University) of a Special Issue on Information Retrieval for Program Comprehension, Empirical Software Engineering journal, Vol 14, No. 1, February, 2009.
- Doctoral Symposium Chair for Southeast Software Engineering Conference (2002, 2003)
- Member of Program Committee for:
  - Cyber and Information Security Research Conference (CISRC 2017, CISRC 2016)
  - IEEE International Conference on Program Comprehension (ICPC 2008)
  - IASTED International Conference on Software Engineering (SE 2013, SE 2014).
  - IASTED International Conference on Software Engineering and Applications (SEA 2006, SEA 2007, SEA 2008, 2009, 2010, 2011, 2012, 2013)
  - Information Resources Management Association Conference (IRMA 2006, IRMA 2007)
  - ACM Southeast Conference (ACMSE 2006, ACMSE2007, ACMSE2012)

#### *Have refereed/reviewed numerous papers for various journals, including:*

- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Software Engineering
- ACM Transactions on Software Engineering and Methodology
- IET Software (formerly IEE Proceedings Software)
- Software: Practice and Experience
- Software Quality Journal
- Data and Knowledge Engineering journal
- Journal of Software Maintenance and Evolution: Research and Practice
- IEICE Transactions on Information and Systems
- Journal of Systems and Software
- Future Generation Computer Systems
- Information Processing Letters
- Information Technology and Management
- Information Sciences
- International Journal on Semantic Web and Information Systems

- Acta Cybernetica
- Applied Intelligence (Springer journal)
- Information and Software Technology
- Integrated Computer-Aided Engineering
- Computers and Industrial Engineering
- Science of Computer Programming
- Algorithms
- International Journal of Neural Systems
- The Arabian Journal for Science and Engineering
- Journal of Circuits, Systems, and Computers
- Journal of Information Processing Systems
- IEEE Computing in Science & Engineering
- Software and Systems Modeling

*Reviewed books/textbooks:*

- Encyclopedia of Software Engineering article reviewer
- Encyclopedia of E-Business Development and Management in the Digital Economy article reviewer
- Reviewed a CORBA/Middleware textbook for Morgan Kaufmann, 2001.
- Reviewed a digital systems textbook for Cambridge University Press, 2008.
- Reviewed a C++ introductory textbook for Jones and Bartlett, 2008.

*Reviewed proposals:*

- National Science Foundation
- Air Force Office of Scientific Research
- Cooperative Grants of the U.S. Civilian Research and Development Foundation (CRDF).
- DoD EPSCOR
- King Fahd University, Saudi Arabia

*Served as an external reviewer for Assistant Professors going up for tenure+promotion*

*Judge*

- Computer Science (and sometimes Mathematics also) Category Judge at the Alabama Science and Engineering Fair, 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2006, 2005, 2003, 2002, 2001, 2000, 1999
- Judge at Alabama Supercomputing (ASPIRE) EXPO, 2002, 2001, 2000, 1999, 1998

*Gave talks:*

- (together with Dr. Kraft and Dr. Carver from Univ. of Ala.) at Alabama A&M University on our Code Clone research from an NSF grant, Nov. 17, 2009.
- University of Alabama in Birmingham seminar, on Nov. 30, 2007.

## **DEPARTMENTAL/COLLEGE/UNIVERSITY SERVICE**

- Chan Chair in Physics search committee, 2021-2022.
- Chair or Co-Chair, CS department faculty search committee, numerous times.
- UAH Equal Employment Opportunity Committee, 2012-present
- Dean of Science search committee, 2019-2021



- Authorship and Textbook Selection Policy Working Group, Spring, 2019.
- Biology Chair Search Committee, Oct, 2018-March, 2019.
- UAH VPR Office New Faculty Research Program Committee, Oct-Nov, 2018.
- Member of Chief Information Officer (CIO) search committee, 2017/2018
- Member of Faculty Database Implementation committee, 2017/2018
- Member of Faculty Database Software replacement committee, 2016/2017
- Chair of University SACS COC Effectiveness Committee, 2014/15
- Served as Preliminary Action officer (together with a professor from the College of Engineering) to investigate a grievance in the College of Liberal Arts, plus an examination of the current climate in the College of Liberal Arts, October, 2014.
- Member of Vice President for Research Search Committee, 2012/13
- Chair of Faculty Appeals Committee, 2011/12
- Faculty Senate, Fall, 2001 to 2003, 2007-2011, 2014-2015
  - Served as faculty senate past-president, 2010/11 academic year
  - Served as **faculty senate president**, 2009/10 academic year
  - Served as faculty senate president-elect, 2008/9 academic year
  - Served on Finance and Resources committee, 2007/8
  - Served on Faculty and Student Development Committee, 2001-2003,2014-2015
- External Member on College of Business Promotion and Tenure Committee, Fall 2014.
- University Peer and Aspirants Committee, 2010/11
- ECE/Computer Science Merger Committee, Spring/Summer 2010
- Graduate Council, 2004-2009
  - Includes service on graduate council curriculum committee, 2004-2009
- College of Science Promotion and Tenure Committee, Fall 2004, Fall 2005
- Directed CS department Robotics Lab, 2007-2014
- Directed CS department Hardware Lab, 2011-present
- Chair of the departmental committee to develop departmental promotion and tenure standards, spring 2008.
- Member of faculty search committee, 1999/2000, 2004/2005, 2006/2007, 2007/2008
- Chair of faculty search committee, 2014/2015, 2012/2013
- Various departmental faculty reappointment and tenure committees, often as chair
- Departmental committee to revamp MSSE program, 2012
- Chair of the departmental architecture committee, 2001/2002
- Coordinated master's comprehensive exam, Fall 1999, Fall 2005, Fall 2008, Fall 2011, Spring 2012
  - Coordinated software engineering section, Fall 2007
  - Regularly submit questions and grade for both software engineering and architecture sections

- Faculty advisor for student Association for Computing Machinery, 1998-Fall 2003
  - Took ACM programming teams to regional contests, Fall 1999, Fall 2000, Fall 2001, Fall 2002, Fall 2003
  - Nominated by students for 1998 Outstanding Group Advisor Award
- Departmental committee to reorganize PhD preliminary exam, 2006
- Departmental software engineering curriculum committee, 2004
- Departmental graduate curriculum committee, 2000
- Interdepartmental (CS and ECE) network and information assurance committee, 2005
- University Scheduler and Calendar selection committee, 1999
- Served on numerous PhD and MS thesis committees
  - Computer Science dept, ISEEM dept, ECE dept, MAE dept
- Served as an observer numerous times
- Recruited students for and served on College of Science phoneathon, Fall, 2001.