

PHILIP TED KORTUM

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EDUCATION

- Ph.D. in Biomedical Engineering 1994
Dissertation: Light Adaptation Mechanisms in Spatial Vision
Advisor: Wilson S. Geisler (Member, National Academy of Sciences)
University of Texas at Austin, Austin, TX
- Master of Science in Industrial Engineering 1990
Concentration in Human Factors
Northeastern University, Boston, MA
- Bachelor of Science in Industrial Engineering 1985
University of Nebraska, Lincoln, NE

PROFESSIONAL EXPERIENCE

2005 - Present Rice University. Houston, TX
Associate Professor, Department of Psychological Sciences, 2017-present
Assistant Professor, Department of Psychology, 2012-2017
Professor in the Practice, Faculty Fellow, Department of Psychology, 2005-2012

1996 - 2005 SBC Laboratories. Austin, TX
Lead Member of Technical Staff, Human Factors Engineering, 2001-2005
Principal Member of Technical Staff, Human Factors Engineering, 2000-2001
Senior Member of Technical Staff, Human Factors Engineering, 1999-2000
Member of Technical Staff, Human Factors Engineering, 1996-1999

Responsible for conducting applied Human Factors research and development in all areas of telecommunications. Key areas of work have included:

Development of consumer usable broadband access systems

- Designed and developed 5 major releases of the DSL Consumer Self-Installation Kit, including software interface, instructional material, packaging, and physical hardware design. User success rates rose from 10% to >95% during this time. Kit progressed from over 150 pages of instructional material to an interactive computer-based instruction method. Ran human factors studies on over 700 users performing DSL installations
- Kit was awarded the 2001 International Engineering Consortium InfoVision Award
- Designed and developed the second-generation DSL Gateway Self-Installation Kit
- Led the HF development effort on a consumer PC that had integrated DSL capability
- Participated in the development of SBC's two broadband entertainment offerings

(HomeZone Satellite+DSL and LightSpeed Fiber-to-the-node/fiber-to-the-home, now branded as U-verse). Efforts included human factors design of the remote controls and the set-top hardware, specification of the user interaction models and design of the complete graphical user interface for both of these broadband systems

Conducting applied research to support medium-and-near term business goals

- Conducted ecologically-valid quality assessments of near-real-time video delivery to determine optimum DSL bandwidth requirements
- Conducted studies into user perceptions of Voice over IP. Conducted laboratory ITU P.800 studies, live field trial studies on a national network and longitudinal studies of CPE-based VoIP solutions
- Conducted research into users' perceptions of internet use under varying levels of bandwidth in an effort to understand DSL bandwidth requirements
- Conducted research into the dimensions along which users judged their overall web-surfing experience, as a function of the attributes of web page design and delivery
- Conducted collaborative research with the University of Texas Graduate School of Information (Dr. Sanda Erdelez) into the serendipitous discovery of information while using the internet
- Conducted collaborative research with the University of Texas Graduate School of Information (Dr. Randolph Bias) into user perception of wait time while on hold when using telephone menu systems
- Initiated and coordinated a decade-long longitudinal study of the usability of SBC products and services through the global administration of a usability survey instrument
- Conducted longitudinal studies of user behavior while using SBC's first consumer internet portal, developing novel techniques for the visualization of the data
- Performed testing of numerous non-DSL broadband technologies to understand human perceptions of the various connection technologies
- Mentored graduate student (Rebecca Grier, University of Cincinnati) doctoral research into visual attention mechanisms and web page design. Research involved extensive use of an ERICA eye-tracking system for data collection

Design, development and analysis of Web and Internet applications

- Led the Human Factors effort in the design and development of the global information architecture for the first generation of SBC's corporate and affiliate web presence (SBC, Southwestern Bell, Pacific Bell). Efforts included needs analysis, categorization studies, prototyping and extensive lab testing
- Designed and developed SBC's first consumer internet portal
- Performed multiple projects to ensure compliance with universal design goals and government requirements (Section 508 of the Workforce Rehabilitation Act and Section 255 of the 1996 Telecommunications Act)
- Led the Human Factors effort in the design and development of SBC's first Ecommerce offering, the DSL self-ordering tool. Tool allowed users to qualify their location and computer and then order and configure DSL
- Performed testing of numerous web-based hardware and software solutions to insure compliance with SBC Usability Standards. Performed design and development work with vendors to improve these products. Product categories evaluated include parental controls, virus protection, PC backup, content filtering, electronic yellow pages, advertising technologies, email appliances and web appliances
- Author of SBC's Web Design Guidelines

1994 - 1996 **University of Texas Center for Vision and Image Sciences.** Austin, TX
Post-Doctoral Research Fellow

- Investigated the application of human vision capabilities and perceptions in the development of video display technologies. The research resulted in the development of a patented system for the display of highly compressed visual images in a perceptually loss-less fashion. Research involved the use of a Fourward Technologies (SRI) dual purkinje eye tracking system

1985 - 1990 **Raytheon Company.** Waltham, MA
Manager, Radar and Ship Systems Industrial Engineering, 1988-1990
Lead Industrial Engineer, Standard Missile Program, 1987-1988
Associate Industrial Engineer, 1985-1987

- Provided Technical and Managerial leadership for 16 engineers and graphic illustrators in the areas of manufacturing, human factors, and safety engineering
- Created paper and computer-based assembly instructional material for the manufacture of highly complex missile and radar systems
- Improved effectiveness, efficiency and safety of manufacturing through the development and implementation of user-centered tools and processes.
- As manager, had responsibility for budgeting and scheduling of existing industrial engineering work and the development of accurate estimates for proposed work

