

Curriculum Vitae

# David Eargle

Assistant Professor  
Organizational Leadership and Information Analytics  
Leeds School of Business  
University of Colorado Boulder

Courtesy appointment as Assistant Professor  
Department of Information Science  
University of Colorado Boulder

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## RESEARCH INTERESTS

1. Behavioral Information Systems Security
2. Human-Computer Interaction
3. Neuroscience applications to HCI and information security

## TEACHING INTERESTS

1. Data mining and business intelligence; business statistics
2. Information security
3. Databases, business systems development, PaaS, web and mobile development, server administration, etc.

## EDUCATION

**PhD in Information Systems and Technology Management** 2017

Katz Graduate School of Business, University of Pittsburgh, Pittsburgh, Pennsylvania, USA

- Dissertation: "Security Messages: Or, How I Learned to Stop Disregarding and Heed the Warning"

**Master of Information Systems Management, Marriott School** August 2013

**Bachelor of Science, Information Systems, Marriott School** August 2013

Marriott School of Management, Brigham Young University, Provo, Utah, USA

- Magna Cum Laude with University Honors

## SCHOLARSHIP METRICS

- 230 citations per Google Scholar
- h-index of 8

## REFEREED JOURNAL PUBLICATIONS

6. Anderson, B.B., Vance, A., Kirwan, C.B., Jenkins, J. and **Eargle, D.** "From warnings to wallpaper: Why the brain habituates to security warnings and what can be done about it." *Journal of Management Information Systems*, 33, 3 (2016), 713-743.
5. Anderson, B.B., Jenkins, J., Vance, A., Kirwan, C.B. and **Eargle, D.** "Your memory is working against you: How eye tracking and memory explain habituation to security warnings." *Decision Support Systems*, 92 (2016), 3-13.
4. Jenkins, J., Anderson, B., Vance, A., Kirwan, B. and **Eargle, D.** "More harm than good? How security messages that interrupt make us vulnerable." *Information Systems Research*, 27, 4 (2016), 880-896. Awarded ISR's "**Best Published Paper**" for 2016.
3. Anderson, B., Vance, A., Kirwan, B., **Eargle, D.** and Jenkins, J. "How users perceive and respond to security messages: A NeuroIS research agenda and empirical study." *European Journal of Information Systems*, 25, 4 (2016), 364-390.
2. Anderson, B., Kirwan, B., **Eargle, D.**, Jensen, S. and Vance, A. "Neural correlates of gender differences and color in distinguishing security warnings and legitimate websites: A neurosecurity study." *Journal of Cybersecurity*, 1, 1 (2015), 109-120.
1. Vance, A., Anderson, B.B., Kirwan, C.B. and **Eargle, D.** "Using measures of risk perception to predict information security behavior: Insights from electroencephalography (EEG)." *Journal of the Association for Information Systems*, 15, 10 (2014), 679-722.

## Works in progress

- "Integrating Facial Cues of Threat into Security Warnings – An fMRI and Field Study" (with Dennis Galletta, C. Brock Kirwan, Anthony Vance, and Jeffrey L. Jenkins)
- "The impact of uncertainty on risk-benefit tradeoffs in an information security context" (with Dennis Galletta and Narayan Rammasubbu)
- "tl;dr – Encouraging users to read security messages using theories of persuasion" (with Dennis Galletta and Lorrie Cranor) – submitted to IFIP 2016
- "Your website stinks: Neural correlates of information scent" (with Dennis Galletta)
- "How does that make you feel? Neural correlates of cyber bullying" (with Dennis Galletta, Paul Lowry, and Christy Galletta)
- "How technostress impacts users' responses to security warnings: A NeuroIS study" (with Bonnie Anderson, Anthony Vance, Brock Kirwan, Jeff Jenkins) – presented at AMCIS 2015

