Conference Program

59th Annual International Conference
October 2 - 5, 2019
Clearwater Beach Marriott Suites on Sand Key
Clearwater Beach, Florida

Conference Theme: Cybersecurity
WELCOME

Welcome to the 59th Annual Conference for the International Association for Computer Information Systems. This year, we are hosting the conference in beautiful Clearwater Beach Florida.

This year’s theme, *The Convergence of IS and EdTech for Enhancing Educational Processes and Supporting Organizations*, was embraced by this year’s authors. Full papers, panels, and presentations range in topics from cybersecurity curriculum design and development; aligning cybersecurity curriculum to Center for Academic Excellence Security education & training; security risk; security awareness; security threats and prevention; human elements; trust; information security compliance; Internet of Things (IoT) security; mobile security; protecting data; and others.

In addition, participation in IACIS provides an added benefit. All submissions undergo a double blind-peer reviewed process. High-ranking research and pedagogy full papers are selected for presentation at the IACIS conference and publication in IACIS journal, *Issues in Information Systems (IIS)*.

IIS is a double-blind refereed, serial journal publication of IACIS that is registered with the U.S. Library of Congress (ISSN 1529-7314) and listed in the Eighth Edition of Cabell's Directory of Publishing Opportunities in Management and Marketing.

Papers selected for publication in *Issues in Information Systems (IIS)*, as well as accepted abstracts and panels published in the Conference Proceedings, can be accessed at IACIS.org.

The IACIS board members would like to take this opportunity to thank you for contributing to the 58th Annual IACIS Conference, and for your continued support. We look forward to lively and meaningful presentations, discussions, and collegial networking.
IACIS EXECUTIVE BOARD MEMBERS

Executive Director: Robert P. Behling
Managing Director: Daryl Nord
Treasurer & Director of Conference Arrangements: Susan Haugen Behling
Publications Director: Jeretta Horn Nord
Technology & Operation Director: Alex Koohang
President: Gary DeLorenzo
Vice President & 2019 Conference Chair: Maria Elena Corbeil
Secretary & IIS Editor: Joanna Paliszkiewicz

ACKNOWLEDGEMENTS

We would like to express our appreciation to the Taylor & Francis team for their year-round support of the conference and JCIS.

AWARD RECIPIENTS

This symbol next to the title of a presentation in the conference schedule designates an award recipient.
# PROGRAM OVERVIEW

## Wednesday, October 2, 2019

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>6:00 - 8:00 p.m.</td>
<td>Registration</td>
<td>Veranda</td>
</tr>
<tr>
<td>6:00 - 8:00 p.m.</td>
<td>Welcome Reception</td>
<td>Veranda</td>
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## Thursday, October 3, 2019

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<tr>
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<tbody>
<tr>
<td>8:00 a.m. - 4:00 p.m.</td>
<td>Registration</td>
<td>Ballroom Foyer</td>
</tr>
<tr>
<td>7:30 – 9:00</td>
<td>Breakfast</td>
<td>Ballroom Foyer Redington/Bellair</td>
</tr>
<tr>
<td>8:30 – 9:00</td>
<td>General Session- Welcome</td>
<td>Redington/Bellair</td>
</tr>
<tr>
<td>9:00 – 10:00</td>
<td>Keynote Address</td>
<td>Redington/Bellair</td>
</tr>
<tr>
<td>10:10 – 11:10</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Longboat Key Madeira Indian Shores</td>
</tr>
<tr>
<td>11:20 – 12:20</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Longboat Key Madeira Indian Shores</td>
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<tr>
<td>12:20 – 1:20</td>
<td>Networking Lunch</td>
<td>Redington/Bellair</td>
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<tr>
<td>1:20 – 2:20</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Longboat Key Madeira Indian Shores</td>
</tr>
<tr>
<td>2:30 – 3:30</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Longboat Key Madeira</td>
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<tr>
<td>3:30 – 3:40</td>
<td>Refreshment Break</td>
<td>Ballroom Foyer</td>
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<tr>
<td>3:50 – 4:50</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Indian Shores Madeira</td>
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<tr>
<td>6:00 – 10:00 p.m.</td>
<td>Fun Night</td>
<td>Poolside South</td>
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## Friday, October 4, 2019

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<td>8:00 a.m. – 4:00 p.m.</td>
<td>Registration</td>
<td>Ballroom Foyer</td>
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<tr>
<td>7:30 – 9:00</td>
<td>Breakfast</td>
<td>Ballroom Foyer Redington/Bellair</td>
</tr>
<tr>
<td>9:00 – 10:00</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Indian Shores Madeira</td>
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<tr>
<td>10:10 – 11:10</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Indian Shores Madeira</td>
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<tr>
<td>11:10 – 11:20</td>
<td>Refreshment Break</td>
<td>Ballroom Foyer</td>
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<tr>
<td>11:20 – 12:20</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Indian Shores Madeira</td>
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<tr>
<td>12:20 – 2:20</td>
<td>Business Luncheon &amp; Awards</td>
<td>Redington/Bellair</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
<td>Location</td>
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<td>2:20 – 3:20</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Madeira</td>
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<tr>
<td>3:30 – 4:30</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Madeira</td>
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<tr>
<td>3:30 – 4:30</td>
<td>JCIS Editorial Board Meeting</td>
<td>Longboat Key</td>
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### Saturday, October 5, 2019

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<tr>
<td>7:30 – 9:00</td>
<td>Breakfast</td>
<td>Ballroom Foyer Redington/Bellair</td>
</tr>
<tr>
<td>9:00 – 10:00</td>
<td>Concurrent Presentation Sessions</td>
<td>Siesta Key Madeira Longboat Key</td>
</tr>
<tr>
<td>10:00 – 10:10</td>
<td>Refreshment Break</td>
<td>Ballroom Foyer</td>
</tr>
<tr>
<td>10:10 – 11:20</td>
<td>Concurrent Paper Sessions</td>
<td>Siesta Key Madeira</td>
</tr>
<tr>
<td>11:20 – 12:00</td>
<td>Conference Debriefing</td>
<td>Redington/Bellair</td>
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KEYNOTE ADDRESS SPEAKER

LYNNE CLARK

Lynne Clark is Chief of the NSA/DHS National Centers of Academic Excellence in Cyber Defense (CAE-CD) Program Office. She has 40 years of combined military and civilian service. She received her Air Force commission in 1978 and joined NSA in 1999. Ms. Clark and her team manage CAE-CD program office functions such as establishing and maintaining designation criteria, collecting and adjudicating designation applications, working with participating schools to bring new schools into the program, strategic planning, managing grants, and on behalf of DoD-CIO, managing the DoD Cyber Scholarship program.

Ms. Clark facilitates partnerships with federal departments and agencies, collaborates with designated colleges and universities, and represents the National Security Agency at meetings and events. Prior to this assignment, Ms. Clark was Deputy Chief of Workforce Resources, Education and Development for NSA’s Information Assurance Directorate (IAD). This included responsibility for IAD’s hiring and intern programs, education and professional development for IAD personnel.

From 1993 to 2012, Ms. Clark was assigned to the Interagency OPSEC Support Staff, where she had responsibility for Operations Security (OPSEC) training, program development consultation, and OPSEC risk analysis services to all Federal Departments and Agencies with a national security mission. During her tenure at the IOSS, she participated in several interagency working groups, most notably as Chair of the National Security Policy Board’s OPSEC and Risk Management Working Group. She is the recipient of the Meritorious Civilian Service Award, was twice awarded the Joint Meritorious Unit Award for IOSS special projects in support of the Department of Defense, and the National Intelligence Meritorious Unit Citation for support to the Intelligence Community.

Prior to her tenure at the IOSS, Ms. Clark served in the U.S. Air Force with worldwide assignments in airspace management, radar operations and operations risk management. She spent eight years serving in NATO during the Cold War and during the Germany reunification. She was involved in development of secure range operations for military RDT&E facilities, advised on risk management issues involved in the START and Open Skies treaties, and managed the Air Force OPSEC Program at the Pentagon. She retired at the rank of Lieutenant Colonel in 1999.

Ms. Clark’s academic credentials include a Master’s in Clinical Psychology from the Fielding Institute, and a B.A. in Community Development from Baldwin-Wallace College.
IACIS RECOGNITION AWARDS
OVERVIEW

With the awards described below, each year IACIS recognizes a number of individuals who have made significant contributions to Information Systems and related fields through scholarship, research, publication, curriculum and program development, and service.

