

## DUYGU PAMUKCU

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### APPOINTMENTS

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<b>Postdoctoral Fellow</b> , HEC Montréal, Quebec, Canada	May 2023 – present
Supervisors: Dr. Julie Paquette, Dr. Marie-Ève Rancourt	
<b>Postdoctoral Scholar</b> , Business Information Technology, Virginia Tech	Jan 2023 – April 2023
Supervisor: Dr. Christopher W. Zobel	

### EDUCATION

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<b>Ph.D.</b> , Business Information Technology, Virginia Tech, Blacksburg, VA	Dec 2022
Advisor: Dr. Christopher W. Zobel	
* <i>2023 Outstanding Dissertation Award, Virginia Tech</i>	
<b>M.S.</b> , Industrial Engineering, Middle East Technical University, Ankara, Turkey	Aug 2018
Advisors: Dr. Melih Celik, Dr. Burcu Balcik	
<b>B.S.</b> , Industrial Engineering, Middle East Technical University, Ankara, Turkey	June 2015

### RESEARCH INTERESTS

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Humanitarian and Crisis Operations Management	Non-profit Supply Chains
Disaster Resilience and Risk Management	Humanitarian Logistics
Public Service Operations	Crisis Information Systems

### AWARDS

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<b>2023 Outstanding Dissertation Award</b> in Social Science, Business, Education, Humanities Category, Virginia Tech	2023
Nominated for 2023 Outstanding Doctoral Student in Interdisciplinary Programs Award, DRRM	2023
Summer Research Grant, Business Information Technology, Virginia Tech	2022
DRRM Interdisciplinary Research Project Summer Grant, DRRM, Virginia Tech	2022
Interdisciplinary Graduate Education Program Fellowship, DRRM, Virginia Tech	2019
Summer Research Grant, Business Information Technology, Virginia Tech	2019

### PEER-REVIEWED JOURNAL PUBLICATIONS

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- Szczyrba, L., Zhang, Y., **Pamukcu, D.**, Eroglu, D. I., & Weiss, R. (2021) Quantifying the Role of Vulnerability in Hurricane Damage via a Machine Learning Case Study, *Natural Hazards Review*, 22(3), 04021028.
- Pamukcu, D.**, & Balcik, B. (2020). A multi-cover routing problem for planning rapid needs assessment under different information-sharing settings. *OR Spectrum*, 42(1), 1-42.

### UNDER REVIEW

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- Pamukcu, D.**, Zobel, C. W. Managing the demand volatility of a municipal service system during a slow-onset disaster. *Manufacturing and Service Operations Management*, *submission date: June 2023*.

## IN PREPARATION FOR SUBMISSION

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- Pamukcu, D.**, Zobel, C. W. Uncovering challenges in maintaining service performance of public service systems experiencing during slow-onset disasters. *Production and Operations Management*, *expected submission date: September 2023*.
- Zobel, C. W., **Pamukcu, D.**, Venkatesh V., & Ge Y. Calling 311: Supporting Disaster Management with Non-Emergency eGovernment Systems. *Working paper*, *expected submission date: December 2023*.
- Pamukcu D.**, Celik M., & Balcik B. Integrating logistics planning and population sampling decisions for humanitarian needs assessment. *Working paper*.
- Pamukcu, D.**, Zobel, C. W. Managing Efficiency and Equity in the Operational Performance of Public Service Systems During a Disaster. *Working paper*.
- Pamukcu D., Paquette, J., Balcik, B., and Rancourt, M.È. Optimizing Allocation of Donated Food in Food Bank Operations. *Working paper*.