AWARDS AND HONORS

- Human Factors and Ergonomics Society Jack A. Kraft Innovator Award, 2020
- Sigma Xi, Scientific Research Honor Society, 2020
- Fellow, Association for Psychological Sciences (APS), 2019
- Fellow, Human Factors and Ergonomics Society (HFES), 2018
- Fellow, National Academy of Inventors (NAI), 2017
- Cletis Booher Service Award, HFES Houston Chapter, 2016
- Sarah A. Burnett Superior Teaching Award, 2015
- Sophia Meyer Farb Phi Beta Kappa Award for Teaching, 2014
- Led the Human Factors design for the DSL self-installation kit, which was awarded the International Engineering Consortium's Infovision Award, 2001
- SBC Laboratories Cabinet Award, Design of DSL self-installation kit, 2001
- SBC Network Planning and Engineering ROSS award for performance excellence, 2001
- SBC Laboratories Cabinet Award, Design of SBC E-channel portals, 2000
- SBC Laboratories Human Factors Outstanding Achievement Award, 2000
- SBC Laboratories Cabinet Award, Design of SBC consumer web portals, 1998
- SBC Laboratories Cabinet Award, Design of SBC's Internet offerings, 1996
- Alpha Pi Mu, National Industrial Engineering Honorary, Past President, Nebraska Chapter
- Psi Chi, National Psychology Honorary
- Eagle Scout, 1978

SERVICE

- Editor, User's Guides to Human Factors and Ergonomic Methods Series, 2017, 2018, 2019, 2020, 2021, 2022
- Editorial Board, Journal of Usability Studies, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
- Editorial Board, Journal of Election Technology and Systems, 2013, 2014, 2015
- President, Houston Chapter, Human Factors and Ergonomics Society, 2007-2008, 2017-2018
- Human Factors and Ergonomics Society Finance and Budget Committee, 2018, 2019, 2020, 2021, 2022
- Human Factors and Ergonomics Society COVID Crisis Committee, 2020, 2021
- Human Factors and Ergonomics Society Paul M. Fitts Education Award Committee, 2016, 2017, 2018, 2019
- Rice University School of Social Sciences Faculty Advisory Committee, 2013, 2014, 2015
- Rice University Social Science School Course Review Committee, 2017, 2019, 2020, 2021, 2022
- Rice University, Co-Director, HCI/HF Professional Masters Program, 2018, 2019, 2020, 2021, 2022
- Rice University Faculty Sponsor for the student Human Factors and Ergonomics Society Chapter, 2019, 2020, 2021, 2022
- Rice University, Director of Undergraduate Studies for Psychological Sciences, 2017, 2018, 2019, 2020, 2021, 2022
- Rice University Faculty Conflicts Committee, 2013, 2014, 2015, 2016, 2017, 2018, 2019
- Rice University Committee on Teaching, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021
- Rice University Psychology Undergraduate Research Pool Administrator, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
- Rice University Psychology Undergraduate Committee, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
- Rice University Psychology Undergraduate Transfer Advisor, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
- Rice University Faculty Mentoring Program, 2018-2019
- Human Factors and Ergonomics Society Education and Training Committee, 2014, 2015, 2016, 2017
- Travis County Texas Elections Division STAR Voting System Design Team, 2012, 2013, 2014, 2015, 2016, 2017
- Rice University Faculty Owls Days Instructor, 2015
- Rice University Faculty Senate Executive Committee, 2009-2010
- Rice University Psi Chi International Psychology Honor Society Faculty Advisor, 2009, 2010
- Rice University Faculty Senate, 2005, 2006, 2007, 2008, 2009, 2010
- Rice University Childcare Provider Committee, 2007, 2008, 2009, 2010, 2011, 2012, 2013
- Rice University Admissions Office Faculty Phone-a-Thon, 2010
- Rice University Owl Days Speaker, 2010, 2013, 2019

- Vision Days Panel Speaker, 2013, 2015
- Rice University Psychology Graduate Committee, 2015, 2016
- Rice University Gardner Award Committee (Best Social Science Dissertation), 2015
- Rice University Faculty Senate Faculty Evaluations Committee, 2006-2007
- Rice University Faculty Senate Nominations and Elections Committee, 2005-2006, 2006-2007
- Human Factors and Ergonomics Society Ely Committee (best HF paper), 2011, 2012, 2013, 2015
- Director (Seat 1), Houston Chapter, Human Factors and Ergonomics Society, 2010, 2011, 2012, 2013, 2014, 2015
- Chair, Human Factors and Ergonomics Society Communications Technical Group, 2004, 2005, 2006, 2007, 2008
- Executive Committee, Texas Regional Human Factors and Ergonomics Society Conference, 2008, 2011, 2014, 2017
- Executive Committee, Houston Human Factors and Ergonomics Society Conference, 2006, 2007, 2009, 2010, 2012, 2013, 2015, 2018, 2019, 2020, 2021, 2022
- Program Chair, Houston Human Factors and Ergonomics Society Conference, 2010, 2012, 2013, 2021, 2022
- Developed innovative new session format for Human Factors and Ergonomics Society Conference called Posters with Fellows. Co-chair, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020 (*Chats with Fellows* due to COVID), 2021
- Conference Chair, Houston Human Factors and Ergonomics Society, 2006, 2019
- Conference Co-Chair, 6th Conference on Human Factors and the Web, 2000
- Member, Rice 360 Institute for Global Health
- Member, Human Factors and Ergonomic Society (HFES)
- Member, Association for Psychological Science (APS)
- Member, Association for Computing Machinery SIGCHI
- Member, Usability Experience Professionals Association (UXPA)
- Ad Hoc Reviewer for: National Academies of Sciences, Engineering, and Medicine; Human-Computer Interaction; Scientific Reports; Applied Cognitive Psychology; Human Factors; Behavior Research Methods, Instruments and Computers; Journal of Usability Studies; Interacting with Computers; International Journal of Mobile HCI; International Journal of Human Computer Interaction; International Journal of Engineering and Technology; Engineering Studies; BMC Medical Informatics and Decision Making; Frontiers: MobiSys; Journal of Medical Internet Research; Vaccine; Human Factors and Ergonomics Society Perception and Performance TG; Human Factors and Ergonomics Society Communications TG; HFES Internet TG; HFES Health Care TG; HFES Surface Transportation TG; Human Factors and the Web; Association for Computing Machinery Computer-Human Interaction SIG; Wiley Publishing; Sage Publications; Cengage Publishers; NASA Human Research Program; Morgan-Kaufmann; McGraw-Hill.