Computer Educator of the Year

The Computer Educator of the Year is the highest award given by the Association, and competition for the award is keen. Candidates show exceptional research and teaching skills, have made significant contributions to IS and IS education, and enjoy a national or international reputation for their outstanding work throughout the professional community. Recent recipients have included curriculum innovators, leaders in the field of artificial intelligence and IS management, and publishers of learning materials that have significantly impacted the educational community. Nominations for the Computer Educator of the Year are accepted from September until March, with the selection made in June or July. The award is presented at the annual conference in the fall.

Ben Bauman Award for Excellence

Ben Bauman was a long-time member, officer, Director and contributor to IACIS, and a member of the faculty at James Madison University. Ben made it his life's work to contribute to his profession and university and to mentor junior faculty and help them realize their potential. He passed away suddenly, and in recognition of his years of service and contributions, IACIS established an award in his honor.

The Ben Bauman Award for Excellence recognizes faculty excellence and service. Candidates for the Ben Bauman Award include senior faculty with significant service to their profession, university, and community. Examples of service include taking a leadership role in professional organizations, assuming significant committee responsibilities and serving the community through civic, church, and other activities. While research and scholarship are important activities for all faculty, the major emphasis when reviewing senior faculty nominations for the Ben Bauman Award is on significant and long-term service.

A second category of candidates includes junior faculty showing outstanding scholarship, service, and great promise. It is expected that candidates in this category will not have a long record of scholarship and service but will have recognizable achievements. The major emphasis when reviewing junior faculty nominations for the Ben Bauman Award is on the candidate's potential and promise for a significant academic career.
Nominations are accepted for both junior and senior faculty, with one candidate from all nominations selected each year to receive the award. Nominations for the Ben Bauman Award for Excellence are accepted from September until March, with the selection made in June or July. The awards are presented at the annual conference in the fall.

**Jay Liebowitz Outstanding Student Research Award**

The Jay Liebowitz Outstanding Student Research Award is an award that recognizes an outstanding student research paper submitted to the IACIS Annual Conference. While the paper may include co-authorship with other students and/or faculty, the research reported must be based on a student-initiated project. Criteria includes: (1) contribution of the research to the existing literature; (2) research methodology, data collection, and analysis; (3) lessons learned; and (4) clarity of the writing. The award includes a modest honorarium and recognition in the conference program. The award is presented at the annual IACIS International Conference.

**Best Pedagogy Paper**

An award for the best paper written regarding pedagogy is awarded at the annual conference. Based on the results of the double-blind, peer reviews, the paper is selected from those submitted for presentation at the conference. An Honorable Mention will also be awarded in this category. There is no nomination for this award and all papers accepted for presentation at the conference are candidates.

**Best Research Paper**

An award for the best paper written regarding research is awarded at the annual conference. Based on the results of the double-blind, peer reviews, the paper is selected from those submitted for presentation at the conference. An Honorable Mention will also be awarded in this category. There is no nomination for this award and all papers accepted for presentation at the conference are candidates.
Richard V. McCarthy is a Professor of Computer Information Systems in the School of Business at Quinnipiac University. For many years, prior to his academic career, Professor McCarthy worked in industry. He first served as Programmer Analyst for Aetna Life and Casualty, Project Leader for Bath Iron Works, and Information Systems Director for Travelers Insurance Group. In 1991, he was designated a Chartered Property Casualty Underwriter.

He began his academic career as an Associate Professor at Central Connecticut State University in 1999 and accepted an appointment as Professor of CIS at Quinnipiac University in 2001.

During his career Professor McCarthy has been a prolific researcher and writer, publishing more than 50 academic manuscripts, including 15 book chapters, case studies and instructor manuals, and more than 40 conference proceedings. He has also done 5 book reviews, served on 7 doctoral dissertation committees, completed 11 external faculty reviews for tenure and promotion, and completed three external university program reviews. Service includes serving on more than 30 university wide and college committees, serving as Associate Dean from 2008 - 20012, currently serving as Director of the MS in Business Analytics program, serving as President of the International Association for Computer Information Systems, serving on the Board of Directors of Enterprise Architecture Body of Knowledge, a federally funded research and development center, and serving as an Advisory Board member for Procedia Computer Science Education.

Community service includes service on his church Parish Council, the Town of Hamden Technology Commission, Little League coach and head of the Umpires Committee, Service on the Information Technology Task Face, Secretary of State of Connecticut, Chair, Mid-State Special Olympics, and Softball Coach for Connecticut’s team at the International Special Olympics.

We congratulate the 2019 Computer Educator of the Year, Professor Richard V. McCarthy, for his outstanding record of achievement, his scholarship, and his contributions to his profession, the university, his students, and his community.
The Ben Bauman Award for Excellence recognizes faculty excellence and service. Dr. Bryan Marshall’s career exemplifies significant and long-term service to the profession, academic and scholarly achievements, and mentoring and leadership of students.

He is a Professor of Information Systems in the J. Whitney Bunting College of Business at Georgia College and State University.

Over the years, Professor Marshall has taught nearly all the undergraduate Information Systems course offerings, including Programming, Networking, Web Design, Electronic Commerce, System Administration and System Security. Graduate courses taught include International Business, Project Management, and Information Planning and Strategies. He has also served on several dissertation committees.

Professor Marshall is also an active researcher and scholar. He has published more than 25 research manuscripts, made numerous research presentations, and received several research grants from his home university and from Microsoft. Academic awards include the 2008 IACIS Best Research Paper Award, the 2011 GC&SU McMillan Faculty Award. His service includes mentoring students. His students show notable achievements. For example, he was the faculty mentor of the students who won the 2018 IACIS Jay Liebowitz Student Research Award at IACIS.

Service to his university includes many committee assignments at both the departmental and university level, and service as a member and Chair of the Senate Academic Policy Committee. He serves as MIS Assessment Director, Economic Club Faculty Advisor, Association of Information Systems Faculty Advisor, Beta Alpha Psi Faculty Advisor and Department Server Administrator. He also serves as an academic journal manuscript reviewer and has served as a Board member for several local community service organizations.

We congratulate the 2019 Ben Bauman Award for Excellence winner, Professor Bryan Marshall, for his significant record of service to the profession, as well as his university, department, students, and community.
Jay Liebowitz Outstanding Student Research Award

RESEARCH ON SECURITY VISUALIZATION: A SURVEY
Shuyi Liu - Undergraduate student of Computer Science, Vanderbilt University

Co-Authors & Faculty Advisors: Wu He & Xin Tian

Best Paper Award – Pedagogy

INCREASING THE EFFECTIVENESS OF THE CYBERSECURITY TEACHING & LEARNING BY APPLYING ACTIVITY THEORY AND NARRATIVE RESEARCH
Constanta-Nicoleta Bodea
Maria-Iuliana Dascalu
Mihail Cazacu

Best Paper Award – Pedagogy (Honorable Mention)

ON SOLID GROUND: TESTING A THEORETICAL MODEL FOR STUDENT TEAM PROJECT DELIVERY & USING IT TO ASSESS STUDENT TEAM CRISIS MANAGEMENT & TRUST
Michael Lohle
Steven Terrell

Best Paper Award – Research

ANTECEDENTS TO SUCCESSFUL SOFTWARE TRAINING: A RESEARCH FRAMEWORK & PRELIMINARY EVIDENCE
Douglas Havelka
T.M. Rajkumar

Best Paper Award – Research (Honorable Mention)

CONDUCTING SYSTEMATIC LITERATURE REVIEWS IN INFORMATION SYSTEMS: AN ANALYSIS OF GUIDELINES
Zefeng Bai
Nitin Jain
Roman Kurdyukov
Joanna Walton
Ying Wang
Tyler Wasson
Xiaolin Zhu
Alina M. Chircu

The IACIS 2019 Conference Program is an official publication of the INTERNATIONAL ASSOCIATION FOR COMPUTER INFORMATION SYSTEMS
# CONFERENCE SCHEDULE

## Wednesday, October 2, 2019

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<tr>
<td>9:00 – 10:00</td>
<td><strong>Keynote Address by Lynne Clark</strong></td>
<td>Redington/Bellair</td>
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<tr>
<td></td>
<td><em>Bridging Higher Education Cybersecurity Curriculum to the Guidelines of Center for Academic Excellence</em></td>
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## Thursday, October 3, 10:10 – 11:10 a.m.

