

DAVID C. NOVAK, PhD

Professor

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STATEMENT

David Novak is a Professor in the Grossman School of Business at the University of Vermont. His research interests center on developing and applying innovative theoretical concepts and solution methods to real-world problems to gain unique and practical managerial insights. Much of his work focuses on decision-making under uncertainty. He is specifically interested in the overlaps between operations research, operations management, logistics, spatial analysis, and complexity science. He is involved in research with the UVM Transportation Research Center (TRC) and the Complex Adaptive Supply Networks (CASN) group at Arizona State University.

EDUCATION

- Ph.D. Management Science and Information Technology, Pamplin School of Business, Virginia Polytechnic Institute and State University (VPI and SU). 2001.
- M.S. Agricultural and Applied Economics, VPI and S.U. 1994.
- B.A. Economics, VPI and S.U. 1991.

PUBLICATIONS

Lucas, M.T., **Novak, D.C.**, Puranam, K. 2021. “Heuristics and Sensitivity Analysis to Guide Replenishment Decisions for Red Blood Cells with Random Transfer”. *Decision Support Systems*. Accepted for publication 10-12-21. Refereed journal article. Authors listed in alphabetical order.

Choi, T.Y., Narayanan, S., **Novak, D.C.**, Olhager, J., Sheu, J.D., Wiengarten, F. 2021. “Managing Extended Supply Chains”. *Journal of Business Logistics*, 42 (2) 200-206. Refereed lead article for special topic forum on Managing Extended Supply Chains. <https://onlinelibrary.wiley.com/doi/full/10.1111/jbl.12276>

Novak, D.C., Z. Wu, K. Dooley. 2020. “Whose Resilience Matters? Addressing Issues of Scale in Supply Chain Resilience”. *Journal of Business Logistics*, 42(3) 323-335. Refereed journal article. <https://onlinelibrary.wiley.com/doi/full/10.1111/jbl.12270>

Novak, D.C., J.L. Sullivan, K. Sentoff, J. Dowds. 2020. “A Framework to Guide Strategic Disinvestment in Roadway Infrastructure Considering Social Vulnerability”. *Transportation Research Part A: Policy and Practice*, Volume 132. 436-451. February 2020. Refereed journal article. <https://www.sciencedirect.com/science/article/pii/S0965856418315325>

Sullivan, J.L., J. Dowds, **Novak, D.C.**, D.M. Scott, C. Ragsdale. 2019. “Development and Application of an Iterative Heuristic for Roadway Snow and Ice Control”. *Transportation Research Part A: Policy and Practice*, Volume 127. 18-31. July 2019. Refereed journal article. <https://www.sciencedirect.com/science/article/pii/S0965856418307985>

Lucas, M.T., **Novak, D.C.**, Puranam, K. 2018. “On the Challenges of Blood Inventory Management”. *Archives of Blood Transfusion & Disorders*, Volume 1, Issue 4. 1-2. Invited opinion. Not peer reviewed. <https://crimsonpublishers.com/abtd/pdf/ABTD.000520.pdf>

Novak, D.C., Sullivan, J.L., Reed, J., Gagulic, M., Van Den Berg, N. 2018. “Performance Related Specification and Payment Modifiers in Highway Construction Projects”. *International Journal of Quality & Reliability Management*, Volume 35, Issue 10. 2348-2372. Referred journal article. <https://www.emerald.com/insight/content/doi/10.1108/IJQRM-03-2018-0061/full/html>

Do, H., Shunko, M., Lucas, M., **Novak, D.C.** 2018. "Impact of Behavioral Factors on Performance of Multi-Server Queuing Systems". *Production and Operations Management*, Volume 27, No. 8. 1553-1573. Referred journal article.

<https://onlinelibrary.wiley.com/doi/full/10.1111/poms.12883>

Puranam, K., **Novak, D.C.**, Lucas, M., Fung, M. 2017. "Managing Blood Inventory with Multiple Independent Sources of Supply". *European Journal of Operational Research*, Volume 259, Issue 2. 500-511. Refereed journal article.

<https://www.sciencedirect.com/science/article/abs/pii/S0377221716309110>

Puranam, K., **D.C. Novak**, M. Lucas. 2015. "Extending the Newsvendor Model to Account for Uncontrolled Inventory Transfers". *Annals of Operations Research*, 1-14. Refereed journal article.

<https://link.springer.com/article/10.1007/s10479-015-2080-5>

Novak, D.C., Koliba, C., Zia, A., M. Tucker. 2015. "Evaluating the Outcomes Associated with an Innovative Change in a State-Level Transportation Project Prioritization Process: A Case Study of Vermont". *Transport Policy*, Volume 42. 130-143. Refereed journal article.

<https://www.sciencedirect.com/science/article/pii/S0967070X15300172>

Novak, D.C. and T.Y. Choi. 2015. "The Role of Geography in Shaping Supply Chain Management's (SCMS's) Professional Identity". *Journal of Business Logistics*, 2015, 231-232. Refereed Dialogue.