## CONFERENCE PAPERS

20. **Eargle, D.**, Galletta, D., Shadi, J., Dimitar, K., and Shivendu, S. "The Chaos of Order: Sequence and Mindlessness Effects in Obtaining Successive App Permissions." In *Workshop on Information Security & Privacy*. Seoul, South Korea: AIS SIGSEC and IFIP TC11.1. (2017).
19. **Eargle, D.**, Galletta, D. and Jenkins, J. "How much is your security worth? Applying a risk tradeoff paradigm to explain the bimodal nature of user elaboration over interruptive security messages." In *Workshop on Information Security & Privacy*, Dublin, Ireland: AIS SIGSEC and IFIP TC11.1 (2016).
18. **Eargle, D.**, Galletta, D. and Cranor, L. "On the use of motivational components as attention hooks in security message interface design: Avoiding "tl;dr"." In *Dewald Roode Workshop on Information Systems Security Research*, Albuquerque, New Mexico: IFIP WG8.11/WG11.13 (2016).
17. **Eargle, D.**, Galletta, D., Kirwan, C. B., Vance, A., and Jenkins, J. 2016. "Integrating Facial Cues of Threat into Security Warnings – an fMRI and Field Study." Paper presented at the Americas Conference on Information Systems (AMCIS), San Diego, California.
16. Galletta, D., **Eargle, D.**, Shadi, J., Kunev, D. and Singh, S. "Integrating social and economic models of responding to privacy messages in mobile computing: A research agenda." In *Workshop on Information Security & Privacy*, Fort Worth, Texas: AIS SIGSEC and IFIP TC11.1 (2015).
15. **Eargle, D.**, Godfrey, J., Miao, H., Stevenson, S., Shay, R., Ur, B. and Cranor, L. "Poster: You can do better – motivational statements in password-meter feedback." In *Symposium on Usable Privacy and Security (SOUPS '15)*, Ottawa, CA: (2015).
14. **Eargle, D.**, Galletta, D., Kirwan, C.B. and Vance, A. "Integrating facial threat signals into security messages: An extension of media naturalness theory to an information security context." In *Dewald Roode Workshop on Information Systems Security Research*, Newark, Delaware: IFIP WG8.11/WG11.13 (2015).
13. Anderson, B., Kirwan, B., Jenkins, J., **Eargle, D.**, Howard, S. and Vance, A. "How polymorphic warnings reduce habituation in the brain: Insights from an fMRI study." In *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*, Seoul, South Korea: ACM (2015).
12. **Eargle, D.**, Taylor, R., Sawyer, L. and Gaskin, J. "Acquiring IS skill through habitual use." In *2014 47th Hawaii International Conference on System Sciences (HICSS)*: (2014), pp. 3-12.
11. **Eargle, D.**, Galletta, D. and Siegle, G. "Using fearful facial facial expressions to increase the effectiveness of protective security messages: Proposing an fMRI and field study." In *The Dewald Roode Workshop on Information Systems Security Research, IFIP WG8.11/WG11.13*, Newcastle, UK: (2014).
10. Anderson, B., Vance, A., Kirwan, B., **Eargle, D.** and Howard, S. "Why users habituate to security warnings: Insights from fMRI." In *The Dewald Roode Workshop on Information Systems Security Research, IFIP WG8.11/WG11.13*, Newcastle, UK: (2014).
9. Anderson, B., Vance, A., Kirwan, B., **Eargle, D.** and Howard, S. "Users aren't (necessarily) lazy: Using NeuroIS to explain habituation to security warnings." In *International Conference on Information Systems*, Auckland, New Zealand: AIS (2014).

8. Vance, A., **Eargle, D.**, Ouimet, K. and Straub, D. "Enhancing password security through interactive fear appeals: A web-based field experiment." In *2013 46th Hawaii International Conference on System Sciences (HICSS)*: (2013), pp. 2988-2997.
7. Vance, A., Anderson, B., Brock, K. and **Eargle, D.** "Using measures of risk perception to predict information security behavior: Insights from electroencephalography (EEG)." In *JAIS workshop, Gmunden Retreat on NeuroIS*, Gmunden, Austria: (2013).
6. **Eargle, D.**, Vance, A.O. and Lowry, P.B. "How moral intensity and impulsivity moderate the influence of accountability on access policy violations in information systems." In *Proceedings of the Eighth Pre-ICIS Workshop on Information Security and Privacy*: (2013).
5. Anderson, B., Vance, A., **Eargle, D.** and Kirwan, C.B. "Your memory is working against you: How eye tracking and memory explain susceptibility to phishing." In *The Dewald Roode Workshop on Information Systems Security Research, IFIP WG8.11/WG11.13*: (2013).
4. Anderson, B., Vance, A. and **Eargle, D.** "Is your susceptibility to phishing dependent on your memory?" In *Proceedings of the Eighth Pre-ICIS Workshop on Information Security and Privacy*, Milan, Italy: (2013).
3. Vance, A., **Eargle, D.**, Ouimet, K. and Straub, D. "How interactivity can enhance the effectiveness of fear appeals: A web-based field experiment of password security." In *The Dewald Roode Workshop on Information Systems Security Research, IFIP WG8.11/WG11.13*, Provo, UT: (2012).
2. **Eargle, D.**, Vance, A., Allen, G., Barrick, D., Bearnson, T. and Tialin, T. "Justifying breaking the glass: How accountability can deter unauthorized access." In *WISP 2012 Proceedings*, Orlando, Florida: AIS SIGSEC and IFIP TC11.1 (2012).
1. Anderson, B., Vance, A., Hansen, J., Kirwan, B., **Eargle, D.**, Hinkle, L. and Weagel, A. "Neural correlates of gender differences in distinguishing malware warnings and legitimate websites: A NeuroIS study." In *IFIP WG8.11/WG11.13*, Provo, UT: (2012).