<table>
<thead>
<tr>
<th>Room: Siesta Key</th>
<th>Session Chair: George Stefanek</th>
<th>Room: Longboat</th>
<th>Session Chair: Lisa Z. Bain</th>
</tr>
</thead>
</table>
| **AN EVALUATION OF A MULTILINGUAL CHATBOT** | Mahesh Vanjani  
Texas Southern University  
maheh.vanjani@tsu.edu  
Jamison Posey  
University of Mississippi  
jposey@bus.olemiss.edu  
Milam Aiken  
University of Mississippi  
maiken@bus.olemiss.edu | **STUDENT PERCEPTIONS OF SKILL & COMPETENCIES NEEDED FOR CYBERSECURITY PROGRAMS & CAREERS** | Robert Morris University  
Sushma Mishra, mishra@rmu.edu  
Jamie Pinchot, pinchot@rmu.edu  
Donna Cellante, cellante@rmu.edu  
Karen Paulett, paulett@rmu.edu |
| **A FRAMEWORK FOR A SMARTPHONE NATURAL LANGUAGE-DRIVEN HEALTHCARE MONITOR & ADVISOR USING WEARABLE DEVICES** | Purdue University Northwest  
George Stefanek, stefanek@pnw.edu  
Marianne Curia, mcuria@pnw.edu  
Janet Garwood, jgarwo07@pnw.edu | **APPLYING A SCRUM FRAMEWORK TO TEACH SYSTEMS ANALYSIS AND DESIGN** | Jean A. Pratt  
University of Wisconsin-Eau Claire  
prattja@uwec.edu |
| **MEASURING IMPACT OF ILLINOIS MINIMUM WAGE INCREASES ON ACADEMIC PROGRAM RETENTION: A CRITICAL INSTANCE CASE STUDY** | James D. Sissom  
Southern Illinois University Carbondale  
jsissom@siu.edu | **REFLECTIONS ON SECURITY COURSES IN CIS CURRICULUM AFTER ATTENDING A CAE WORKSHOP** | Rhode Island College  
Lisa Z. Bain  
lbain@ric.edu  
Suzanne Mello-Stark  
Rhode Island College  
smellostark@ric.edu |
**Thursday, October 3, 10:10 – 11:10 a.m.**

<table>
<thead>
<tr>
<th>Room: Madeira</th>
<th>Room: Indian Shores</th>
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<tbody>
<tr>
<td><strong>Session Chair:</strong> Karen Paullet</td>
<td><strong>Session Chair:</strong> Fred Kohun</td>
</tr>
</tbody>
</table>

**MAPPING THE STRUCTURE OF A TWITTER “SECURITY EXPERT” SOCIAL NETWORK**
John E. Anderson  
Utah Valley University  
janderson@uvu.edu  
Daniel McDonald  
Utah Valley University,  
Daniel.McDonald@uvu.edu

**PREDICTORS OF SUCCESS IN SECURITY & DATA PROTECTION AWARENESS OF MOBILE DEVICES: TRUST & PRIVACY**
Alex Koohang  
Middle Georgia State University  
alex.koohang@mga.edu  
Joanna Paliszkiewicz  
Warsaw University of Life Sciences  
joanna_paliszkiewicz@sggw.pl  
Jeretta Horn Nord  
Oklahoma State University  
jeretta.nord@okstate.edu  
Karen Paullet  
Robert Morris University  
paullet@rmu.edu  
Tara Underwood  
Middle Georgia State University  
tara.underwood@mga.edu

**ECONOMIC COSTS & IMPACTS OF BUSINESS DATA BREACHES**
Ping Wang  
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Hubert D’Cruze  
University of Maryland  
hubert.dcruze@yahoo.com  
David Wood  
Robert Morris University  
wood@rmu.edu

**OPTIMIZING PREDICTIVE MODELS USING AN ANTI-MONEY LAUNDERING CASE**
Richard McCarthy  
Quinnipiac University  
Richard.mccarthy@quinnipiac.edu  
Mary McCarthy  
Central Connecticut State University  
mary.mccarthy@ccsu.edu

**LEARNER SECURITY & PRIVACY RISKS: HOW USAGE OF ONLINE SOCIAL MEDIA OUTSIDE A LEARNING MANAGEMENT SYSTEM AFFECTS LEARNERS’ DIGITAL IDENTITY**
Loreen M. Powell  
Bloomsburg University of PA  
lpowell@bloomu.edu  
Hayden Wimmer  
Georgia Southern University  
hwimmer@georgiasouthern.edu  
Carl Rebman  
University of San Diego  
carlr@sandiego.edu  
Chaza Abdul al  
Harrisburg University  
cabdul@harrisburgu.edu

**SECURE PROTOCOLS & VIRTUAL PRIVATE NETWORKS: AN EVALUATION**
Raymond Angelo  
Quinnipiac University  
raymond.angelo@quinnipiac.edu
### Thursday, October 3, 11:20 a.m. – 12:20 p.m.

<table>
<thead>
<tr>
<th>Room: Siesta Key</th>
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<tr>
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<td><strong>Session Chair:</strong> Joseph Compomizzi</td>
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<tr>
<td><strong>ON SOLID GROUND:</strong> TESTING A THEORETICAL MODEL FOR STUDENT TEAM PROJECT DELIVERY &amp; USING IT TO ASSESS STUDENT TEAM CRISIS MANAGEMENT &amp; TRUST**</td>
<td><strong>IMPLEMENTING QUALITY MATTERS IN AN ONLINE HEALTHCARE ADMINISTRATION COMMUNICATIONS COURSE</strong></td>
</tr>
</tbody>
</table>
| Michael Lohle  
University of Bridgeport  
mlohle@bridgeport.edu  
Steven Terrell  
Nova Southeastern University  
terrell@nova.edu | Joseph Compomizzi  
Florida Atlantic University  
jcomrpmizzi@fau.edu  
Adnan Chawdhry  
California University of Pennsylvania  
chawdhry_a@calu.edu  
Karen Paullet  
Robert Morris University  
paullet@rmu.edu  
Gary Janchenko  
Robert Morris University  
janchenko@rmu.edu |
| **USING DESIGN THINKING STRATEGIES AND VIRTUAL REALITY IN GLOBAL VIRTUAL TEAMS** | **INTEGRATING EXPERIENTIAL LEARNING: USING AN EHR SYSTEM TO TEACH CDSS IN HEALTH INFORMATICS** |
| Joy J. Godin  
Georgia College & State University  
joy.godin@gcsu.edu  
Jeannie Pridmore  
University of West Georgia  
jpridmor@westga.edu | Kalyani Ankem  
Northern Kentucky University  
ankemk1@nku.edu  
Vishal Uppala  
North Dakota State University  
vishal.uppala@ndsu.edu  
Adam Durst  
Mercy Health  
amdurst@mercy.com |
| **PROPOSING A NEW GRADUATE DEGREE IN DATA ENGINEERING & ANALYTICS** | **BROADENING PARTICIPATION IN CYBERSECURITY EDUCATION: USING AN INTERSECTONALITY LENS TO UNCOVER NEW PERSPECTIVES** |
| Kimberly W. Bartholomew  
Utah Valley University  
bartthoki@uvu.edu  
John E. Anderson  
Utah Valley University  
jandrerson@uvu.edu | Debra Nakama  
University of Hawaii Maui  
debran@hawaii.edu  
Karen Paullet  
Robert Morris University  
paullet@rmu.edu |
**Thursday, October 3, 11:20 a.m. – 12:20 p.m.**

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<tr>
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<tr>
<td>Session Chair: D. Scott Hunsinger</td>
<td>Session Chair: Anthony Rodi</td>
</tr>
</tbody>
</table>

**CYBERSECURITY LEADERSHIP: TRUST, EMPOWERMENT & COMPETENCE**
- Petros G. Malakyan
  - Robert Morris University
  - malakyan@rmu.edu
- Wenli Wang
  - Robert Morris University
  - wangw@rmu.edu
- Norman R. Hayes
  - George Washington University
  - Norman_Hayes@msn.com

**CYBER CRIME AND CYBER SECURITY AWARENESS AMONG STUDENTS: A COMPARATIVE STUDY IN ISRAEL & SLOVENIA**
- Dušan Lesjak
  - University of Primorska
  - dusan.lesjak@fm-kp.si
- Moti Zwilling
  - Ariel University
  - motiz@ariel.ac.il
- Galit Klein
  - Ariel University
  - galitk@ariel.ac.il