<https://onlinelibrary.wiley.com/doi/10.1111/jbl.12087>

Sullivan, J.L, J. Dowds, **D.C. Novak**, D.M. Scott. 2015. "Strategic Location of Satellite Salt Facilities for Roadway Snow and Ice Control". *Transportation Research Record*, No. 2482. 32-40. Transportation Research Board, Washington, DC, 2015. Refereed journal article. <https://journals.sagepub.com/doi/abs/10.3141/2482-05>

Novak, D.C. and J. L. Sullivan. 2014. "A Link-Focused Methodology for Evaluating Accessibility to Emergency Services". *Decision Support Systems*, Volume 57. 309-319. January 2014. Refereed journal article.

Novak, D.C., J. L. Sullivan, D. M. Scott. 2012. "A Network-Based Approach for Evaluating and Ranking Transportation Roadway Projects". *Applied Geography*, Volume 34. 498-506. May 2012. Refereed journal article.

Novak, D.C., Hodgdon, C., Guo, F., Aultman-Hall, L. 2011. "Nationwide Freight Generation Models: A Spatial Regression Approach". *Networks and Spatial Economics*, Volume 11, Number 1. 23-42. March 2011. Refereed journal article.

Kraushaar, J. M. and **D.C. Novak**, 2010. "Examining the Effects of Student Multitasking with Laptops during the Lecture". *Journal of Information Systems Education*, Volume 21, Issue 2. 241-251. July, 2010. Refereed journal article.

Sullivan, J. L., **D. C. Novak**, L. Aultman-Hall, D. M. Scott. 2010. "Identifying Critical Road Segments and Measuring System-Wide Robustness in Transportation Networks with Isolating Links: A Link-Based Capacity-Reduction Approach". *Transportation Research Part A: Policy and Practice*, Volume 44, Issue 5. 323-336. June, 2010. Refereed journal article.

Novak, D.C. 2010. "Internet Access and Capacity Planning: Quantifying Relationships between Usage, Capacity, and Blocking". *Telecommunications Policy*, Volume 34, Issue 5-6. 309-322. June – July, 2010. Refereed journal article.

Sullivan, J. L., L. Aultman-Hall and **D.C. Novak**. 2009. "A Review of Current Practice in Network Disruption Analysis and an Assessment of the Ability to Account for Isolating Links in Transportation Networks". *Transportation Letters: The International Journal of Transportation Research*, Volume 1, Issue 4. 271-280. October, 2009. Refereed journal article (review paper).

Novak, D.C. 2008. "Managing Bandwidth Allocations between Competing Recreational and Non-Recreational Traffic on Campus Networks". *Decision Support Systems*, Volume 45, Issue 2. 338-353. May 2008. Refereed journal article.

Nair, S.K and **Novak D.C.** 2006. "A Traffic Shaping Model for Optimizing Network Operations". *European Journal of Operational Research*, Volume 180. 1358-1380. Refereed journal article. Authors listed in alphabetical order.

Scott, D.M., **Novak, D.C.**, Aultman-Hall, L., Guo, F. 2006. "Network Robustness Index: A New Method For Identifying Critical Links and Evaluating the Performance of Transportation Networks". *Journal of Transport Geography*, Volume 14, Issue 3. 215-227. Refereed journal article.

Novak, D.C. and Ragsdale, C. 2003. "A Decision Support Methodology for Stochastic Multi-Criteria Linear Programming Using Spreadsheets". *Decision Support Systems*, Volume 36, Issue 1. 99-116. September 2003. Refereed journal article.

Novak, D.C., Rowland, D, and DaSilva, L. 2003. "Modeling Dialup Internet Access: An Examination of User-To-Modem Ratios, Blocking Probability, and Capacity Planning in a Modem Pool". *Computers and Operations Research*, Volume 30, Issue 13. 1959-1976. November 2003. Refereed journal article.

SPONORED RESEARCH GRANTS AWARDED

O'Neil-Dunne, J., Rowsowsky, D., **Novak, D.C.**, Dewoolkar, M. "Airport Disaster Preparedness and Response". Federal Aviation Administration (FAA), subaward through University of Alabama Huntsville. Amount \$444,392. Role: Faculty contributor. *Awarded 10/2020.*

Sullivan, J.L., **Novak, D.C.**, Hernandez, E. "A New Method of Determining Payment for in-place Concrete with Double-Bounded Compressive Strength Pay Factors". The Transportation Infrastructure Durability Center (TIDC) via FHWA. Amount \$89,278. Role: co-PI. *Awarded 5/2020.*

Novak, D.C., Niles, M., Sullivan, J.L. "Targeted Investment for Critical Food Access in Rural New England". National Center for Sustainable Transportation via FHWA, subaward through University of California Davis. Amount \$87,342. Role: PI. *Awarded 5/2019.*

Novak, D.C., "Hamburg Wheel Tracker: Preliminary Data Analysis". Advancement of Research Grants Cooperative Agreement, State of Vermont Research and Development Section, Vermont Agency of Transportation (VAOT). Amount \$8,408. Role: PI. *Awarded 7/2018.*