GRANTS AND FUNDING

Institute of Education Sciences. Efficient Education Research via the OpenStax Learning Platform. Co-Principle Investigator. \$700,000. 8/21- 8/22.

National Science Foundation. SaTC:RAPID: Optimizing vote-by-mail implementations on consumer grade equipment. Co-Investigator. \$200,000. 7/20-7/22

Rice University COVID 19 Research Fund. Making voting safe for voters and poll workers: Meeting the Challenge of the CONVID-19 Pandemic. Co-PI. \$43,300. 4/20-12/20

Rice University BRIDGE COVID 19 Research Fund. Measuring polling station waits in pandemic voting. Co-PI. \$3750. 4/20-12/20

Rice University ENRICH seed grant program. Aging in Place with Cognitive Impairment: Toward User-Centered Assistive Technologies, Co-Investigator. \$20,250. 4/29/20- 5/1/21

Houston Solutions Lab, How Can a Human Factors Approach to System Design Make the Houston METRORail Safer? Co-PI. \$69,202. 2019-2020

MIT Election Data and Science Lab (MEDSL), Voter Detection of Anomalies on BMD Ballots. Co-Investigator. \$3,500. 2019-2020

Rice University Department of Psychological Sciences, Seed Grant Program. Exploring the relationship between cognitive ability and the subjective assessment of usability. Co-Investigator. \$7,400. 2018-2019.

Rice University, Quality Enhancement Plan. Scaffolding Experiential Inquiry and Research into the Curriculum Phase II. Co-Investigator. \$27,500. 2018-2019.

Ford Motor Company University Research Program. Measuring Customers Trust with Autonomous Vehicles. Co-Investigator. \$100,000. 2018-2019.

Rice University, Inter-Disciplinary Excellence Award (IDEA). Toward Experience-Guided Design of Effective Assistive Devices. Co-Investigator. \$75,000. 2017-2018.

Rice University, Quality Enhancement Plan. Scaffolding Experiential Inquiry and Research into the Curriculum Phase 1 Planning Grant. Co-Investigator. \$10,000. 2017-2018.

National Science Foundation CNS-1409401. Voting Systems Architectures for Security and Usability. Co-PI. \$1,215,958. 2014-2019.

Cisco Systems – Usability of mobile applications. Research support funding of \$10,000. 2012-2013.

National Institute of Standards and Technology #60NANB12D249. Usability of e2e Voting Systems. PI. \$198,296. 2012-2014.

National Institute of Standards and Technology (through IDox). Voting Systems: Analysis of Auditory Ballot Interfaces. Co-PI. \$82,000. 2011-2013.

National Science Foundation #CNS-1049723. Usability of Voting Systems. PI. \$170,000. 2010-2013.

National Science Foundation #HCC-0803556. Understanding and Optimizing Wireless Mobile Computing for Underserved Urban Communities. Co-PI. \$569,000 total funding. 2008-2011.

ExxonMobil – Software Ergonomics and Usability. PI. \$39,700. 2009-2011.

United States Cancer Pain Relief Committee (through UTMDACC) Development of an Intelligent Monitoring System for Cancer Pain Using Bayesian Statistical Models. PI. \$62,361. 2009-2011.

ExxonMobil – Software Ergonomics. PI. \$33,000. 2008-2009.

Brown Teaching Grant – Human Factors of Non-Traditional Interfaces. \$2699. 2008.

Howard Hughes Medical Institute, Undergraduate Science Education – Beyond Traditional Borders. Collaborator. Grant total \$2,198,923. Collaboration total \$317,323. 2005-2009.

COURSES TAUGHT

- Introduction to Human Factors and Ergonomics Design PSYC 370: Fall 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019, Fall 2020, Fall 2021
- Methods in Human Computer Interaction PSYC 409/609: Spring 2007, Fall 2008, Spring 2011, Fall 2012, Spring 2014, Fall 2015, Fall 2017, Fall 2019, Fall 2021
- Human Factors of Non-Traditional Interfaces PSYC 462/662: Fall 2007, Spring 2010, Spring 2013, Fall 2014, Fall 2016, Fall 2018, Spring 2022
- Medical Human Factors PSYC 463/663: Spring 2009, Spring 2012, Spring 2014, Spring 2016, Spring 2018, Spring 2020, Spring 2021
- Usability Assessment PSYC 464/664: Spring 2015, Spring 2017, Spring 2019, Fall 2020
- HF/HCI Capstone PSYC 600: Spring 2021, Spring 2022
- Statistical Methods for Psychology PSYC 339: Spring 2006, Fall 2006, Spring 2008, Fall 2009, Fall 2010, Fall 2011
- Seminar in Human Computer Interaction PSYC 531: Spring 2007, Spring 2008, Fall 2009, Fall 2010, Spring 2012, Fall 2013, Fall 2014, Fall 2015, Spring 2017, Fall 2018, Spring 2022
- Supervised Research PSYC 485/CSCI 390 (143 students) Includes 3 CogSci Honor students, 5 PSYC honors students, 5 SSURE winners, and 1 Brelsford Award Winner
- Rice Century Scholar Advisor (2 students)
- Graduate student committees served on: 42
- Graduate student committees chaired: 12