## TEACHING EXPERIENCE

### College of Business Administration at the University of Pittsburgh

- Database Management Spring 2017
  - Taught relational database structures and data querying in MySQL and R to Juniors and Seniors from various departments
  - Instruction Evaluation: Overall 4.38/5
- Introduction to Information Systems Management Fall 2015
  - Full responsibility for a class of 60 undergraduate students from various departments of the University of Pittsburgh's College of Business Administration.
  - Complete direction over course curriculum, policies, and syllabus.
  - Instructor Evaluation: Overall 3.7/5
    - Highest-scoring areas: 4.4/5.0 for "professor accessibility to students"; 4.2/5.0 for "gives appropriate feedback to students"

- Lowest-scoring areas: 3.5/5.0 for “intellectual challenge of course” and 3.6/5.0 for “helpfulness of textbook”. Will improve by choosing a different textbook and by improving in-class discussion questions.

**Katz Graduate School of Business at the University of Pittsburgh** Fall 2013 – 2015

- Taught four beginner-to-advanced-level Microsoft Excel workshops to part-time Katz MBA students

**Department of Information Systems** Summer 2013

Marriott School of Management, Brigham Young University

- Full responsibility for four college-level class sections on computer spreadsheet skills, with total enrollment of over 270 across four sections. Mix of online plus in-class teaching. Oversight of three teaching assistants.
- Overall instructor and course evaluations per course-section:

	Instructor	Course
IS 100: 001	6.7/8.0	6.3/8.0
IS 100: 003	7.1/8.0	6.9/8.0
IS 102: 001	6.9/8.0	6.6/8.0
IS 102: 004	7.1/8.0	6.9/8.0

**Other Teaching Experience**

Created [three data mining assignments](#) for business students, covering topics such as text mining, association rules, k-means clusters, regressions, and correlations. Currently in use in the business school at the University of Pittsburgh. (Assignments available online at <http://daveeargle.com/portfolio>)

**OTHER WORK EXPERIENCE**

**Research Assistant** Fall 2011 to Summer 2013

Department of Information Systems at Brigham Young University

**Digital Forensics Analyst Intern at Paraben Corporation** Summer 2012

Paraben Corporation, Ashburn, VA

**Network and Systems Administrator** Fall 2011 to Spring 2012

Better Logic LLC, Orem, UT

**Web Developer** Fall 2010 to Winter 2012

Center for Teaching and Learning, BYU

**SERVICE**

**JMIS Website Editor** 2014 to Present

Manage the web presence at <http://jmis-web.org> for the Journal of Management Information Systems, working directly with Vladimir Zwass.

## **AIS IS Theory Wiki Editor**

Fall 2011 to Present

Information Systems Theory Community Wiki, <http://istheory.byu.edu>, associated with the Association for Information Systems

## **psiTurk Project Leader**

June 2016 to present

An open platform for science on Amazon Mechanical Turk, hosted on github. Used by researchers around the world.

## **Ad Hoc Reviewer**

- ISR, EJIS, ECIS, ICIS, HICSS, CAIS, WISP, and The Dewald Roode Workshop on Information Systems Security Research, IFIP WG8.11/WG11.13

## **HONORS AND AWARDS**

- Fellowships
  - NSF Graduate Research Fellow (DGE-1247842) - \$132,000
  - GAR Foundation Fellow - \$24,000
- Grants
  - David Berg Center for Ethics and Leadership at the University of Pittsburgh - \$8,420
  - Brigham Young University Marriott School of Business - \$1,000
  - Rollins Center for Entrepreneurship & Technology (2013) - \$4,000
- Scholarships
  - Brigham Young University Undergraduate Scholarship - \$8,278
  - BYU Masters of Information Systems Management Scholarship - \$4,380
  - Robert K. Thomas BYU Honors Department Scholarship - \$1,488
  - Khona Family BYU Honors Department Scholarship - \$1,488
  - Ella M. Herman Scholarship - \$1,054
- AIS Global Competition 2012, Windows Phone Development Track, 2<sup>nd</sup> Place Worldwide

## **COMPUTER SKILLS**

- Statistics
  - R (dplyr, ggplot2), SAS, SPSS, python pandas/scipy/numpy
- Databases
  - MySQL, MS Access, NoSQL (Google cloud datastore)
- Data mining and business intelligence
  - R, python scikit-learn, RapidMiner
- Scripting & programming
  - Bash
  - Python
  - php
  - VBA for Excel
  - Powershell
  - Java
  - C#
- Web development
  - Python, php (slim, CakePHP, propel), javascript/jquery, html/css/less, bootstrap (tbs), bower, npm & grunt, python

- flask, pip, ruby (rvm, RoR, Jekyll), markdown, twig/Jinja2
- Web Hosting
  - Nginx, apache, gunicorn, Red Hat openshift, amazon web services (s3, ec2, cloudfront, route 53)
- Server administration
  - Linux (Debian), vim
  - Windows server (active directory and group policies)
  - Vagrant, docker

## **PROFESSIONAL AFFILIATIONS**

- IFIP Working Group 8.11/11.13, "Information Systems Security Research" Active Member
- Association for Information Systems Member

## **FOREIGN LANGUAGE**

- Spanish