Novak, D.C. and Sullivan, J.L. “Development of Pay Factors for QAQC Concrete Compressive Strength”. Advancement of Research Grants Cooperative Agreement, State of Vermont Research and Development Section, Vermont Agency of Transportation (VAOT). Amount \$25,001. Role: PI. *Awarded 8/2016.*

Dowds, J., Sullivan, J.L., **Novak, D.C.** “Snow Plow Route Optimization”. Minnesota Department of Transportation (MNDOT) through the *Clear Roads* Program. Amount \$75,000. Role: Co-PI. *Awarded 5/2015.*

Novak, D.C. and Sullivan, J.L. “Examining how Maintenance Investment and Capital Reinvestment in Vermont’s Roadway Infrastructure will Impact Access to Critical Services throughout the State”. Vermont Agency of Transportation (VAOT), Research Advisory Council (RAC). Amount \$75,975. Role: PI. *Awarded 11/2014.*

Sullivan, J.L. and **Novak, D.C.** “Quantifying the Impact that New Capital Projects will have on Roadway Snow and Ice Control Operations”. Minnesota Department of Transportation (MNDOT) through the *Clear Roads* Program. Amount \$145,622. Role: Co-PI. *Awarded 10/2014.*

Novak, D.C. and Sullivan, J.L. “Evaluating how Disruptions in the Roadway System Affect Accessibility to Essential Services in Vermont”. University of Vermont REACH program. Amount \$11,000. Role: PI. *Awarded 4/2013.*

Sullivan, J.L. and **Novak, D.C.** “Strategic Location of Satellite Salt Storage for Roadway Snow and Ice Control in Vermont”. Vermont Agency of Transportation (VAOT), Research Advisory Council (RAC). Amount \$73,688. Role: Co-PI. *Awarded 2/2013.*

Novak, D.C. and Sullivan, J.L. “A Risk-Based Flood-Planning Strategy for Vermont’s Road Network”. USDOT, University Transportation Center Program / University of Vermont’s Transdisciplinary Research Initiative (Complex Systems) through the University of Vermont’s Transportation Research Center. Amount \$64,995. Role: PI. *Awarded 12/2011.*

Sullivan, J.L. and **Novak, D.C.** “Travel Importance and Strategic Investment in Vermont”. Co-sponsored by USDOT, University Transportation Center Program and the Vermont Agency of Transportation (VAOT), Research Advisory Council (RAC). Amount \$100,000. Role: Co-PI. *Awarded 12/2011.*

Sullivan, J.L. and **Novak, D.C.** “Optimization of Snow Removal in Vermont”. Vermont Agency of Transportation (VAOT), Research Advisory Council (RAC). Amount \$77,000. Role: Co-PI. *Awarded 12/2011.*

Watts, R., **Novak, D.C.**, Glitman, K. “Infrastructure Management Systems Enhancement and Integration to Support True Integrated Decision-Making”. New England Transportation Consortium (NETC). Amount \$85,386. Role: Co-PI. *Awarded 8/2008.*

Novak, D.C. and Scott D. “Application of the Network Robustness Index to Identify Critical Road Network Links”. USDOT, University Transportation Center Program through the University of Vermont Transportation Research Center. \$50,000. Role: PI. *Awarded 4/2007.*

Novak, D.C., Aultman-Hall, L., Scott, D. “Using Network Disruptions to Measure System Robustness”. New England Transportation Consortium (NETC). Amount \$92,000. Role: PI. *Awarded 3/2007.*

Novak, D.C., Scott D. “Network Robustness Index: A New System Measure for Transportation Network Models”. USDOT, University Transportation Center Program through the University of Vermont Transportation Research Center. Amount: \$100,000. Role: PI. *Awarded 3/2007.*

Kraushaar, J., **Novak, D.C.**, Frolik, J., Chittenden, T. “Education Value and Validity: Student Adaptation to Tablet PC Technology in Business and Engineering Curriculum”. Microsoft, Corp. Amount: \$100,000. Role: Co-PI. *Awarded 3/2006.*

Novak, D.C., University of Connecticut Research Foundation Small Faculty Research Grant. Proposal Title: “Dynamics of IP Traffic: Traffic Characterization and Quality of Service Policies.” Amount: \$1,000. Role: PI. *Awarded 8/2002.*

SOFTWARE CONTRIBUTIONS

Vermont Transportation Flood Resilience Planning Tool <http://vtrans.stone-env.net/#/map>
The tool uses the Critical Closeness Accessibility Measure developed by Novak and Sullivan (2014).

PATENTS FILED

Novak, D.C. and Sullivan, J.L. Filed on November 6, 2014. “A Link-Focused Methodology for Evaluating Accessibility to Emergency Services, provisional patent 62/076,461. Expired.

