

Michelle M.H. Seref, Ph.D.

Business Information Technology
2062 Pamplin Hall, VIRGINIA TECH
Blacksburg, VA 24061
mmhseref@vt.edu

Academic Appointments

Interim Assistant Dean of Outreach and Student Engagement

2023 – present; Undergraduate Programs, Pamplin College of Business, Virginia Tech, Blacksburg

Interim Director, Masters of Science in Business Administration-Business Analytics (MSBA-BA) Program

2023; Center for Business Analytics (CBA), Pamplin College of Business, Virginia Tech, Blacksburg

Full Collegiate Professor

2022 - present; Department of Business Information Technology (BIT), Virginia Tech, Blacksburg

Director, Pamplin Engage Undergraduate Teaching Assistantship Program

2020 - 2023; Pamplin College of Business, Virginia Tech, Blacksburg

Associate Collegiate Professor

2018 - 2022; Department of Business Information Technology (BIT), Virginia Tech, Blacksburg

Assistant Professor

2014 - 2018; Department of Business Information Technology (BIT), Virginia Tech, Blacksburg

Instructor

2012 – 2014; Department of Accounting and Information Systems (ACIS), Virginia Tech, Blacksburg

Graduate Research Assistant

2011 – 2012; Center for the Study of Rhetoric in Society, Virginia Tech, Blacksburg

Graduate Teaching Assistant

2009 – 2011; Engineering Communication Program, Virginia Tech, Blacksburg

2004 – 2008; Department of Information Systems and Operations Management, University of Florida, Gainesville

2002 – 2004; Department of Industrial and Systems Engineering, University of Florida, Gainesville

Education

Ph.D. in Operations Management

2009, Department of Information Systems and Operations Management (ISOM), University of Florida, Gainesville, FL

Masters in Rhetoric

2014, Virginia Tech, Blacksburg, VA

Masters in Industrial and Systems Engineering

2004, Department of Industrial and Systems Engineering (ISE), University of Florida, Gainesville, FL

Bachelors of Science in Industrial and Systems Engineering

2002, Department of Industrial and Systems Engineering (ISE), University of Florida, Gainesville, FL

Research Publications

Research Areas

- ◆ Text Mining, Rhetoric Mining, Context Mapping, Disinformation and Misinformation in Social Media
- ◆ Qualitative Factor Analysis, Collaboration and Decision-Making

Journal Articles

- ◆ Şeref, MMH; Seref, O; Abrahams, AS; Hill, S; Warnick, Q (2022). "Rhetoric Mining: A New Text Analytics Approach for Quantifying Persuasion," *INFORMS Journal of Data Science*.
- ◆ Zaman, N., Goldberg, D.M., Gruss, R.J., Abrahams, A.S., Srisawas, S., Ractham, P. & Şeref, MMH (2021). Cross-Category Defect Discovery from Online Reviews: Supplementing Sentiment with Category-Specific Semantics. *Inf Syst Front*.
- ◆ Şeref, MMH; Şeref, O; Alptekinoğlu, A; Erengüç, S (2016). Inventory Management under Advance Selling: Optimal Order and Pricing Policies. *Computational Management Science*.
- ◆ Şeref, MMH; Carrillo, J; Yenipazarlı, A (2015). Multi-Generation Pricing and Timing Decisions in New Product Development. *International Journal of Production Research*.
- ◆ Şeref, MMH (2013). Metaphors in Motion. *Public Knowledge Journal*.
- ◆ Qin, Y; Wang, R; Vakharia, A; Chen, Y; Şeref, MMH (2011). The Newsvendor Problem: Review and Directions for Future Research. *European Journal of Operations Research*.
- ◆ Ahuja, R; Hanna, MM (2004). Decision support systems development: An essential part of OR education. *Operations Research Letters*.