**WHAT IS CYBERSECURITY & WHAT CYBERSECURITY SKILLS ARE EMPLOYERS SEEKING?**
- Alan Peslak
  - Penn State University
  - arp14@psu.edu
- D. Scott Hunsinger
  - Appalachian State University
  - hunsingerds@appstate.edu

**USING DIGITAL BADGES TO PROMOTE PROFESSIONAL DEVELOPMENT IN HIGHER EDUCATION**
- Gary Janchenko
  - Robert Morris University
  - janchenko@rmu.edu
- Anthony Rodi
  - University of Pittsburgh
  - afrodi@pitt.edu

**INTEGRATING STACKABLE, COMPETENCY-BASED MICROCREDENTIALS INTO ACADEMIC PROGRAMS**
- Maria Elena Corbeil
  - University of Texas at Rio Grande Valley
  - mariaelena.corbeil@utrgv.edu
- Joseph Rene Corbeil
  - University of Texas at Rio Grande Valley
  - rene.corbeil@utrgv.edu

**EXAMINING THE EFFECTS OF QUALITY MATTERS RUBRICS FOR HIGHER EDUCATION ON COURSE DESIGN THROUGH TECHNOLOGY ACCEPTANCE MODEL LENS**
- Wei Sha
  - Pittsburg State University
  - wsha@pittstate.edu

**12:20 - 1:20 p.m.**

Networking Lunch .......................... Redington/Bellair
<table>
<thead>
<tr>
<th>Room: Siesta Key</th>
<th>Room: Longboat Key</th>
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<tr>
<td><strong>Session Chair:</strong> Azad I. Ali</td>
<td><strong>Session Chair:</strong> Paul D. Nugent</td>
</tr>
</tbody>
</table>

**YOU’VE BEEN HACKED: A TECHNIQUE FOR RAISING CYBER SECURITY AWARENESS**
David T. Smith  
Indiana University of Pennsylvania  
dtsmith@iup.edu  
Azad I. Ali  
Indiana University of Pennsylvania  
azadali@iup.edu

**A LONGITUDINAL STUDY OF FACEBOOK PRIVACY POLICIES**
Alan Peslak  
Penn State University  
ar14@psu.edu  
Mauri Conforti  
Geisinger Health Systems  
maconforti1@geisinger.edu

**PRIVACY AND SECURITY TRIBULATIONS IN THE DIGITAL CULTURE**
S.C. Spangler  
Middle Georgia State University  
scott.spangler@mga.edu

**PAIRING CONSTRUCTIVISM WITH THE MULTIDISCIPLINARITY OF IS EDUCATION**
Samuel B. Fee  
Washington & Jefferson College  
sfee@washjeff.edu  
Amanda Holland-Minkley  
Washington & Jefferson College,  
ahollandminkley@washjeff.edu  
Thomas Lombardi  
University of the Virgin Islands,  
thomas.lombardi@uvi.edu

**THE ROLE OF TRADITION IN SYSTEMS ENGINEERING PRACTICE A PRELIMINARY ETHNOGRAPHIC STUDY**
Paul D. Nugent  
Western Connecticut State University  
nugentp@wcsu.edu  
Jennifer Flynn  
Western Connecticut State University  
flynnj@wcsu.edu

**THE USE OF MACHINE LEARNING IN HIGHER EDUCATION**
Frank Swiontek  
University of North Dakota  
frank.swiontek@und.edu  
Assion Lawson-Body  
University of North Dakota  
alawsonbody@business.und.edu  
Laurence Lawson-Body  
University of North Dakota,  
lawrence.lawsonbody@business.und.edu
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<tr>
<th>Room: Madeira</th>
<th>Room: Indian Shores</th>
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<tbody>
<tr>
<td>Session Chair: Wenli Wang</td>
<td>Session Chair: Peter Draus</td>
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**INDUSTRIAL INTERNET OF THINGS VULNERABILITIES AND THREATS: WHAT STAKEHOLDERS NEED TO CONSIDER**
Fred Hoffman  
Mercyhurst University  
fhoffman@mercyhurst.edu

**MINDFUL WEB DEVELOPMENT: A CASE STUDY**
Wenli Wang  
Robert Morris University  
wangw@rmu.edu
Steven P. Niles  
Los Angeles City College,  
nilessp@lacitycollege.edu

**A NOVEL OS-ELM CLASSIFIER BASED ON HOG FEATURE EXTRACTION & VIOLA JONES ALGORITHM FOR FACIAL RECOGNITION**
Ankit Rajpal  
University of Delhi  
ankit.rajpal@ieee.org
Anurag Mishra  
University of Delhi  
anurag_cse2003@yahoo.com
Khushwant Sehra  
Guru Gobind Singh Indraprastha University  
sehrakhushwant@gmail.com

**COMPARISON OF PUBLISHED PROGRAM OUTCOMES WITH STUDENT & FACULTY EXPECTED OUTCOMES USING A CONSTRUCTIVIST ALIGNMENT APPROACH**
Peter Draus  
Robert Morris University  
draus@rmu.edu

**THE YIN & YANG OF A DOCTOR OF SCIENCE IN INFORMATION SYSTEMS & COMMUNICATIONS PROGRAM: PERSONAL REFLECTIONS AND REVERSE ENGINEERING**
Fred Hoffman  
Mercyhurst University  
fhoffman@mercyhurst.edu
Chaojie Wang  
The MITRE Corporation  
cjwang@mitre.org*
Alvi Lim  
The MITRE Corporation  
alim@mitre.org
Jin Kwon  
Robert Morris University  
jhkst187@mail.rmu.edu

**CONDUCTING SYSTEMATIC LITERATURE REVIEWS IN INFORMATION SYSTEMS: AN ANALYSIS OF GUIDELINES**
Bentley University  
Zefeng Bai, zbai@bentley.edu
Nitin Jain, njain@bentley.edu
Roman Kurdyukov, rkurdyukov@bentley.edu
Joanna Walton, jwalton@bentley.edu
Ying Wang, ywang@bentley.edu
Tyler Wasson, twasson@bentley.edu
Alina M. Chircu, achircu@bentley.edu
Renmin University of China  
Xiaolin Zhu, zhuxiaolin@ruc.edu.cn
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<th>Room: Siesta Key</th>
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<tr>
<td>Session Chair: Gary Alan Davis</td>
<td>Session Chair: Matthew North</td>
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<tr>
<td><strong>BIG DATA STUDIES: A SYSTEMATIC REVIEW</strong></td>
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<tr>
<td>Mehmet Ali Köseoglu</td>
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<td>The Hong Kong,</td>
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<tr>
<td><a href="mailto:MehmetAli.Koseoglu@polyu.edu.hk">MehmetAli.Koseoglu@polyu.edu.hk</a></td>
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<td>Mehmet Yildiz</td>
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<tr>
<td>Yildirim Beyazit University</td>
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<tr>
<td><a href="mailto:yildiz@ybusm.info">yildiz@ybusm.info</a></td>
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<tr>
<td>John P. Girard</td>
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<tr>
<td>Middle Georgia State University</td>
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<td><a href="mailto:john.girard@mga.edu">john.girard@mga.edu</a></td>
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<tr>
<td><strong>UPSKILLING &amp; RETRAINING IN DATA</strong></td>
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<td><strong>ANALYTICS: A SKILL-ADJACENCY</strong></td>
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<td><strong>ANALYSIS FOR CAREER PATHS</strong></td>
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<tr>
<td>Ashraf Shirani</td>
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<tr>
<td>San Jose State University</td>
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<tr>
<td><a href="mailto:ashraf.shirani@sjsu.edu">ashraf.shirani@sjsu.edu</a></td>
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<tr>
<td><strong>LEARNING OUTCOME EFFECTIVENESS:</strong></td>
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<td><strong>OPEN-SOURCE VERSUS COMMERCIALLY</strong></td>
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<td><strong>LICENSED DATA MINING SOFTWARE TOOLS</strong></td>
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<td>Gary Alan Davis</td>
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<td>Robert Morris University</td>
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<td><a href="mailto:davis@rmu.edu">davis@rmu.edu</a></td>
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<td>John C. Stewart</td>
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<td>Robert Morris University</td>
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<td><a href="mailto:stewartj@rmu.edu">stewartj@rmu.edu</a></td>
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<td>Diane A. Igoche</td>
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<td><strong>A RELIABILITY &amp; VALIDITY TEST OF A SCALE</strong></td>
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<td>Dennis Pires</td>
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<td>Bethune Cookman University</td>
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<td><a href="mailto:dennis.pires@cookman.edu">dennis.pires@cookman.edu</a></td>
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<td>Leila Halawi</td>
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<td>Embry Riddle Aeronautical University,</td>
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<tr>
<td><a href="mailto:halawil@erau.edu">halawil@erau.edu</a></td>
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<tr>
<td><strong>THE ANCIENT SECRETS OF INFORMATION</strong></td>
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<td><strong>MANAGEMENT</strong></td>
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<td>Ronald Fuller</td>
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<td>The Institute for Logic and the Public Interest</td>
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<td><a href="mailto:rgfuller@logicandbusiness.org">rgfuller@logicandbusiness.org</a></td>
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<td>Matthew North</td>
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<td>Utah Valley University</td>
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<td><a href="mailto:mnorth@uvu.edu">mnorth@uvu.edu</a></td>
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<td>Peter Cardon</td>
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<td>University of Southern California</td>
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<td><a href="mailto:cardon@marshall.usc.edu">cardon@marshall.usc.edu</a></td>
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<tr>
<td><strong>PREPARING TO TEACH ON THE CLOUD NEXT</strong></td>
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<td><strong>TIME: ADAPTING TO LESSONS FROM FIRST</strong></td>
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<td><strong>TIME TEACHING ON THE CLOUD</strong></td>
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<td>Azad Ali</td>
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<td>Indiana University of Pennsylvania</td>
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<td><a href="mailto:azad.ali@iup.edu">azad.ali@iup.edu</a></td>
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<tr>
<td>David Smith</td>
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<tr>
<td><a href="mailto:David.smith@iup.edu">David.smith@iup.edu</a></td>
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</tbody>
</table>
Thursday, October 3, 2:30 – 3:30 p.m.