RESEARCH REPORTS

- **Novak, D.C.**, Sullivan, J.L., Niles, M.T. 2021. “Targeted Investment for Food Access”. National Center for Sustainable Transportation (UC Davis) Research Report, 28 pages. <http://dx.doi.org/10.7922/G2FT8JBR>
<https://escholarship.org/uc/item/9b71p9zg>. Policy brief:
<https://escholarship.org/content/qt47v4g0zn/qt47v4g0zn.pdf?t=qptaos>
- Sentoff, K., Sullivan, J.L., **Novak, D.C.**, Dowds, J. 2017. Examining the Potential Impacts of Maintenance Investment and Capital Reinvestment in Vermont’s Roadway Infrastructure Network”. Transportation Research Center Report #17-002, 64 pages.
http://www.uvm.edu/~transctr/research/trc_reports/UVM-TRC-17-002.pdf
- Sullivan, J.L., Dowds, J., Scott, D.M., **Novak, D.C.** 2016. “Long-term and Short-term Measures of Roadway Snow and Ice Control Performance”. Transportation Research Center Report #16-001, 27 pages.
http://www.uvm.edu/~transctr/research/trc_reports/UVM-TRC-16-001.pdf
- **Novak, D.C.** and Sullivan, J.L. 2014. “A Risk-Based Flood-Planning Strategy for Vermont’s Roadway Network”. Transportation Research Center Report #14-016, 48 pages.
http://www.uvm.edu/~transctr/research/trc_reports/UVM-TRC-14-016.pdf
- Sullivan, J.L., **Novak, D.C.**, Scott, D.M. 2013. “Travel Importance and Strategic Investment in Vermont’s Transportation Assets”. Transportation Research Center Report #13-016, 68 pages.
http://transctr.w3.uvm.edu/wp-content/uploads/2014/03/Final-Report-13-016_opt.pdf
- Dowds, J., Sullivan, J.L., Scott, D.M., **Novak, D.C.** 2013. “Optimization of Snow Removal in Vermont”. Transportation Research Center Report #13-005, 39 pages.
http://www.uvm.edu/~transctr/research/trc_reports/UVM-TRC-13-005.pdf

- Sullivan, J.L., **Novak, D.C.**, Aultman-Hall, L. 2012. “Identifying Network Representation Issues with the Network Trip Robustness”. Transportation Research Center Report #12-004, 18 pages. http://www.uvm.edu/~transctr/research/trc_reports/UVM-TRC-12-004.pdf
- **Novak, D.C.**, Sullivan, J.L., Aultman-Hall, L. 2010. “Advanced Development and Calibration of the network Robustness Index to Identify Critical Road Network Links”. Transportation Research Center Report #10-019, 17 pages. http://www.uvm.edu/~transctr/research/trc_reports/UVM-TRC-10-019.pdf
- Sullivan, J.L., Aultman-Hall, L., **Novak, D.C.** 2010. “Application of the Network Robustness Index to Identifying Critical Road-Network Links in Chittenden County, Vermont”. Transportation Research Center Report #10-009, 21 pages. http://www.uvm.edu/~transctr/research/trc_reports/UVM-TRC-10-009.pdf
- **Novak, D.C.**, Alwang J., Shabman, L. 1996. “Recycling Programs: Attitudes, Costs, and Designs,” *REAP Report REAP R024*, Blacksburg: Virginia’s Rural Economic Analysis Program, 23 pages.

CONFERENCE PRESENTATIONS

**I list only the conferences I attended. I appear as a contributor/co-author for many other presentations.

- “Supply Chain Resilience and Issues Related to Mismatched Scales”, Complex Adaptive Supply Networks – Research Accelerator bi-annual meeting. Invited presentation (remote). March, 2021
- “Supply Network Resilience and the Adaptive Cycle”, with Z. Wu and K. Dooley. Annual DSI meeting, November 2019, New Orleans, LA. Presentation. Dr. Novak also chaired the Supply Chain Risk Session.
- “Development of an Iterative Heuristic for Roadway Snow and Ice Control (RSIC)”, with J. Sullivan, J. Dowds, and K. Sentoff. Annual DSI meeting, November 2019, New Orleans, LA. Presentation. Dr. Novak also chaired the Vehicle Routing Problem & Applications Session.
- “Catalyzing Sustainable Change across the Supply Chain”, with C. Mena, R. Wiedmer, and D. Luzzini. Annual DSI meeting, November 2019, New Orleans, LA. Interactive Workshop. Dr. Novak also chaired the Complex Adaptive Supply Network – Research Accelerator Workshop.
- “Managing Blood Inventory with Random Transfers”, with M. Lucas and K. Puranam. Annual INFORMS meeting, November 2018, Phoenix, AZ. Presentation. Dr. Novak also chaired the Health Care I Session.
- “Impact of Behavioral Factors on Performance of Multi-Server Queueing Systems”, with H. Do, M. Shunko, M. Lucas. Annual INFORMS meeting, November 2018, Phoenix, AZ. Presentation.
- “Impact of Behavioral Factors on Performance of Multi-Server Queueing Systems”, with H. Do, M. Shunko, M. Lucas. Annual POMS meeting, May 2018. Houston, TX. Presentation.
- “Mismatched Scale: Implications for Sustainable Supply Chain”. Invited research presentation, Arizona State University, March 2, 2018. Presentation.
- “Mismatches in Scale in Sustainable Supply Chains” with Z. Wu. Annual DSI meeting, Washington, DC November, 2017. Presentation. Dr. Novak also chaired the Supply Chain and Revenue Management Session.
- “Optimal Ordering Policies for Blood Inventory with Transfers: A Sensitivity Analysis”. with S. Puranam and M. Lucas. Annual DSI meeting, Washington, DC November, 2017. Presentation.