## PUBLISHED REFEREED CONFERENCE PROCEEDINGS

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- Pamukcu, D.**, Zobel, C. W., & Ge, Y. (2023) Prioritization of disaster-related requests in an IT-enabled public service system. In Proceedings of the 20th International Conference on Information Systems for Crisis Response and Management (ISCRAM).
- Zobel, C. W., **Pamukcu, D.** (2023). Examining User Access Options for eGovernment Services During a Crisis from a Digital Inequality Perspective. In 2023 56th Hawaii International Conference on System Sciences (HICSS), IEEE.
- Pamukcu, D.**, Zobel, C. W., & Ge, Y (2022). DEA-based Approach for Managing Performance of Public Service Systems During a Disaster. In Proceedings of the 19th International ISCRAM Conference.
- Kianmehr, A. & **Pamukcu, D.** (2022). Analyzing citizen's needs during an extreme heat event, based on 311 service requests: A case study of 2021 heat wave in Vancouver, British Columbia. In Proceedings of the 19th International ISCRAM Conference.
- Pamukcu, D.**, Zobel, C. W., & Ge, Y (2021). Analysis of Orange County 311 System Service Requests During the COVID-19 Pandemic. In Proceedings of the 18th International ISCRAM Conference.
- Haque, A., **Pamukcu, D.**, Xie, R., Zaker Esteghamati, M., Cowell, M., & Irish, J. (2021). Cascading Effects of Mass Gatherings on COVID-19 Infections from a Multi-hazard Perspective: A Case Study of New York City. In Proceedings of the 18th International ISCRAM Conference.
- Pamukcu, D.**, Zobel, C. W. (2021) Characterizing 311 System Reactions to a Global Health Emergency. In 2021 54th Hawaii International Conference on System Sciences (HICSS), IEEE.
- Pamukcu, D.**, Zobel, C. W., & Arnette, A. (2020). Characterizing Social Community Structures in Emergency Shelter Planning. In Proceedings of the 17th International ISCRAM Conference.
- Eroglu, D. I., **Pamukcu, D.**, Szczyrba, L., & Zhang, Y. (2020). Analyzing and contextualizing social vulnerability to natural disasters in Puerto Rico. In Proceedings of the 17th International ISCRAM Conference.
- Szczyrba, L., Zhang, Y., **Pamukcu, D.**, & Eroglu, D. I. (2020). A Machine Learning Method to Quantify the

Role of Vulnerability in Hurricane Damage. In Proceedings of the 17th International ISCRAM Conference.

Arnette, A., Zobel, C. W., & **Pamukcu, D.** (2020). Post-Impact Analysis of Disaster Relief Resource Pre-Positioning After the 2013 Colorado Floods. In Proceedings of the 17th International ISCRAM Conference.

**Pamukcu, D.**, Zobel, C. W., & Arnette, A. (2019). A New Data-Driven Approach to Measuring Hurricane Risk. In Proceedings of the 16th International ISCRAM Conference.

## RESEARCH EXPERIENCE

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**Postdoctoral Fellow**, Logistics and Operations Management, HEC Montreal, Quebec, Canada, 2023

Title: Artificial Intelligence to improve the supply chain management at Food Bank Québec. Funded by a grant from the *Ministère de l'économie et de l'innovation du Québec*.

Supervisors: Dr. Julie Paquette and Dr. Marie-Ève Rancourt – HEC Montréal

**Postdoctoral Scholar**, Business Information Technology, Virginia Tech, VA, 2023

Title: Leveraging Smart Technologies and Managing Community Resilience through Networked Communities and Cross-Sector Partnerships. NSF-funded project.

Responsible Co-PI: Dr. Christopher W. Zobel – R.B. Pamplin Professor, Virginia Tech

**Graduate Research Assistant**, Business Information Technology, Virginia Tech, VA, 2018-2022

Dissertation title: Supporting the operational performance management of public service systems during slow-onset disasters

Advisor: Dr. Christopher W. Zobel – Business Information Technology, Virginia Tech

**Graduate Research Assistant**, Industrial Engineering, METU, Turkey, 2015-2018

Thesis title: Routing for Post-Disaster Needs Assessment to Improve Information Accuracy

Advisors: Dr. Melih Celik – University of Bath, UK, and Dr. Burcu Balcik – Ozyegin University, Turkey