Room: Madeira
Session Chair: Suhong Li

A PRELIMINARY INVESTIGATION OF QUALITY METRICS AND PERFORMANCE FOR SELECTED INSTITUTIONS DELIVERING TECHNOLOGY MEDIATED HIGHER EDUCATION
Suhong Li
Bryant University
sli@bryant.edu
Kamel Rouibah
Kuwait University
ghallawy@gmail.com
Hal Records
Bryant University
hrecords@bryant.edu
Robert Behling
Arrowrock Industries
behlingr@hotmail.com

APPROPRIATE SAMPLE FOR TECHNOLOGY ADOPTION STUDIES IN TECHNICAL EDUCATION
Shannon W. Beasley
Middle Georgia State University
shannon.beasley@mga.edu

WHAT REALLY MATTERS IN ONLINE EDUCATION?
Wenli Wang
Robert Morris University
wangw@rmu.edu
Alan Peslak
Penn State University
arp14@psu.edu
Paul Kovacs
Robert Morris University
kovacs@rmu.edu
Lisa Kovalchick
California University of Pennsylvania
kovalchick@calu.edu

3:30 - 3:40 p.m. Refreshment Break ....................... Ballroom Foyer
<table>
<thead>
<tr>
<th>Time: Thursday, October 3, 3:50 – 4:50 p.m.</th>
<th>Room: Siesta Key</th>
<th>Room: Indian Shores</th>
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<tbody>
<tr>
<td>Session Chair: Carl M. Rebman Jr.</td>
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<td>Session Chair: Kodey S. Crandall</td>
</tr>
</tbody>
</table>
| **THE AGILE PROJECT MANAGEMENT UNDERPINNINGS: BACKLOG REFINEMENT, TEAM COMPOSITION, AND BACKLOG PREPARATION** | - Rosarito Sánchez-Morcilio  
  University of Puerto Rico  
  Rosarito.sanchez@upr.edu | - INFORMATION TECHNOLOGY STRATEGIES FOR SMALL BUSINESSES  
  Mysore Ramaswamy  
  Southern University  
  mysore@acm.org |
| - Francisco Quiles-Torres  
  University of Puerto Rico  
  Francisco.quiles@upr.edu |                      |                      |
| **EXAMINING A DEEP LEARNING NETWORK SYSTEM FOR IMAGE IDENTIFICATION & CLASSIFICATION FOR PREVENTING UNAUTHORIZED ACCESS FOR A SMART HOME SECURITY SYSTEM** | - Beloved Egbedion  
  Georgia Southern University  
  be02054@georgiasouthern.edu | - HIGH SCHOOL STUDENTS’ PERCEPTIONS OF CYBERSECURITY: AN EXPLANATORY CASE STUDY  
  Kodey S. Crandall  
  Dakota State University  
  kodey.crandall@trojans.dsu.edu |
| - Hayden Wimmer  
  Georgia Southern University  
  hwimmer@georgiasouthern.edu |                      | - Cherie Noteboom  
  Dakota State University  
  cherie.noteboom@dsu.edu |
| - Carl M. Rebman Jr.  
  University of San Diego  
  carlr@sandiego.edu |                      | - Omar El-Gayar  
  Dakota State University  
  omar.el-gayar@dsu.edu |
| - Loreen M. Powell  
  Bloomsburg University  
  powell@bloomu.edu |                      | - Kalee Crandall  
  Utah State Board of Education  
  kalee.crandall@schools.utah.gov |
| **IS WECHAT SOCIAL TECHNOLOGY FITTING TO A WECHAT BRAND GROUP?** | - Linwu Gu  
  Indiana University of Pennsylvania,  
  gu@iup.edu | - USING DATA MINING TECHNIQUES FOR GAME RULE EXTRACTION  
  Chen-Huei Chou  
  College of Charleston  
  chouc@cofc.edu |
| - Jianfeng Wang  
  Indiana University of Pennsylvania  
  jwang@iup.edu |                      |                      |

The IACIS 2019 Conference Program is an official publication of the INTERNATIONAL ASSOCIATION FOR COMPUTER INFORMATION SYSTEMS
### Thursday, October 3, 3:50 – 4:50 p.m.

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<td>Session Chair: Sushma Mishra</td>
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#### HABITS OF HIGHLY PRODUCTIVE INFORMATION SYSTEMS USERS: A LOOK AT ONE UNIVERSITY’S FACULTY, STAFF, AND STUDENTS
Gayle R. Jesse  
West Liberty University  
gayle.jesse@gmail.com  
Lily J. Pharris  
Northwestern State University of Louisiana  
pharris1@nsula.edu

#### A CASE BASED ANALYSIS OF ORGANIZATIONAL SECURITY GOVERNANCE DIMENSIONS: USER INVOLVEMENT, PROCESS INTEGRITY, & RESOURCE ALLOCATION
Sushma Mishra  
Robert Morris University  
mishra@rmu.edu

#### FORMAL METHODS FOR BUSINESS PROFESSIONALS HOW CLASSICAL LOGIC CAN SAVE THE WORLD FROM THE COMING SOFTWARE APOCALYPSE
Ron Fuller  
Center for Logic and Business Communication  
rgfuller@logicandbusiness.org  
Matthew North  
Utah Valley University  
mnorth@uvu.edu  
Peter W. Cardon  
University of Southern California  
cardon@marshall.usc.edu

---

**Fun Night**

6:00 - 10:00 p.m. Poolside South

Join us for dinner, followed by a fun evening filled with pop tunes from DJ Lance, group dancing, games, and a karaoke contest.
FRIDAY, OCTOBER 4, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>8:00 a.m. - 4:00 p.m.</td>
<td>Registration</td>
<td>Ballroom Foyer</td>
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<tr>
<td>7:30 - 9:00 a.m.</td>
<td>Breakfast</td>
<td>Redington/Bellair</td>
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<td>12:20 - 2:20 p.m.</td>
<td>Business Luncheon &amp; Awards</td>
<td>Redington/Bellair</td>
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<tr>
<td>3:30 – 4:30 p.m.</td>
<td>JCIS Editorial Review Board Meeting</td>
<td>Longboat Key</td>
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Friday, October 4, 9:00 – 10:00 a.m.