- "Pilot Test of a Thermal Infrared Video System for Performance Measurement of Roadway Snow and Ice Control" with J. Sullivan, J. Dowds, D. Scott, 95th Annual Meeting of the Transportation Research Board (TRB) 2016, Washington, DC Jan 2017. Presentation.
- "An Approximate Solution Approach for Blood Management when there are Multiple Sources of Supply" with S. Puranam and M. Lucas. Annual INFORMS, Nashville, TN, November, 2016. Presentation.
- "Addressing Uncertainty in Blood Management" with S. Puranam and M. Lucas. Annual DSI meeting, Austin, TX, November, 2016. Presentation.
- "On the Pooling of Queues: How Server Behavior Affects Performance", with H. Do, M. Shunko, M. Lucas. Annual POMS meeting, May 2016. Orlando, FL. Presentation.
- "Can Server Behavior and Service System Design Outweigh the Benefits of Pooling?" with M. Lucas, H. Do, M. Shunko. Annual INFORMS meeting, Philadelphia, PA, November, 2015. Presentation.
- "An Ordering Heuristic for RBCs under Multiple Sources of Supply" with M. Lucas, K. Puranam. Annual INFORMS meeting, Philadelphia, PA, November, 2015. Presentation.
- "A Routing Heuristic for Roadway Snow and Ice Control" with J. Sullivan and J. Dowds. Annual Decision Sciences Institute (DSI) meeting, Tampa, FL, November, 2014. Presentation. Dr. Novak also chaired the Routing and Dispatching in Transportation Networks Session.
- "On the Determination of Optimal Ordering Policies for Blood Products with Blood Transfers" with S. Puranam and M. Lucas. Annual Decision Sciences Institute (DSI) meeting, Tampa, FL, November, 2014. Presentation.
- "Research Applications of Travel Models and how they are Relevant to Trade Issues". Canada/Vermont Economic Development Symposium, Creating Transportation Research that Matters. November, 2014. Burlington, VT. Presentation.
- "An Objective Approach for Prioritizing and Ranking Roadway Projects", with J. Sullivan. Transportation Research Board's, Tools of the Trade biennial conference, July 22-24, 2014. Burlington, VT. Finalist for "Best Presentation".
- "Critical Closeness Accessibility" A Link-Focused Measure for Evaluating Accessibility to Critical Services". Dr. Novak was invited to present this paper at the Arizona State University W.P. Carey School of Business research seminar series hosted by Dr. Tom Choi, W.P. Carey Chair of Supply Chain Management and Director of the Center for Supply Networks. May 1, 2014.
- "An Iterative Heuristic for RISC Operations with a Continuous Measure of Priority", with J. Sullivan. INFORMS Business Analytics meeting, Boston, MA, March 31-April 1, 2014. Poster Session.
- "Optimal Ordering Policies for a Fixed-life Perishable Product with Transfers" with S. Puranam and M. Lucas. Annual Decision Sciences Institute (DSI) meeting, Baltimore, MD, November, 2013. Presentation.