Proceedings

- ◆ Eroglu, D.I., Seref, O., & Şeref, M. (2021). Changing Views: Pre-suasion in a Reddit Discussion Community. In *27th Americas Conference on Information Systems, AMCIS 2021*.
- ◆ Seref, O., Şeref, M., & Hong, S. (2020). Context Map Analysis of Fake News in Social Media: A Contextualized Visualization Approach. In *Proceedings of the 53rd Hawaii International Conference on System Sciences* (pp. 2440-2448). Maui, HI.
- ◆ Şeref, M., & Seref, O. (2019). Rhetoric mining for fake news: Identifying moves of persuasion and disinformation. In *25th Americas Conference on Information Systems, AMCIS 2019*.
- ◆ Paul, A; Şeref, MMH; Vakharia, A (2007). Operations Requirements Planning for Mass Customized Products. *Proceedings of 2007 International Conference on Manufacturing & Service Operations Management*.

Books and Book Chapters

- ◆ Şeref, MMH; Ahuja, R; Winston, W (2007). *Developing Spreadsheet-Based Decision Support Systems (DSS) Using Excel and VBA for Excel*. Dynamic Ideas. (2nd Edition, 2011, with S. Ekşioğlu)
- ◆ Şeref, MMH; Ahuja, R (2008). Spreadsheet-Based Decision Support Systems. Chapter in *Handbook on Decision Support Systems*. Editors: F. Burstein & C.W. Holsapple. Springer.

Working Papers

- ◆ Vaccine Decisions and Personal Narratives: Social Media Analysis of Covid-19 Vaccine Resistance. Michelle Seref; Onur Seref; Michelle Rockwell; Julie Gerdes.
- ◆ Context Maps: A graph-based framework for visualizing the landscape of consumer reviews. Onur Seref; Michelle Seref; Sukhwa Hong.
- ◆ Measuring resilience from pre- and post-COVID emergency declarations. Chris Zobel; Onur Seref; Michelle Seref.
- ◆ A sentence-based text analytic framework for understanding customer feedback. Onur Seref; Sukhwa Hong; Michelle Seref
- ◆ Vance, E; Alzen, J; Şeref, M. Assessing Statistics and Data Science Collaborations. (submitted March 2021, *Journal of Statistics and Data Science Education*, revise and re-submit)

Funded Grants

- ◆ Exploring Social Media Misinformation and the COVID-19 Vaccine in Southwest Virginia - Fralin Life Sciences Institute, Business Information Technology, Center for Transformative Research on Health Behaviors, Carilion Clinic (M Rockwell, O Şeref, M Şeref, J Gerdes, J Stein, A Ivory, J Epling). Total grant \$29,000.
- ◆ Digging Into Data Grant NSF Supported Research (PI: Tom Ewing, Naren Ramakrishnan, Bernice Hausman); “The 1918 Influenza Pandemic in North America Newspapers: An Epidemiology of Information”. Total grant \$340,000.

Research Presentations

Conferences

- HICSS 2019 (Maui): “Context Map Analysis of Fake News in Social Media: A Contextualized Visualization Approach”
- AMCIS 2019 (Cancun): “Rhetoric Mining for Fake News: Identifying Moves of Persuasion and DisInformation”
- INFORMS 2017 (Houston): “Perception of Resiliency and Effect on Public Policy”
- INFORMS International 2016 (Hawaii): “Perception of Resiliency and Effect on Public Policy”
- INFORMS 2015 (Philadelphia): “Automatic Sequence Extraction For Sequence Alignment In Text Mining”
- INFORMS 2015 (Philadelphia): “Perception of Resiliency and Effect on Public Policy”
- WCBI 2015 (Utah): “Mapping the Defect Genome”
- INFORMS 2014 (San Francisco): “A Computational Rhetoric Framework for Mining Online Stock Commentaries”
- Accounting & Auditing Conference (September and November 2014): “Excelling in Efficiency”
- IFORS 2014 (Barcelona): “A Computational Rhetoric Framework for Mining Online Stock Commentaries”
- INFORMS Conference on Business Analytics and Operations Research 2014 (Boston): “Computational Rhetoric: An Analytics Tool for Decision-Making”
- DSI 2013 (Baltimore): “The Impact of Online Stock Commentaries: A Computational Rhetoric Approach” with Dr. Onur Seref
- ABC 2013 (New Orleans): “Crunching the Numbers, Crunching the Words: What Can Algorithms Reveal about Rhetoric?” with Dr. Quinn Warnick
- INFORMS 2007 (Seattle): “Inventory Management Under Advance Selling: Optimal Order and Pricing Policies”
- INFORMS 2006 (Pittsburgh): “Developing Spreadsheet-Based DSS” (Session Chair)
- POMS 2006 (Boston): “Advance Selling for a Single-Future Consumption Period: Pricing and Inventory Policy”