PUBLICATIONS

- Kortum, P. (submitted). Where's my jet pack? Waiting for the revolution in statistical analysis software interfaces, but going in the wrong direction. Submitted to *ACM Interactions*.
- Robertson, I., & Kortum, P., Acemyan, C. Z., & Oswald, F. L. (submitted). The Development of the Trust in Self-driving Vehicles Scale (TSDV). Submitted to *Transportation Research Part F: Traffic Psychology and Behaviour*
- Rose, C.G., Cherukuri, S., Kortum, P., Wool, Z.H. & O'Malley, M.K. (submitted). Examining Usability Experiences of Assistive Wearable Devices. Submitted to *Journal of Assistive Technology*
- Robertson, I.W. and Kortum, P. (in press). The Usability of Face Coverings Used to Prevent the Spread of COVID-19. *Human Factors*.
- Acemyan, C.Z., Kortum, P., and Oswald, F.O. (2022). The Trust in Voting Systems (TVS) Measure. *International Journal of Technology and Human Interaction* 18(1), 1-23.
- Kortum, P. (in press). When Human Factors Fails: Intentional and Unintentional Bad Designs. *Ergonomics in Design*.
- Sharman, J., Wallach, D.S., Kortum, P., and Acemyan, C.Z. (2021). Good Examples help; Bad Tools Hurt: Lessons for teaching computer security skills to undergraduates. *International Journal of Computer Science Education in Schools* 5(2), 74-92.
- Johnson, J., Asma, E., Acemyan, C.Z., Oden, M., Richards-Kortum, R., and Kortum, P. (2021). Development and use of heuristics to evaluate neonatal medical devices for use in low resource settings. *Journal of Usability Studies* 17(4), 12-20.
- Kortum, P. and Chaparro, B. (2021). Preface to the Special Issue on the Science Behind Usability and UX. *Human Factors*, 63(5), 733-735. Los Angeles, CA: SAGE Publications. <https://doi.org/HF1026906>.
- Garcia, K., Robertson, I., & Kortum, P. (2021). A Comparison of Presentation Mediums for the Study of Trust in Autonomous Vehicles. *Proceedings of the Human Factors and Ergonomics Society*, 65(1), 878-882. Los Angeles, CA: SAGE Publications.
- Kortum, P., Byrne, M.D., & Whitmore, J. (2021). Voter Verification of BMD Ballots Is a Two-Part Question: Can They? Mostly, They Can. Do They? Mostly, They Don't. *Election Law Journal* 20(3), 243-253. Also available at <https://arxiv.org/abs/2003.04997>
- Wilczewski, H., Mulfinger, E., Alexander, L., Kortum, P., & Oswald, F.O. (2021). How Does Usability Affect the Workplace? Personality as a Predictor. *2021 SIOP Annual Conference*
- Kortum, P. and Acemyan, C.Z. (2021). How Does Keyboard Type Impact Password Strength Perceptions? User Assessments of Password Security Across Onscreen and Desktop Keyboards. *International Journal of Technology and Human Interaction* 17(1), 90-104.
- Kortum, P., Acemyan, C.Z., and Oswald, F.O. (2021). Is it time to go positive? Assessing the positively worded System Usability Scale (SUS). *Human Factors*, 63(5), 987-998.

Robertson, I.W., Kortum, P., Oswald, F.L., & Acemyan, C.Z. (2020). Novices Do Not Perform Like Experts on an Open Card Sort but Do Approximate Expert Performance on a Closed Card Sort. *Proceedings of the Human Factors and Ergonomics Society* 64(1), Santa Monica, CA: Human Factors and Ergonomics Society.

Shanklin, R., Kortum, P. & Acemyan, C.Z. (2020). Adaptation of Heuristic Evaluations for the Physical Environment. *Proceedings of the Human Factors and Ergonomics Society* 64(1), Santa Monica, CA: Human Factors and Ergonomics Society.

Gao, M., Kortum, P. and Oswald, F.L. (2020). Multi-Language Toolkit for the System Usability Scale. *International Journal of Human-Computer Interaction*, 36(20), 1883-1901

Robertson, I.W. and Kortum, P. (2020). Validity of Three Discount Methods for Measuring Perceived Usability. *Journal of Usability Studies*, 16(1), 13-28.

Kortum, P. & Byrne, M.D. (2020). Making Votes Count. Why It's as Much Psychology (and Ballot Design) As Security. *APS Observer*, 33(8).

Xiong, J., Acemyan, C.Z. and Kortum, P. (2020). SUSapp: A free mobile application that makes the SUS easier to use in research. *Journal of Usability Studies*, (15)3, 133-144.

Kortum, P., Stein, R., Acemyan, C.Z., Vann, E., & Wallach, D. (2020). How Human Factors Can Help Preserve Democracy in the Age of Pandemics. *Human Factors*, 62(7), 1077–1086.

Kim, S.Y., Clark, J.P., Kortum, P., and O'Malley, M.K. (2019). The Influence of Cue Presentation Velocity on Skin Stretch Perception. *World Haptics 2019*, 485-490.