- “A Link-Based Approach for Evaluating Accessibility to Emergency Services in a Transportation Network” with J.F. Sullivan. Annual INFORMS Meeting, Minneapolis, MN, October 6-8, 2013. Poster Session. Dr. Novak also served as a judge at the poster session (this poster was not included in the competition).
- "Development and Application of a Link-Based Network Accessibility Measure" with J.F. Sullivan. 2013 Annual Meeting of the Northeast Decision Sciences Institute, New York, NY April 2013. Presentation.
- “Transportation Network Resolution: Exploring How Much of Road Network Is Needed for Analysis” with L. Aultman-Hall and J.F. Sullivan. 92nd Annual Meeting of the Transportation Research Board (TRB) 2013, Washington, DC Jan 2013. Presentation.
- “Access to Emergency Services: Spatial and Topographical Considerations” with J. F. Sullivan. Annual Decision Sciences Institute meeting, San Francisco, CA November 17-20, 2012. Presentation. Dr. Novak also chaired the Logistics and Distribution session.
- “Evaluating Groups of Roadway Projects: Evidence of Emergent Properties in a Roadway Network” with J. F. Sullivan. Northeast Decision Sciences Institute (NEDSI) meeting, Newport, RI, March 21-23, 2012. Presentation.
- “On the Management of a Blood Bank at a Hospital” with M. Lucas. Annual Decision Sciences Institute meeting, Boston, MA, November 19-22, 2011. Presentation.
- “Incorporating Varying Trip Purposes and Critical Facility Location into Network Robustness Analysis” Presented at an invited research seminar, CIRRELT, Interuniversity Research Center on Networks, Logistics, and Transportation, Montreal, QC, CA, October 19th, 2011.
- “Network-Disruption Modeling and the Effects of Braess’ Paradox” Invited presentation to the Network Vulnerability and Performance Assessment Session, Northeast INFORMS Meeting, Amherst, MA, May 6-7, 2011. Presentation.
- “The Importance of Selecting the Capacity Disruption Level Used in Network Disruption Modeling” with J. F. Sullivan. Northeast Decision Sciences Institute (NEDSI) meeting, Montreal, QC, Canada, April 15-16, 2011. Presentation
- “Evaluating the Effects of Trip Importance on System-Wide Performance in Transportation Networks” with J. F. Sullivan. Annual INFORMS Meeting, San Antonio, TX, November 2010. Presentation. Dr. Novak also chaired the Transportation Planning I session.
- “Incorporating Trip Importance into Network Robustness Measurements of Critical Road Links” with Sullivan, J.F. and Aultman-Hall, L. 2nd Annual International Conference in Transportation and Logistics (TRANSLOG) 2010. McMaster University Institute for Transportation and Logistics. Presentation.
- “Differences between Academic and Non-Academic Research” Invited Guest Speaker at Conférence Sur Le “Rayonnement De La Recherche En Gestion” (Conference on the “Outreach of Business Research) at HEC Montreal, May 7th, 2010. Presentation.

- “Network Disruption: Identifying Critical Links in a Highway Network” with Sullivan, J.F., Scott, D.M., and Aultman-Hall, L. 1st Annual International Conference in Transportation and Logistics (TRANSLOG) 2009. McMaster University Institute for Transportation and Logistics. Presentation.
- “Network Disruption and Link Valuation” with Sullivan, J.F. 88th Annual Meeting of the Transportation Research Board (TRB) 2009, Washington, DC Jan 2009.
- “A Descriptive Study of Perceived and Actual Tablet Use by Undergraduate Students in the Classroom” with Kraushaar, J.M. and Chittenden, T. I. Workshop on the Impact of Pen-Based Technology on Education (WIPTE) 2008. Full paper and presentation.
- "A Preliminary Profile of Student Tablet Use During the Lecture" with Kraushaar, J. M., Chittenden, T. I., and Chittenden, N. B. EDUCAUSE Southeast Regional Conference 2007. Full paper and presentation.
- “An Automated Statistical Quality Control Process for Internet Service Providers” with P. Kitchin. Annual Meeting of the Southeast Decision Sciences Institute (SEDSI) 2004. Full paper and presentation. **Received “Best Paper” award.**
- “Setting Optimal Bandwidth Controls for Peer-to-Peer Traffic on Campus Networks” with S.J. Chang and S.K. Nair. Annual Meeting of the Northeast Decision Sciences Institute (NEDSI) 2003. Full paper and presentation.
- “A Characterization of Online Modem Pool Traffic” with T. Rakes. National Decision Sciences Institute meeting 2001. Full paper and presentation.
- "Modem Pool Simulation and Performance Analysis"), with L. DaSilva and D. Rowland. Society for Computer Simulation Symposium for Performance Evaluation of Computer and Telecommunications Systems (SPECTS) annual meeting 2000. Full paper and presentation.
- "Characterization of the Virginia Tech Modem Pool" Annual Meeting of the Southeast Decision Sciences Institute (SEDSI), 2000. Full paper and presentation.
- "A Methodology for Solving Stochastic Programming Problems Using Microsoft's Excel" with C. Ragsdale. Annual Meeting of the Southeast Institute for Operations Research and the Management Sciences (SEINFORMS), 1999. **Received First Place in the Student Paper Competition.** Full paper and presentation.
- "A General Overview of the Potential Macroeconomic Impacts of Intelligent Transportation System (ITS) Investment in the United States” with M. McDonald. 77th Annual Meeting of the Transportation Research Board (TRB) 1998, Washington, DC Jan 1998. Presentation.

CONFERENCE LEADERSHIP

- Workshop Organizer for Annual DSI meeting 2019, “Research Forum: Complex Adaptive Supply Network Research Accelerator (CASN/RA)
- Session Chair Decision Sciences Institute (DSI) annual meeting: 2012, 2014, 2017, 2019
- Session Chair INFORMS annual meeting: 2010, 2018
- Judging Team for poster competition INFORMS: 2013
- Marketing Committee Member Decision Sciences Institute (DSI): 2015-2016

GRADUATE STUDENT ADVISING / COMMITTEE SERVICE

(GSB does not have research-based graduate programs)