Seminars / Workshops / Tutorials

- CETL: “Leveraging Undergraduate Teaching Assistants to Promote Engagement and Learning” (Feb & Oct 2021)
- VT Conference on Higher Education Pedagogy: “Justice issues: Engaging students” (Feb 2021)
- VT-DREAM Data & Decisions (Fall 2019): “Novel Text Analytics Tools: Rhetoric Mining and Context Maps”
- FaculTEA (Fall 2019): “Novel Text Analytics Tools: Rhetoric Mining and Context Maps”
- Bluestone Cyber Analytics (Spring 2019): “Novel Text Analytics Tools: Rhetoric Mining and Context Maps”
- Amazon (VT-LINK Research Day) (Spring 2019): “Novel Text Analytics Tools: Rhetoric Mining and Context Maps”
- Deloitte Problem Day (Oct 2018): “Rhetoric Mining and Context Mapping”
- HBCU/MSI Summit (Oct 2018): “Rhetoric Mining and Context Mapping”
- Information, Trust, and Society Initiative (ITSI) Workshop (Oct 2018): “Rhetoric Mining and Context Mapping”
- Discovery Analytics Center (DAC) (April 2018): “Rhetoric Mining and Context Mapping”
- Northrup Grumman (July 2015): “Computational Rhetoric in Text Analytics”
- INFORMS VT Chapter (April 2015): “Computational Rhetoric via Sequence Alignment”
- ACIS Research Seminar (April 2014): “Computational Rhetoric: An Analytics Tool for Decision-Making”
- CBIA Workshop (2013, 2014): “Computational Rhetoric: An Innovative Approach to Text Analytics in Big Data”
- NSF-Sponsored Workshops on Developing Decision Support Systems (Jacksonville, FL - August 2004)

Teaching Experience

Business Information Technology, Virginia Tech (2014 – present)

- Introduction to Business Analytic Modeling (BIT 3424)
- Web-Based Decision Support Systems (BIT 4444)

Accounting and Information Systems, Virginia Tech (2012 – 2014)

- Personal Computers in Business (ACIS 2504)

Engineering Communications Program, Virginia Tech (2009 – 2011)

- Problem Definition in Engineering Design (ESM 3114)
- Professional Development Seminar (ESM 2010)
- Communication Workshops: Fluids Lab (ESM 3034); Mechanical Behavior Lab (ESM 3064)

Information Systems and Operations Management, University of Florida (2006 – 2008)

- Project Management (MAN 6581)
- Managerial Operations Analysis (QMB 4702)

Industrial and Systems Engineering, University of Florida (2003 – 2004)

- Developing Decision Support Systems (ISE 4356)

Awards Received

- CETL Excellence in Teaching Award (Virginia Tech, Fall 2022)
- Diversity Excellence Award (Pamplin College, Fall 2015)
- Certificate for Teaching Excellence (Pamplin College, Fall 2015)
- Departmental Teaching Award (BIT, Fall 2015)
- Favorite Faculty Award, Virginia Tech Student Housing (Spring 2013)
- Delta Sigma Psi Business Fraternity Faculty Initiate (Spring 2013)
- University of Florida Presidential Fellowship (2002-2006)
- Graduate Student Award for Teaching (2004)
- University Women’s Club Graduate Student Award (Spring 2003)