Kortum, P. and Acemyan, C.Z. (2019). An examination of the effort hypothesis for the perceived strength of passwords. *Proceedings of the Human Factors and Ergonomics Society* 63(1), Santa Monica, CA: Human Factors and Ergonomics Society.

Robertson, I. and Kortum, P. (2019). An Investigation of Different Methodologies for Rating Product Satisfaction. *Proceedings of the Human Factors and Ergonomics Society* 63(1), Santa Monica, CA: Human Factors and Ergonomics Society.

Bernhard, M., Sharman, J., Kumar, D., Acemyan, C.Z, Kortum, P., Wallach, D. & Halderman, A. (2019). On the Usability of HTTPS Deployment. In *CHI Conference on Human Factors in Computing Systems Proceedings*. ACM, New York, NY, USA.

Kortum, P. and Acemyan, C.Z. (2019). Usability assessments of mobile applications as a function of geographic location. *International Journal of Mobile Human Computer Interaction*, 11(1), 1-15.

Acemyan, C.Z, Kortum, P., Byrne, M.D. & Wallach, D. (2018). Summative Usability Assessments of STAR-Vote: A Cryptographically Secure Voting System That Has Been Proven to Be Easy to Use. *Human Factors*. DOI: 10.1177/0018720818812586

Grier, R. A., Allanson, K., Bangor, A., Kortum, P., Acemyan, C.Z., & Oswald, F.L. (2018). Using the SUS: Lessons Learned & Forward looking Research. In *Proceedings of the Human Factors and Ergonomics Society*, 62(1), pp. 2037-2042. Santa Monica, CA: Human Factors and Ergonomics Society.

Gao, M. and Kortum, P. (2018). Psychometric evaluation of the Usefulness, Satisfaction, and Ease-of-use questionnaire. In *Proceedings of the Human Factors and Ergonomics Society*, 62(1), pp. 1414-1418. Santa Monica, CA: Human Factors and Ergonomics Society.

Acemyan, C.Z. and Kortum, P. (2018). 2FA Might Be Secure, But It's Not Usable: A Summative Usability Assessment of Google's Two-factor Authentication (2FA) Methods. In *Proceedings of the Human Factors and Ergonomics Society*, 62(1), pp. 1141-1145. Santa Monica, CA: Human Factors and Ergonomics Society.

Robertson, I. and Kortum, P. (2018). Extraneous Factors in Usability Testing: Evidence of Decision Fatigue During Sequential Usability Judgments. In *Proceedings of the Human Factors and Ergonomics Society*, 62(1), pp. 1409-1413. Santa Monica, CA: Human Factors and Ergonomics Society.

Kortum, P. and Acemyan, C.Z. (2018). The impact of geographic location on the subjective assessment of system usability. *International Journal of Human-Computer Interaction*, (35)2, 123-130.

Acemyan, C.Z. and Kortum, P. (2018). Does the Type of Presentation Medium Impact Assessments of the Built Environment? An Examination of Environmental Usability Ratings Across Three Modes of Presentation. *Journal of Environmental Psychology*, 56, 30-35.

Acemyan, C.Z. and Kortum, P. (2017). Assessing the usability of the Hart InterCivic eSlate during the 2016 presidential election. *Proceedings of the Human Factors and Ergonomics Society*, 61(1), pp. 1404-1408. Santa Monica, CA: Human Factors and Ergonomics Society.

Robertson, I. and Kortum, P. (2017). The Effect of mental fatigue on subjective usability scores. *Proceedings of the Human Factors and Ergonomics Society*, 61(1), pp. 1461-1465. Santa Monica, CA: Human Factors and Ergonomics Society.

Gao, M. and Kortum, P. (2017). Measuring the usability of home healthcare devices using retrospective measures. *Proceedings of the Human Factors and Ergonomics Society*, 61(1), pp. 1281-1285. Santa Monica, CA: Human Factors and Ergonomics Society.

Kortum, P. and Oswald, F. (2017). The impact of personality on the subjective assessment of usability. *International Journal of Human-Computer Interaction*, 34(2), 177-186.

Kortum, P. (2017). Has human factors and usability lost its mojo? *Journal of Usability Studies*, 12(2), 50-55.

Holmes, D. & Kortum, P. (2017). Alternative review screen design for electronic voting systems. *International Journal of Technology and Human Interaction*, 13(1), 82-99.

Bell, S., Benaloh, J., Byrne, M.D., DeBeauvoir, D., Eakin, B., Fisher, G., Kortum, P., McBurnett, N., Montoya, J., Parker, M. and Pereira, O., (2016). STAR-Vote: A Secure, Transparent, Auditable and Reliable Voting System. In Feng Hao and Peter Y. A. Ryan (Eds.) *Real-World Electronic Voting: Design, Analysis and Deployment* (pp. 375-404). Boca Raton, FL: CRC Press.

Holmes, D. & Kortum, P. (2016). Vote-by-Phone: An Investigation of a Usable and Accessible IVR Voting System. *Journal of Accessibility and Design for All*, 6(2), 102-124.

Kortum, P. & Byrne, M.D. (2016). The importance of psychological science in a voter's ability to cast a vote. *Current Directions in Psychological Science*, 25(6), 467-473.

Kortum, P. (2016). *Usability Assessment: How to measure the usability of products, services, and systems*. Santa Monica, CA: HFES Press. ** listed #6 in Bookauthority's 71 Best Ergonomics Books of All Time**

Kortum, P. and Acemyan, C.Z. (2016). The Relationship Between User Mouse-based Performance and Subjective Usability Assessments. *Proceedings of the Human Factors and Ergonomics Society*, 60(1), pp. 1174-1178. Santa Monica, CA: Human Factors and Ergonomics Society.