- Doctorial Advisory Committee Member, Serge Wiltshire. “Using Computer Models to Illuminate Complex Issues in Global Food Systems”, College of Agriculture and Life Sciences, Food Systems, UVM. June 2017 – April 2019. Advisor: Dr. Meredith Niles.
- Doctorial Advisory Committee Member, Randy Bui. “Incorporating Quantifiable Measures of Importance into Travel Demand Modeling”, School of Geography and Earth Sciences, McMaster University. September 2011 – May 2015. Advisor: Dr. Darren Scott.
- Master’s Thesis Defense Committee Chair, Matt Tucker. “Intergovernmental Dynamics and Equity Considerations in Transportation Planning and Allocation of Funding”, College of Agriculture and Life Sciences, Community Development and Applied Economics, UVM. January 2011 – August 2011. Advisors: Drs. Chris Koliba and Asim Zia.
- Master’s Thesis Committee Member and Thesis Co-Advisor, Jim Sullivan. “Advancement of the Empirical Relevance and Scalability of the Network Robustness Index for Highway Transportation Networks”, College of Engineering and Mathematical Sciences, Civil Engineering. September 2007 – May 2009. Co-Advisor: Dr. Lisa Aultman-Hall.
- Doctorial Advisory Committee Member, Nagi Bashra. “Using Neural Networks to Optimize Traffic Flow”, College of Engineering and Mathematical Sciences, Civil Engineering. September 2007 – May 2009. Advisor: Dr. Adel Sadek.
- Master’s Thesis Defense Committee Chair, Sarang Ranade. “Development of Warrents for Installing left Turn Lanes at Unsignalized Intersections”, College of Engineering and Mathematical Sciences, Civil Engineering. November 2006 – January 2007. Advisor: Dr. Adel Sadek.
- Master’s Thesis Defense Committee Chair, Mark Smith. “Calibrating Microsimulation Traffic Simulation Models: Case Study Examples”, College of Engineering and Mathematical Sciences, Civil Engineering. September 2006 – November 2006. Advisor: Dr. Adel Sadek.

UNDERGRADUATE STUDENT RESEARCH ADVISING

- Honor’s College Thesis Co-Advisor, Emily Bates. “UVM Big Data? Identifying Campus Databases and Designing a Data Warehouse to Reconcile and Archive These Sources”, Grossman School of Business Management Information Systems. May 2014 – May 2015. Co-Advisor: Thomas Chittenden.
- Sponsored Research Supervisor, Rincy Jacoby. “Network Robustness and Travel Valuation”. May 2009 – August 2009.

SELECT PROFESSIONAL SERVICE

Senior Editor, *Decision Support Systems*, Summer 2014 – present

<http://www.journals.elsevier.com/decision-support-systems/editorial-board/>

Editorial Advisory Board, *Transportation Research Part E: Logistics*, Fall 2018 – present

<https://www.journals.elsevier.com/transportation-research-part-e-logistics-and-transportation-review>

Guest Editor, special issue of *Journal of Business Logistics* titled "Managing Extended Supply Chains". T. Choi, S. Narayanan, D. Novak, J. Olhager, J.B. Sheu, F. Wiengarten (published March, 2021).

[http://onlinelibrary.wiley.com/store/10.1002/\(ISSN\)2158-1592/asset/homepages/Managing_Extended_Supply_Chains_STF.pdf?v=1&s=8a20c1a596e202d4c79f6893bedf1d8a92e3ecb2&isAguDoi=false](http://onlinelibrary.wiley.com/store/10.1002/(ISSN)2158-1592/asset/homepages/Managing_Extended_Supply_Chains_STF.pdf?v=1&s=8a20c1a596e202d4c79f6893bedf1d8a92e3ecb2&isAguDoi=false)

Guest Editor, special issue of *Complexity* titled "Managing Complexity in Supply Networks: Control and Emergence". T. Choi senior editor, H. Akkermans, K. Linderman, D. Novak, L. Varga (July, 2017). Issue was not published due to insufficient acceptable submissions.

<https://www.hindawi.com/journals/complexity/si/167424/cfp/>

Ad-hoc or invited reviewer on over 100 different occasions for journals including: *European Journal of Operations Research*, *Journal of Operations Management*, *Decision Support Systems*, *PLOS ONE*, *Information Systems Research*, *Management Science*, *Decision Sciences*, *International Journal of Production Economics*, *OMEGA*, *Transportation Research Part A*, *Transportation Research Part E*, *Computers and Operations Research*, *Journal of Transport Geography*, *INFORMS Journal on Computing*, *INFORMS Transactions on Education*, *International Journal of Quality & Reliability Management*, *Transportmetrica A and B*, *IEEE Transactions on Knowledge and Data Engineering*, *IEEE Transactions on Engineering Management*, *Journal of Systems and Software*, *Journal of the Royal Society Interface*, *Journal of Urban Planning and Development*, *Journal of Computer Mathematics*, *Journal of Geographical Systems*, *Journal of Advanced Transportation*, *Journal of Advanced Research in Dynamical & Control Systems*, *Journal of Applied Mathematics and Decision Sciences*.