Professional Service

Programs

- ◆ Pamplin Engage Undergraduate Teaching Assistantship Program: Founder and Director (2020 - 2023)
 - Designed college-wide program to assign 150 undergraduate TAs to 80 faculty across 6 departments.
 - Designed 4-day training workshop for undergraduate TAs including communication, student engagement, and course technology support. Partners with CETL, TLOS, SSD, DEIB.
 - Facilitate monthly check-ins for TAs and participating faculty, including performance assessments.
 - Created all program documents for procedures and policies.
- ◆ BIT Showcase: Lead (2014 – present)
 - Invite industry sponsors to work with student project ideas and presentations for DSS classes.
 - Manage event for multiple classes, students, and sponsor representatives.
- ◆ BIT Undergraduate Teaching Assistantship Program: Lead (2014 – 2020)
 - Create and manage assignment of undergraduate TAs for BIT courses.

Advising

- BIT PhD students (5 dissertation committees, 2018-present)
- MSBA-BA, Center for Business Intelligence Analytics (4 capstone projects, 2019-present)
- Undergraduate Research (4 projects, 2017-present)
- Collegiate Women in Business (Pamplin, 2018-present)
- PUMP Sophomore Mentorship (Pamplin, 2019-2020)
- Delta Sigma Psi Business Fraternity (Pamplin, 2013-present)

Committees

- Pamplin Administrative Review of Associate Dean for Undergraduate Programs (Chair, 2022)
- Pamplin New Faculty On-Boarding Committee (Member, 2022)
- BIT Non-Tenure Track Faculty Search Committee (Member, 2021)
- VT University Curriculum Committee General Education (UCCGE, Pamplin Rep, 2019-2020)
- Pamplin Multicultural Diversity Committee (Chair, 2019-2020)
- BIT Advisory Board Emerging Leaders Committee (2018-2020)
- Pamplin Cyber Security Research Group (2018 – 2020)
- Pamplin Marketing Faculty Search Committee (2019)
- Calhoun Discovery Program BIT Faculty Search Committee (2018 – 2019)
- Calhoun Discovery Program BIT Curriculum Development (2018 – 2019)
- VT Data Decision Sciences Research Proposal Review Committee (Fall 2018)
- BIT Undergraduate Curriculum Committee (2017-2019)
- BIT Awards Committee (2015)
- Apex Center for Entrepreneurship (ACIS Rep 2013-2015, BIT Rep 2015-2019)
- ACIS Distance and Online Education Committee (Co-Chair 2013-2014)
- Pamplin Diversity Case Competition (Co-Chair 2013, Chair 2014, Judge: 2012, 2015)
- ACIS Website and Social Media Committee (Chair 2012-2013, Member 2013-2014)
- ACIS Academic Programs Committee (2012-2014)

Outreach

- PIP Summer Academy (DEIB): BIT (Summer 2022)
- Explore Technology Sessions: BIT (Fall 2019)
- Calhoun Discovery Program: Honors Weekend Outreach (Fall 2018)
- JROTC/STEM Outreach: Pamplin-BIT Course Workshop (Summer 2018)
- Pamplin Majors Fair: BIT Outreach Rep (Fall 2014 – present)

Journal Reviews

- *Information Processing and Management, Online Information Review, Expert Systems with Applications, Decision Sciences, IEEE Transactions on Systems, Information Informatics, Journal Management Information Systems*

Professional Memberships

- Association for Information Systems (AIS)
- Institute for Operations Research and the Management Sciences (INFORMS)
- Decision Sciences Institute (DSI)
- Association for Business Communication (ABC)