- Acemyan, C.Z. & Kortum, P. (2016). Can Voters Tell When Their Voting Method Is Secure? Effects of End-to-end Security and Security Theater on Perceptions of Voting System Security. *Proceedings of the Human Factors and Ergonomics Society*, 60(1), pp. 1219-1223. Santa Monica, CA: Human Factors and Ergonomics Society.
- Peres, S. C., Kortum, P., Akladios, M., & Muddimer, A. (2016). Developing and validating a self-report assessment tool for software biomechanics. *WORK: A Journal of Prevention, Assessment and Rehabilitation*, 53, 193–204.
- Gao, M. & Kortum, P. (2015). The relationship between subjective and objective usability metrics for home healthcare devices. *Proceedings of the Human Factors and Ergonomics Society*, 59(1), pp. 1001-1005. Santa Monica, CA: Human Factors and Ergonomics Society.
- Acemyan, C. Z., & Kortum, P. (2015). Does the polling station environment matter? The relation between voting machine layouts within polling stations and anticipated system usability. *Proceedings of the Human Factors and Ergonomics Society*, 59(1), pp. 1066-1070. Santa Monica, CA: Human Factors and Ergonomics Society.
- Belton, M. G., Kortum, P., & Acemyan, C. Z. (2015). How hard can it be to place a ballot into a ballot box? Usability of ballot boxes in tamper-resistant voting systems. *Journal of Usability Studies*, 10(4), 129-139.
- Rahmati, A., Shepard, C., Tossell, C., Zhong, L., & Kortum, P. (2015). Practical context awareness: Measuring and utilizing the context dependency of mobile usage. *IEEE Transactions on Mobile Computing*, 14(9), 1932-1946.
- Acemyan, C. Z., Kortum, P., Byrne, M. D., & Wallach, D. S. (2015). From error to error: Why voters could not cast a ballot and verify their vote with Helios, Prêt à Voter, and Scantegrity II. *Journal of Election Technology and Systems*, 3(2), 1-25.
- Kortum, P., & Sorber, M. (2015). Measuring the usability of mobile applications for phones and tablets. *International Journal of Human-Computer Interaction*, 31, 518-529.
- Zemla, J. C., Tossell, C. C., Kortum, P., & Byrne, M. D. (2015). A Bayesian approach to predicting website revisitation on mobile phones. *International Journal of Human-Computer Studies*, 83, 43-50.
- Acemyan, C. Z., Kortum, P., Byrne, M. D., & Wallach, D. S. (2015). Users' mental models for three end-to-end voting systems: Helios, Prêt à Voter, and Scantegrity II. *Human Aspects of Information Security, Privacy, and Trust - Lecture Notes in Computer Science*, 9190, 463-474.
- Nelson, R. A., Tossell, C. C., & Kortum, P. (2015). Emoticon use in mobile communications :-). In Z. Yan (Ed.), *Encyclopedia of Mobile Phone Behavior*, pp 1-11. Hershey, PA: IGI Global.
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Shanklyn, R. and Kortum, P. (submitted) *Measuring Subjective Usability by Watching Others Using Video*. Submitted to the Houston HFES 2022 Symposium

Kortum, P. (2021). *Fundamentals of Usability Assessment*. Presented to the NSF REU 2021 Program, Rice University.

Kortum, P., & Bailey, P. (2021). *Artificial intelligence in medicine, a welcome change?* (Ali Toloczko, Moderator). Podcast.

Tony Adams, T., Appel, A.W., Ash, A., Bellovin, S.M., Blaze, M., Buell, D., et al, (2020). *Scientists say no credible evidence of computer fraud in the 2020 election outcome, but policymakers must work with experts to improve confidence*. Available at <https://josephhall.org/papers/Experts-Statement-on-the-US-2020-General-Election-16NOV2020-1057.pdf>. Reported by the New York Times at <https://www.nytimes.com/2020/11/16/business/election-security-letter-trump.html>

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Kortum, P. (2020). *Human Factors as a Career*. Presented to the Columbia University Psi Phi chapter

Kortum, P. (2020). *New human factors challenges due to the pandemic*. Rice University Psychology Brown Bag Series. Rice University

Peres, S.C., Harper, C. & Kortum, P. (2020) *Translating Our Science: Academics and Practitioners Meet*. 64th Annual Meeting of the Human Factors and Ergonomics Society, Networking sessions.

Kortum, P., Davis, K. & Boehm-Davis, D. (2020). *How does HFES lead in the Future?* 64th Annual Meeting of the Human Factors and Ergonomics Society, Chats with Fellows.

Kortum, P. (2020). *What's new in Usability?* Presented to the Houston Human Factors and Ergonomics Society. Video available at <https://youtu.be/x72cFVSePiA>

Kortum, P. (2020). *Usability Assessment: Questions and Answers*. Presented to the Tennessee Human Factors and Ergonomics Society

Kortum, P. (2020). *Not your same old usability New things to consider when measuring usability*. Presented at the 2020 UXD Consortium Annual Meeting

Stein, R.M., Vann, E., Acemyan, C.Z., Kortum, P., & Wallach, D. (2020). *To protect democracy, we must protect voters, poll workers in fall elections*. Houston Chronicle Editorial. Available at <https://www.houstonchronicle.com/opinion/outlook/article/Opinion-To-protect-democracy-we-must-protect-15284255.php?cmpid=gsa-chron-result>

Kortum, P. (2020). *Industry vs. Academics: The joys of a life in Industry*. University of Houston Professional Issues lecture.