**Room:** Siesta Key  
**Session Chair:** Denise Bollenback

**STRATEGIC MARKETING & CYBERSECURITY: THE CASE OF DATA BREACHES**  
George Kirk  
Southern University and A&M College  
george_kirk@subr.edu  
Jose Noguera  
Southern University and A&M College  
jose_noguera@subr.edu

**CYBER SELLS: BUT DO WE KNOW WHAT WE ARE SELLING? A NEW MEASURE**  
Aaron Glassman  
Embry-Riddle Aeronautical University Worldwide  
aaron.glassman@erau.edu  
Denise Bollenback  
Embry-Riddle Aeronautical University Worldwide  
denise.bollenback@erau.edu

**CONVERGENCE OF MARKETING & TECH: LET’S GET AMPLIFIED!**  
Tawnya Bernsdorf  
Minot State University  
tawnya.bernsdorf@ndus.edu  
Kristi Berg  
Minot State University  
kristi.berg@ndus.edu

**Panel**

**NEGOTIATING GRADES: SOCIAL-CULTURAL REORGANIZING OF RATIONALITY & REFLECTIONS ON COURSE OUTCOMES**  
Debra J. Borkovich  
Middle GA State University  
debra.borkovich@mga.edu  
Robert Joseph Skovira  
Robert Morris University  
skovira@rmu.edu  
Frederick Kohun  
Robert Morris University  
kohun@rmu.edu
Friday, October 4, 9:00 – 10:00 a.m.

**Room:** Madeira  
**Session Chair:** Kallol K. Bagchi

---

**THE ROLE OF PERSONAL NORM IN PREDICTING INTENTION FOR DIGITAL PIRACY**  
Godwin G. Udo  
University of Texas at El Paso  
gudo@utep.edu  
Kallol K. Bagchi  
University of Texas at El Paso,  
kbagchi@utep.edu

**FALSIFYING PERSONAL DATA TO ADDRESS ONLINE PRIVACY ISSUES**  
Vasilka Chergarova  
Nova Southeastern University  
vc574@mynsu.nova.edu  
Ling Wang  
Nova Southeastern University  
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**PriVacy: THE MISSING “V” IN BIG DATA ANALYTICS**  
Christopher B. Davison  
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cbdavison@bsu.edu  
Allen D. Truell  
Ball State University  
atruell@bsu.edu  
Edward J. Lazaros  
Ball State University  
ejlazaros@bsu.edu  
Jensen J. Zhao  
Ball State University  
jzhao@bsu.edu
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<td>Session Chair: Allen D. Truell</td>
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### INCREASING THE EFFECTIVENESS OF THE CYBERSECURITY TEACHING & LEARNING BY APPLYING ACTIVITY THEORY & NARRATIVE RESEARCH

Constanta-Nicoleta Bodea  
The Bucharest University of Economic Studies  
bodea@ase.ro  
Maria-Iuliana Dascalu  
University Politehnica of Bucharest  
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Mihail Cazacu  
The Bucharest University of Economic Studies mihail.cazacu@gmail.com

### DO STUDENTS LEARN RAPIDLY DEVELOPING FIELDS BETTER WITHOUT TEXTBOOKS?

Brad Fowler  
Georgia College  
brad.fowler@gcsu.edu  
Bryan Marshall  
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bryan.marshall@gcsu.edu  
Peter Cardon  
University of Southern California  
petercardon@marshall.usc.edu

### DESIGNING A DOCTORAL PROGRAM IN CYBERSECURITY FOR WORKING PROFESSIONALS

Ping Wang  
Robert Morris University  
wangp@rmu.edu  
Fred Kohun  
Robert Morris University  
kohun@rmu.edu

### ENHANCING ORGANIZATIONAL CYBERSECURITY: A HANDS-ON IMMERSIVE LEARNING PROJECT

Jensen J. Zhao  
Ball State University  
jzhao@bsu.edu  
Allen D. Truell  
Ball State University  
atriuell@bsu.edu  
Edward J. Lazaros  
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Chris Davison  
Ball State University  
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### CYBERBULLYING: IMPORTANT CONSIDERATIONS

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Edward J. Lazaros  
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Christopher Davison  
Ball State University  
cbdavison@bsu.edu  
Dakota L. D. Nicley  
Ball State University  
dlnicley@bsu.edu

### SYNERGY OVER SILOS: MIS PROGRAM REALIGNMENT PILOT STUDY

Kristi Berg  
Minot State University  
kristi.berg@ndus.edu  
Chad Fenner  
Minot State University  
chad.fenner@ndus.edu  
Lori Willoughby  
Minot State University  
lori.willoughby@ndus.edu
Friday, October 4, 10:10 – 11:10 a.m.

**Room:** Madeira  
**Session Chair:** Odo Godwin

**ENTER THE TWILIGHT ZONE:**  
**THE PARADOX OF THE DIGITAL NATIVE**  
Nancy Marksbury  
Keuka College  
nmarksbury@keuka.edu  
Enid Arbelo Bryant  
Keuka College  
ebryant@keuka.edu

**A STUDY OF THE ETHICS & MORALS OF COMPUTER SCIENCE TECHNOLOGY**  
SeongYong Hong  
Carson-Newman University  
shong@cn.edu

**DIGITAL CITIZENSHIP IN HIGHER EDUCATION STUDENTS**  
Zoroayka V. Sandoval  
Middle Georgia State University  
vicky.sandoval@gmail.com

11:10 - 11:20 a.m.  
Refreshment Break ........................ Ballroom Foyer
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<td><strong>Session Chair:</strong> Kenneth L Williams</td>
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**PERCEPTIONS OF CLOUD STORAGE PRIVACY AMONG UNIVERSITY STUDENTS**  
Kevin S. Floyd  
Middle Georgia State University  
kevin.floyd@mga.edu  
Kembley Lingelbach  
Middle Georgia State University  
kembley.lingelbach@mga.edu

**SUSTAINABLE MANAGEMENT: MINIMIZING EMPLOYEE TURNOVER IN IT**  
Tom Williams III  
Middle Georgia State University  
tom.williams@mga.edu  
Scott Spangler  
Middle Georgia State University  
scott.spangler@mga.edu

**A METHOD TO INCREASE IS ENROLLMENTS**  
Kevin Lee Elder  
Georgia College & State University  
Kevin.Elder@GCSU.edu  
Tanya Goette  
Georgia College & State University  
Tanya.Goette@GCSU.edu  
Ron MacKinnon  
Georgia Southern University  
rackinn@georgiasouthern.edu

**TAKE THE GUESSWORK OUT OF CYBERSECURITY LEVERAGING U.S. GOVERNMENT BEST PRACTICES IN THE PRIVATE SECTOR**  
Paul D. Nugent  
Western Connecticut State University  
nugentp@wcsu.edu

**CYBERSECURITY EDUCATION: CLOSING THE SKILLS GAP**  
Kenneth L Williams  
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Ping Wang  
Robert Morris University  
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**POLICE USE OF SOCIAL MEDIA: COMPARING CLASSIFICATION METHODS**  
Kevin Mentzer  
Bryant University  
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Jane Fedorowicz  
Bentley University  
jfedorowicz@bentley.edu  
Christine Williams  
Bentley University  
cwilliams@bentley.edu
Friday, October 4, 11:20 a.m. - 12:20 p.m.

**Room:** Madeira  
**Session Chair:** Delaney Brown

---

**A DESIGN OF AN AUTOMATED PARKING SYSTEM ON A SMART CAMPUS**  
Delaney Brown  
Carson-Newman University  
dhbrown@cn.edu  
SeongYong Hong  
Carson-Newman University  
shong@cn.edu

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**ARE DRIVERLESS CARS TRULY A REALITY? A TECHNICAL, SOCIAL & ETHICAL ANALYSIS**  
Choton Basu  
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Manu Madan  
University of Wisconsin-Whitewater  
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Balaji Sankaranarayanan  
University of Wisconsin-Whitewater  
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---

**MOBILE APP DEVELOPMENT FOR ALL**  
Meg Fryling  
Siena College  
mfryling@siena.edu

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12:20 – 2:20 p.m.  
Business Luncheon & Award Ceremony

Redington/Bellair
<table>
<thead>
<tr>
<th>Room: Siesta Key</th>
<th>Room: Indian Shores</th>
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<tbody>
<tr>
<td><strong>Session Chair:</strong> Shuyi Liu</td>
<td><strong>Session Chair:</strong> Todd A. Whittaker</td>
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</table>

**RESEARCH ON SECURITY VISUALIZATION: A SURVEY**
Shuyi Liu  
Vanderbilt University  
Shuyi.liu@vanderbilt.edu  
Wu He  
Old Dominion University  
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Xin Tian  
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WHe@odu.edu  
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Kennesaw State University  
xian2@kennesaw.edu