- Outstanding Reviewer Recognition: *European Journal of Operational Research*, *Decision Support Systems*, *OMEGA*, *International Journal of Production Economics*, *Transportation Research Part E*

CURRICULUM MANAGEMENT / DEVELOPMENT

- Developed and delivered asynchronous version of BSAD 30, Decision Analysis, Summer 2019.
- Developed new 3-credit class, Sustainable Operations and Green Supply Chain (not yet numbered), Online MBA. Summer 2018 – Fall 2018.
- Co-developed new 3-credit class, BSAD 40, Information Systems with T. Chittenden, Summer 2018 – Fall 2018.
- Co-developed new 3-credit class, BSAD 30, Decision Analysis with M. Lucas, Spring 2014 – Fall 2014.
- Co-developed and co-administered Business Analysis (BA) Undergraduate Concentration with M. Lucas, Fall 2013 – present. With no department heads, the two senior-most faculty in BA are responsible for determining requirements and pre-requisites, as well as overall direction of concentration.
- Developed new 3-credit class, BSAD 146, Business Data Communications, Summer 2004 – Fall 2004.

SELECT PROFESSIONAL EXPERIENCE

- Full Professor, Grossman School of Business, University of Vermont: Spring 2019 – present
- Associate Professor, Grossman School of Business, University of Vermont: Spring 2011 – Spring 2019
- Assistant Professor, Grossman School of Business, University of Vermont: Fall 2004 – Spring 2011
- Assistant Professor, School of Business, University of Connecticut, Department of Operations and Information Management: Fall 2001 – Spring 2004
- Analyst / Network Engineer, Network Infrastructure & Service, Research and Development branch of Network Engineering Division: Summer 1999 - Summer 2001
- Analyst / Traffic Engineer, Virginia Tech Transportation Institute, Traffic Engineering Group: Summer 1998

- Associate, Apogee Research, Inc., Transportation Economics and Information Technology Group: Fall 1994 - Summer 1997

Network Infrastructure & Services, Blacksburg, VA

Prior to earning the Ph.D., Mr. Novak worked in the Research and Development branch of the Network Engineering group at NI&S. NI&S provides leading edge telecommunications services in support of the instructional, research and outreach missions of Virginia Tech.

The Virginia Tech Transportation Institute, Blacksburg, VA

Prior to earning the Ph.D. Mr. Novak worked for the Traffic Engineering group of the Transportation Institute at Virginia Tech. He managed an Intelligent Transportation System (ITS) project in San Antonio, TX that focused on measuring the benefits associated with the adoption of innovative “intelligent” technologies for the *TransGuide* traffic management system as part of the U.S. Department of Transportation’s (DOT) national Metropolitan Model Deployment Initiative (MMDI).

Apogee Research, Inc., Bethesda, MD

After earning the M.S., Mr. Novak worked as an Associate for Apogee Research, Inc., an economics and financial consulting firm. While at Apogee, he managed and worked on various projects related to economic policy, model development, benefit / cost analysis, quantitative / statistical analysis, market research, and the development, adoption, and management of innovative transportation technologies.

SELECT UVM SERVICE ACTIVITIES

- University of Vermont, Graduate Executive Committee, Fall 2015 – Fall 2017. Fall 2018 – present.
- Transportation Research Center (TRC) Faculty Associate, Fall 2012 – present.
- University of Vermont, Transportation Faculty Search Committee, CEMS/TRC, Fall 2018 – Spring 2019.
- Chair, Business Analytics (BA) Faculty Search Committee, Summer 2016 – Spring 2017.
- Representative for Grossman School of Business, United Academics. Fall 2011 – Spring 2016.
- Grossman School of Business 5-year Dean Performance Review Committee – Spring 2016.
- Grossman School of Business Sabbatical Guidelines Review Committee – Spring 2016.
- Complex Systems Steering Committee Member, Fall 2010 – Fall 2015.
- Transportation Research Center, Faculty Advisory Council, School of Business. Fall 2006 – Fall 2016.
- Research and Graduate Education Committee. Fall 2009 – Spring 2010.
- Faculty Senate, School of Business. Fall 2008 – Spring 2011.
- Academic Integrity Council, Faculty Member. Fall 2005 – Spring 2011.
- Transdisciplinary Research Initiative (TRI) Complex Systems Group Member. Fall 2009 – Spring 2010.
- Delegate for Grossman School of Business, United Academics Delegate Assembly. Fall 2006 – Spring 2011.
- Chair, Management Information Systems (MIS) Faculty Search Committee, Summer 2010 – Spring 2011.
- School of Business Administration Dean Search Committee Member. Fall 2008 – Spring 2009 and again in Spring 2010 – Fall 2010.

SELECT AWARDS and HONORS

Grossman School of Business STATA Summer Research Funding Award 2015, 2016, 2017.

Grossman School of Business Faculty Scholarship Award 2014-2015.

Best Paper Award for the Southeast Decision Sciences Institute annual meeting 2004.

R.B. Pamplin College of Business Outstanding Graduate Student Award, 2001.

David C. Novak (continued)

R.B Pamplin College of Business Fellowship, Fall 1997, Spring 1998, Spring 2000.

Best Paper Award for the Southeast INFORMS, Student Paper Competition, 1999.