Kortum, P. (2019). *Has Human Factors Losts its Mojo?* 63rd Annual Meeting of the Human Factors and Ergonomics Society, Posters with Fellows, Seattle WA.

Kortum, P. (2019). *User Centered Design for Engineering*. Rice University Senior Engineering Design Lecture.

Kortum, P. (2019). *Usability Assessment: What is usability?* Rice University NSF Psychological Sciences REU Faculty Lecture.

Robertson, I. & Kortum, P. (2019). *The creation of a subjective measurement of user trust in autonomous vehicles*. 15th Houston Human Factors and Ergonomics Conference, Houston, TX.

Acemyan, C.Z., Sharman, J., Wallach, D, Kortum, P. And Budimlic, Z. (2018). *Factors Impacting Grade Outcomes in an Undergraduate Computer Science/JAVA Course*. Rice University Center for Teaching Excellence "What's New in Research on Teaching and Learning" Lecture.

Kortum, P. (2018). *Human Factors in Medicine: An Introduction*. Baylor College of Medicine Institutes for Healthcare Improvement. Baylor College of Medicine, Houston, TX.

Xiong, J., Acemyan, C.Z. & Kortum, P. (2018). *SUSapp: A free mobile application that makes the SUS easier to use in research*. 14th Houston Human Factors and Ergonomics Conference, Houston, TX.

Robertson, I. & Kortum, P. (2018). *A Quantitative Comparison of Methods for Collecting Subjective Usability Ratings*. 14th Houston Human Factors and Ergonomics Conference, Houston, TX.

Kortum, P. (2018). *Active Learning Methods in HCI*. Rice University Psychology Brown Bag Series, Teaching Research Group. Rice University.

Robertson, I, Oswald, F.L. & Kortum, P. (2017). *Detecting voting errors – What’s personality got to do with it?* Southwestern Regional Human Factors and Ergonomics Society Conference, San Antonio, TX.

Gao, M. & Kortum, P. (2017) *Psychometric Evaluation of the USE Questionnaire*. Southwestern Regional Human Factors and Ergonomics Society Conference, San Antonio, TX.

Kortum, P. (2017). *Where do we go from here, Human Factors?* Rice University Psychology Brown Bag Series. Rice University.

Kortum, P. (2017). *Has human factors and usability lost its Mojo?* Houston Human Factors and Ergonomics Society Spring 2017 Meeting, University of Houston – Clear Lake.

Kortum, P. (2016). *Human Factors Engineering in Medical Technology*. MedTech Industry Seminar Series, Global Medical Innovation MBE Program, Department of Bioengineering, Rice University

Acemyan, C.Z, Kortum, P & Wallach, D. (2015). *How secure is your vote? Perceptions of voting system security*. 11th Houston Human Factors and Ergonomics Conference, Houston, TX. *(Winner, Best Research Presentation).

Belton, G., Acemyan, C.Z., Kortum, P., Calan, A., Wallach, D. & Byrne, M.D. (2015). *A Usability assessment of STAR-Vote, a new high security voting system*. 11th Houston Human Factors and Ergonomics Conference, Houston, TX. *(Winner, Best Research Poster).

Holmes, D. V., & Kortum, P. (2014). *Checking your answers: An investigation of DRE review screen design*. Southwestern Regional Human Factors and Ergonomics Society Conference, College Station, TX.

Acemyan, C. Z., Kortum, P., & Byrne, M. D. (2014). *What is it like to vote with a voter verifiable e2e voting system? A live demonstration that highlights the usability of Prêt à Voter*. Southwestern Regional Human Factors and Ergonomics Society Conference, College Station, TX.

Callan, A., & Kortum, P. (2014). *Recency effects in the measurement of multiple tasks using the System Usability Scale*. Southwestern Regional Human Factors and Ergonomics Society Conference, College Station, TX.

Neal, T., & Kortum, P. (2014). *An assessment of users’ ability to prospectively judge usability*. Southwestern Regional Human Factors and Ergonomics Society Conference, College Station, TX. *(Winner, best student research poster)

Kortum, P. (2014). *(Un)usable computing*. Scientia Lecture Series, ‘The Power of Ideas’, Rice University

Kortum, P. (2014). *Creating a positive relationship with your advisor*. Rice University Graduate and Postdoctoral Studies Workshop Panel.

Kortum, P. (2013). *The intersection between Social Science and Engineering*. Presentation to the Rice Gateway Study of Leadership, Houston, TX.

Payne, D. A., & Kortum, P. (2013). *Is there a benefit to delaying the introduction of performance supports?: An exploration of predictive spell-check*. 10th Houston Human Factors and Ergonomics Conference, Houston, TX. *(Winner, best student research poster)

Kortum, P. (2013). *Hands-on demonstrations for teaching statistics*. Southwest Psychological Association Conference, Fort Worth, TX.

Tossell, C. C., Kortum, P., Shepard, C. W., Rahmati, A., & Zhong, L. (2012). The next step in mobile search: Integration. *ACM SIGCHI's International Conference on Human-Computer Interaction with Mobile Devices and Services, MobileHCI 2012, Panel*.

Rahmati, A., Shepard, C., Tossell, C., Zhong, L., & Kortum, P. (2012). *Practical context awareness: measuring and utilizing the context dependency of mobile usage*. Rice University Technical Report 2012-08-31, August 2012.