**BIG FIVE PERSONALITY TRAITS IN LEARNING COMPLEX INFORMATION SYSTEMS: A CASE STUDY**
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Carol Koob  
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**BIG FIVE PERSONALITY TRAITS IN LEARNING COMPLEX INFORMATION SYSTEMS: A CASE STUDY**
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Amanda Engelke  
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**CYBER-SECURITY INSTRUCTIONAL TECHNOLOGY DESIGN**
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**COMMAND-BASED CODING USING R FOR DATA SCIENCE**
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Linwu Gu  
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**TRENDS IN BLOCKCHAIN & NEWER TECHNOLOGIES USES IN LOGISTICS & SUPPLY CHAIN MANAGEMENT**
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Simon Eyob  
seyob99@vt.edu

**TRENDS IN BLOCKCHAIN & NEWER TECHNOLOGIES USES IN LOGISTICS & SUPPLY CHAIN MANAGEMENT**
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Simon Eyob  
seyob99@vt.edu

**FACTORS INFLUENCING CURRICULUM ADOPTION IN UNDERGRADUATE CYBERSECURITY PROGRAMS**
Todd A. Whittaker  
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Cherie Noteboom  
Dakota State University  
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<tbody>
<tr>
<td>CYBERSECURITY INERTIA &amp; SOCIAL ENGINEERING: WHO’S WORSE, EMPLOYEES OR HACKERS?</td>
<td>Debra J. Borkovich&lt;br&gt;Middle GA State University&lt;br&gt;<a href="mailto:debra.borkovich@mga.edu">debra.borkovich@mga.edu</a>&lt;br&gt;Robert Joseph Skovira&lt;br&gt;Robert Morris University&lt;br&gt;<a href="mailto:skovira@rmu.edu">skovira@rmu.edu</a></td>
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<tr>
<td>BLOCKCHAIN TECHNOLOGY &amp; THE CURRENT DISCUSSION ON FRAUD</td>
<td>Linh Phan&lt;br&gt;Bryant University&lt;br&gt;<a href="mailto:lphan@bryant.edu">lphan@bryant.edu</a>&lt;br&gt;Suhong Li&lt;br&gt;Bryant University&lt;br&gt;<a href="mailto:sli@bryant.edu">sli@bryant.edu</a>&lt;br&gt;Kevin Mentzer&lt;br&gt;Bryant University&lt;br&gt;<a href="mailto:kmentzer@bryant.edu">kmentzer@bryant.edu</a></td>
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<tr>
<td>AN EXPLORATORY STUDY OF EFFICACY OF COMMON BUSINESS CRITICAL THINKING COURSE: DO CIS MAJORS PERFORM BETTER THAN OTHER BUSINESS MAJORS?</td>
<td>Kazuo Nakatani&lt;br&gt;Florida Gulf Coast University&lt;br&gt;<a href="mailto:knakatan@fgcu.edu">knakatan@fgcu.edu</a>&lt;br&gt;Judy Wynekoop&lt;br&gt;Florida Gulf Coast University&lt;br&gt;<a href="mailto:jwynekoop@fgcu.edu">jwynekoop@fgcu.edu</a></td>
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<td><strong>Session Chair:</strong> Mel Tomeo</td>
<td><strong>Session Chair:</strong> Kevin Slonka</td>
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**ANTECEDENTS TO SUCCESSFUL SOFTWARE TRAINING: A RESEARCH FRAMEWORK & PRELIMINARY EVIDENCE**
Douglas Havelka  
Miami University  
havelkdj@miamioh.edu  
T.M. Rajkumar  
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**AGILE & SECURE SOFTWARE DEVELOPMENT: AN UNFINISHED STORY**
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Pam Rowland  
Dakota State University  
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**A COMPARATIVE STUDY ANALYZING COMPUTER PROGRAMMING COLLEGE STUDENTS’ PRE-KNOWLEDGE AND POST-KNOWLEDGE OF SOFTWARE APPLICATION SECURITY USING OWASP**
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Lee Cottrell  
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**HEALTH SERVICES AT RISK: AN UNANTICIPATED OUTCOME OF THE NEED FOR CYBERSECURITY**
Susan G. Helser  
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**HEALTHCARE PROFESSIONALS’ PERCEPTION OF THE USABILITY OF ELECTRONIC MEDICAL RECORDS**
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Natalya Bromall  
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Kelli Slonka  
Conemaugh Memorial Medical Center  
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**IT PROFESSIONAL USERS & VENDORS’ PERCEPTIONS OF THE KEY FACTORS IN ADOPTING CLOUD-MANAGED NETWORKS TECHNOLOGY**
Chalermporn Kesa  
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cxkst116@mail.rmu.edu  
Peter Draus  
Robert Morris University  
draus@rmu.edu
### Friday, October 4, 3:30 – 4:30 p.m.

**Room:** Madeira  
**Session Chair:** G. Kent Webb

<table>
<thead>
<tr>
<th>Session Title</th>
<th>Speaker(s)</th>
<th>Affiliation(s)</th>
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<tbody>
<tr>
<td><strong>USING PYTHON FOR NOSQL &amp; NATURAL LANGUAGE PROCESSING IN A BI COURSE</strong></td>
<td>Mike Mitri</td>
<td>James Madison University</td>
<td><a href="mailto:mitrimx@jmu.edu">mitrimx@jmu.edu</a></td>
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<tr>
<td><strong>INFORMATION SYSTEMS SECURITY IN THE CORE CONTENT OF AN AACSB COLLEGE OF BUSINESS</strong></td>
<td>Thomas S. E. Hilton</td>
<td>University of Wisconsin–Eau Claire</td>
<td><a href="mailto:HiltonTS@uwec.edu">HiltonTS@uwec.edu</a></td>
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<td>Mark P. Staloch</td>
<td>University of Wisconsin–Eau Claire</td>
<td><a href="mailto:StalocMP@uwec.edu">StalocMP@uwec.edu</a></td>
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<tr>
<td><strong>FACTORS RELATED TO LARGER BUT FEWER WILDFIRES AND FEWER DEER IN CALIFORNIA: A GOOGLE SITES KNOWLEDGE BASE</strong></td>
<td>G. Kent Webb</td>
<td>San Jose State University</td>
<td><a href="mailto:g.webb@sjsu.edu">g.webb@sjsu.edu</a></td>
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<tr>
<td>3:30 – 4:30 p.m.</td>
<td>JCIS Editorial Board Meeting.............................................. Longboat Key</td>
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### SATURDAY, OCTOBER 5, 2019

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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:00 a.m. - 10:00 a.m.</td>
<td>Registration</td>
<td>Ballroom Foyer</td>
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<tr>
<td>7:30 - 9:00 a.m.</td>
<td>Breakfast</td>
<td>Redington/Bellair</td>
</tr>
<tr>
<td>11:20 a.m. – 12:00 p.m.</td>
<td>Conference Debriefing</td>
<td>Redington/Bellair</td>
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### Saturday, October 5, 9:00 – 10:00 a.m.

**Room:** Siesta Key  
**Session Chair:** Xiang Fang

**THE EFFECTS OF NATIONAL CULTURE DIMENSIONS AND ONLINE MEDIUM TYPE ON DECISION CONFIDENCE: A STUDY BASED ON U.S. & CHINA**
Xiang Fang  
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Mark P. Sena  
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**ARTIFICIAL INTELLIGENCE: SHOULD WE BE WORRIED?**
Richard Glass  
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**THE INFLUENCE OF HUMAN FACTORS IN SECURING ONLINE PROJECTS**
Seweryn Spalek  
Silesian University of Technology  
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**MILLENNIAL PERCEPTIONS OF SOCIAL MEDIA: REALITY VERSUS WHAT IS ACCEPTABLE**
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Kimberly Johnson  
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Suzanne Smith  
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**INFLUENCING THE FUTURE: ADOLESCENT GIRLS’ PERCEPTIONS OF CYBERSECURITY CAREERS**
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Cherie Noteboom  
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cherie.noteboom@dsu.edu

**EMPHASIZING SECURITY & WRITING IN A CROSS-DISCIPLINARY COURSE FOR COMPUTER INFORMATION SYSTEMS & BUSINESS LAW STUDENTS**
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Barbara Jo White  
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whiteb@email.wcu.edu

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The IACIS 2019 Conference Program is an official publication of the INTERNATIONAL ASSOCIATION FOR COMPUTER INFORMATION SYSTEMS
**Saturday, October 5, 9:00 – 10:00 a.m.**