Benaloh, J., Byrne, M., Kortum, P., McBurnett, N., Pereira, O., Stark, P. B., & Wallach, D. S. (2012). STAR-Vote: A Secure, Transparent, Auditable, and Reliable Voting System. eprint arXiv:1211.1904

Wallach, D., Wagner, D., Stark, P. B., & Kortum, P. (2012). The Center for Information Technology Policy at Princeton Symposium, E-voting Risk and Opportunity. Panelist on the topic *The Future of E-Voting – Remote, Internet-Based, and Secure?* Ed Felton, Moderator. Available on-line at http://youtu.be/1Z6JW1t_sFI

Holmes, D., & Kortum, P. (2012). *IVR voting system usability*. 9th Houston Human Factors and Ergonomics Conference, Houston, TX.

Acemyan, C. Z., & Kortum, P. (2012). *Does the voting environment affect perceived system usability and trust? The relationship between DRE placement within a polling station and voters' perceptions of usability, trust, and preference*. 9th Houston Human Factors and Ergonomics Conference, Houston, TX. *(Winner, best student research presentation)

Acemyan, C. Z., & Kortum, P. (2012). *The relationship between trust and usability in voting systems*. Southwestern Psychological Association Conference, Oklahoma City, OK.

Holmes, D., & Kortum, P. (2012). *Effects of voice type on performance*. Southwestern Psychological Association Conference, Oklahoma City, OK.

Jain, S., & Kortum, P. (2012). *Using cognitive design principles to maximize effectiveness and efficiency of physician-facing interfaces*. Southwestern Psychological Association Conference, Oklahoma City, OK.

Kortum, P. T. (2012). Academic Careers Workshop Panelist. Southwestern Psychological Association Conference, Oklahoma City, OK.

Kortum, P. (2011). *Everyday usability*. Presentation at World Usability Day, Rice University.

Rahmati, A., Shepard, C., Tossell, C. C., Dong, M., Wang, Z., Zhong, L., & Kortum, P. (2011). *Tales of 34 iPhone users: How they change and why they are different*. arXiv:1106.5100, TR-2011-06-24, Rice University.

Rahmati, A., Shepard, C., Tossell, C., Zhong, L., Kortum, P., Nicoara, A., & Singh, J. (2010). *Seamless flow migration on smartphones without network support*. TR-2010-12-14, Rice University.

Peres, S. C., Kortum, P., Muddimer, A., Akladios, M., & Himanga, J. C. (2011). *Software ergonomics*. 2nd Texas Regional Human Factors and Ergonomics Society Conference, Clear Lake, TX.

Barg-Walkow, L. H., Tossell, C. C., & Kortum, P. (2011). *Smartphone emoticon usage*. 2nd Texas Regional Human Factors and Ergonomics Society Conference, Clear Lake, TX.

Holmes, D., & Kortum, P. (2011). *Usability of IVR voting systems*. 2nd Texas Regional Human Factors and Ergonomics Society Conference, Clear Lake, TX.

- Akladios, M., Peres, S. C., Kortum, P., Himanga, J. C., & Muddimer, A. (2011). *Objective measures for evaluating software ergonomics*. IIE Applied Ergonomics Conference, Orlando, FL.
- Tossell, C., Campbell, B., & Kortum, P. (2010). *An impoverished voting interface design*. 7th Houston Human Factors and Ergonomics Society Conference, Houston, TX.
- Evans, R., & Kortum, P. (2010). *The impact of voice characteristics on user response in an interactive voice response system*. 7th Houston Human Factors and Ergonomics Society Conference, Houston, TX.
- Su, A., & Kortum, P. (2009). *Ethnographic study of on-hold caller multitasking behavior*. 6th Houston Human Factors and Ergonomics Society Conference, Houston, TX.
- Scharff, L. V. F., & Kortum, P. (2008). *The immediate benefit of disappearing web links*. 1st Texas Regional Human Factors and Ergonomics Society Conference, Austin, TX.
- Nguyen, V., Megasari, A., Amos, A., Romine, A., Peres, S. C., Akladios, M., Kortum, P., & Ziegler, C. (2008). *Software ergonomics assessment using subjective and objective tools: A literature review*. 1st Texas Regional Human Factors and Ergonomics Society Conference, Austin, TX.
- Su, A., & Kortum, P. (2007). *Effect of musical auditory progress bars on hold time estimation*. 4th Houston Human Factors and Ergonomics Society Conference, Houston, TX.
- Hammons, D., & Kortum, P. (2007). *Response bias in a medical IVR system*. 4th Houston Human Factors and Ergonomics Society Conference, Houston, TX.
- Kortum, P. T., & Geisler, W. S. (1996). Search performance in natural scenes: The role of peripheral vision. *Investigative Ophthalmology and Visual Science, Supp.* (abstract)
- Kortum, P. T., & Geisler W. S. (1994). *Flash-on-flash contrast sensitivity functions: multiplicative and subtractive mechanisms*. 12th Houston Conference on Biomedical Engineering Research, Houston, TX
- Kortum, P. T., & Geisler W. S. (1994). Light adaptation mechanisms in spatial target detection. *Investigative Ophthalmology and Visual Science, Supp.* (abstract)
- Kortum, P. T., & Geisler W. S. (1994). The time course of multiplicative and subtractive mechanisms in spatial vision. *Journal of the Optical Society of America Technical Digest.* (abstract)
- Kortum, P. T., & Geisler W. S. (1993). Flash-on-flash contrast sensitivity functions: Multiplicative and subtractive mechanisms. *Journal of the Optical Society of America Technical Digest.* (abstract)
- Kortum, P. T., & Geisler W. S. (1992). Contrast sensitivity functions measured on flashed backgrounds in the dark-adapted eye. *Journal of the Optical Society of America Technical Digest.* (abstract)