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<td><strong>Session Chair:</strong> Edgardo R. Bravo</td>
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<tr>
<td><strong>SELECTING ENTERPRISE APPLICATIONS FOR CURRICULUM: INSIGHTS FROM A TEACHING INITIATIVE</strong>&lt;br&gt;Jae J. Choi&lt;br&gt;Pittsburg State University&lt;br&gt;<a href="mailto:jchoi@pittstate.edu">jchoi@pittstate.edu</a>&lt;br&gt;Thomas L. Ngo-Ye&lt;br&gt;Alabama State University&lt;br&gt;<a href="mailto:tngoye@alasu.edu">tngoye@alasu.edu</a></td>
<td><strong>DIGITAL DIVIDE’S THREE TIERS INTERACTION: A CONCEPTUAL MODEL FROM THE PERSPECTIVE OF TASK-TECHNOLOGY FIT</strong>&lt;br&gt;Edgardo R. Bravo&lt;br&gt;Universidad del Pacífico&lt;br&gt;<a href="mailto:er.bravoo0@up.edu.pe">er.bravoo0@up.edu.pe</a>&lt;br&gt;Christian Fernando Libaque-Saenz&lt;br&gt;Universidad del Pacífico&lt;br&gt;<a href="mailto:cf.libaques@up.edu.pe">cf.libaques@up.edu.pe</a></td>
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<td><strong>DEVELOPING AN E-COMMERCE DATABASE WEB APPLICATION FOR UNIVERSITY SPORT CONCESSION EVENT: A TEACHING CASE</strong>&lt;br&gt;Thomas L. Ngo-Ye&lt;br&gt;Alabama State University&lt;br&gt;<a href="mailto:tngoye@alasu.edu">tngoye@alasu.edu</a>&lt;br&gt;Jae J. Choi&lt;br&gt;Pittsburg State University&lt;br&gt;<a href="mailto:jchoi@pittstate.edu">jchoi@pittstate.edu</a>&lt;br&gt;Dexter Gittens&lt;br&gt;Alabama State University&lt;br&gt;<a href="mailto:dgittens@alasu.edu">dgittens@alasu.edu</a></td>
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<td><strong>A MODEL GRADUATE ENTERPRISE SECURITY COURSE</strong>&lt;br&gt;Manouchehr Tabatabaei&lt;br&gt;Georgia Southern University&lt;br&gt;<a href="mailto:mtabatab@georgiasouthern.edu">mtabatab@georgiasouthern.edu</a>&lt;br&gt;James K. Harris&lt;br&gt;Georgia Southern University&lt;br&gt;<a href="mailto:jkharris@georgiasouthern.edu">jkharris@georgiasouthern.edu</a></td>
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**10:00 – 10:10 a.m.**

Refreshment Break ....................... Ballroom Foyer
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</table>

**THE IMPACT OF BEDTIME SMARTPHONE USAGE ON SLEEP HEALTH: A PILOT QUANTITATIVE STUDY**  
Manvitha Valasareddy  
Harrisburg University, mvalasareddy@harrisburgu.edu  
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Chaza F. Abdul-Al  
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Steven P. Niles  
Los Angeles City College, nilessp@lacitycollege.edu

**SOCIAL MEDIA & CHEATING: IS THERE A NEED TO REVIEW YOUR ACADEMIC INTEGRITY POLICY?**  
Philip Kim  
Walsh University, pkim@walsh.edu  
Joseph V. Homan  
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**THE U.S.-MEXICO BORDER WALL: A SENTIMENT ANALYSIS**  
Jeffrey Easter  
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Qiuyue Yang  
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Choji Daches  
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Wen-Bin Yu  
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Craig Claybaugh  
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**DIGITAL ETHICS & SUSTAINABILITY: DEVELOPING AN IS ELECTIVE**  
Laura Atkins  
James Madison University, atkinslc@jmu.edu

**DEVELOPMENT OF AN INTERDISCIPLINARY MASTER’S IN DATA SCIENCE/ANALYTICS**  
Matthew K. McGowan  
Bradley University, mmcgowan@bradley.edu  
Paul R. Stephens  
Bradley University, prs@bradley.edu  

**HOW TO ADMINISTER & UTILIZE OFFICE 365 IN THE CLASSROOM FOR COLLABORATION AND PROJECT MANAGEMENT ASSIGNMENTS WITHIN ACADEMIA**  
Shawn Lough  
James Madison University, loughsr@jmu.edu
**Saturday, October 5, 10:10 – 11:20 a.m.**

| Room: Madeira |  |
| Session Chair: Jennifer L. Breese |  |

**BLOCKCHAIN TECHNOLOGY ADOPTION IN SUPPLY CHANGE MANAGEMENT: TWO THEORETICAL PERSPECTIVES**
Jennifer L. Breese  
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Sung-Jin Park  
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Ganesh Vaidyanathan  
Roosevelt University  
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**OVERVIEW OF BLOCKCHAIN LEGISLATION & ADOPTION: STATUS & CHALLENGES**
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New York State Technology Enterprise Corporation (NYSTEC)  
seyassu@nystec.com

**ANOTHER LOOK AT TEXTBOOK USAGE BY COLLEGE STUDENTS**
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| 11:20 - 12:00 p.m. |  |
| Conference Debriefing ………….. Redington/Bellair & Door Prizes |  |
The IACIS 2019 Conference Program is an official publication of the INTERNATIONAL ASSOCIATION FOR COMPUTER INFORMATION SYSTEMS
The *Journal of Computer Information Systems (JCIS)* aims to publish manuscripts that explore information systems and technology research and thus develop computer information systems globally.

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- Decision Support Systems in Computer Information Systems
- Mobile Technology, Mobile Applications
- Human-Computer Interaction
- Information and/or Technology Management, Organizational Behavior & Culture
- Data Management, Data Mining, Database Design and Development
- E-Commerce Technology and Issues in computer information systems
- Computer systems enterprise architecture, enterprise resource planning
- Ethical and Legal Issues of IT
- Health Informatics
- Information Assurance and Security-Cyber Security, Cyber Forensics
- IT Project Management
- Knowledge Management in computer information systems
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<tr>
<th>Name</th>
<th>Institution</th>
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<tr>
<td>Aaron Glassman</td>
<td>Embry-Riddle Aeronautical University Worldwide</td>
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<td>Adnan Chawdhry</td>
<td>California University of Pennsylvania</td>
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<td>Alex Koohang</td>
<td>Middle Georgia State University</td>
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<td>Alina Chircu</td>
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<td>Anthony Rodi</td>
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<td>Ashraf Shirani</td>
<td>San Jose State University</td>
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<td>College of Business, UND</td>
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<td>Azad Ali</td>
<td>Indiana University of Pennsylvania</td>
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<td>Ben Kim</td>
<td>Seattle University</td>
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<td>Bih-Ru Lea</td>
<td>Missouri University of Science &amp; Technology</td>
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<td>Louisiana State University</td>
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<td>Robert Morris University</td>
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<td>Catherine Chen</td>
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<td>Chaojie Wang</td>
<td>The MITRE Corporation</td>
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<td>Christian Fernando Saenz</td>
<td>Universidad del Pacifico</td>
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<td>David White</td>
<td>Xavier University</td>
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<td>University of Hawaii Maui College</td>
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<td>Robert Morris University</td>
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<td>Ministry of Education, Science and Sport</td>
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<td>Gary DeLorenzo</td>
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IACIS 2020 CALL FOR PROPOSALS

Join us in Nashville!
October 7 – 10, 2020

2020 Conference Theme

The IACIS International Conference provides a showcase for the latest research in practice and pedagogical topics that focus on how information systems are used to support organizations or enhance the educational process.

The theme of the 2020 IACIS conference is the Internet of Things (IoT). The IoT is the communication that occurs between a network of physical objects that feature an IP address for internet connectivity and Internet-enabled devices and systems. Some applications of IoT are security, privacy, inventory management, logistics and supply chain optimization, product flow monitoring, quality control, connected car, connected health (digital health/telehealth/telemedicine), industrial internet, smart city, smart farming, smart grids, smart home, smart retail, smart supply chain, and wearables among others. The IoT has been ranked by KPMG as #1 in the top ten list of technologies that are perceived by technology industry leaders as having the greatest potential to drive future business transformation and long-term value.

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- Full pedagogy/research papers
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