**Project Research Assistant**, The Scientific and Technological Research Council funded project, 2015-2016

Title: Selective Routing Problems for Post-Disaster Rapid Needs Assessment Models and Solution Methods PI: Dr. Burcu Balcik, Ozyegin University, Turkey

## TEACHING EXPERIENCE

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**Instructor**, BIT 3414 Operations and Supply Chain Management, Virginia Tech, Summer I, 2021

Overall teaching effectiveness score: **5.63/6.00** vs 5.45/6.00 (college mean)

**Graduate Teaching Assistant**, Business Information Technology, Virginia Tech, 2018 – 2020

BIT 2406 Business Statistics, Analytics, Modeling

BIT 4464 Advanced Supply Chain Management

BIT 4514 Database Technology for Business

BIT 3434 Advanced Modeling for Business Analytics

**Graduate Research and Teaching Assistant**, Industrial Engineering, METU, 2015 – 2018

IE 206 Scientific Computing

IE 252 Network Flows and Integer Programming

IE 241 Financial Accounting

IE 266 Engineering Statistics

IE 324 Production and Service Operations Planning  
IE 361 Stochastic Models in Operations Research  
IE 415 Revenue Management  
IE 418 Supply Chain Management

IE 451 Decision Analysis  
IE 498 Systems Thinking  
IE 4908 Humanitarian Logistics  
EM 506 Project Management

*Undergraduate Student Assistant*, Industrial Engineering, METU, 2014 – 2015

## STUDENT ADVISING

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*Supervised project advising* – Antoine Vandal, HEC Montreal (Co-supervisor: Julie Paquette), May 2023-present, Topic: Modeling the Quebec Food Bank Network through Simulation

## CONFERENCE PRESENTATIONS

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**Pamukcu D., Zobel C. W. (2023).** Leveraging E-Government data to ensure equitable access to public services during a slow-onset disaster. 33rd Annual POMS Conference, Orlando, FL, USA, May 21-25.

**Pamukcu D., Zobel C. W. (2022).** Managing the Volatility of a Municipal Service System During a Slow-onset Disaster. INFORMS Annual Meeting, Indianapolis, IN, USA, October 16-19.

**Pamukcu, D., Zobel, C. W., & Ge, Y (2022).** DEA-based Approach for Managing Performance of Public Service Systems During a Disaster. ISCRAM 2022, Tarbes France, May 22-25.

**Pamukcu, D., Kianmehr, A. (2022).** Analyzing citizen's needs during an extreme heat event, based on 311 service requests: A case study of 2021 heat wave in Vancouver, British Columbia. ISCRAM 2022.

**Pamukcu, D., Zobel, C. W (2022).** Maintaining public service efficiency and equality during disasters: A DEA based Goal Programming modeling approach. 32nd Annual POMS Conference, April 21-25.

**Pamukcu D., Zobel C. W. (2021).** Analysis of Non-emergency Call System During the COVID-19 Pandemic. INFORMS Annual Meeting, Anaheim, CA, USA, October 24-27.

**Pamukcu, D., Zobel, C. W. & Ge Y. (2021)** Analysis of Orange County 311 System Service Requests During the COVID-19 Pandemic. ISCRAM 2021, Virtual, May 23-26.

**Pamukcu, D., Zobel, C. W. & Ge Y. (2021)** 311 Non-emergency Call System Reactions to COVID-19 Pandemic. 31st Annual POMS Conference, Virtual, April 30- May 5.

**Pamukcu, D., Zobel, C. W. (2021)** Characterizing 311 System Reactions to a Global Health Emergency. In 54th Hawaii International Conference on System Sciences (HICSS), Virtual, January 5-8

**Pamukcu D., Zobel C. W., Arnette A. (2020).** Characterizing Social Community Structures in Emergency Shelter Planning. INFORMS Annual Meeting, Virtual, November 7-13.

**Pamukcu D., Zobel C. W., Arnette A. (2019).** Characterizing Social Community Structures in Emergency Shelter Planning. INFORMS Annual Meeting, Seattle, WA, USA, October 20-23.

**Pamukcu D., Arnette A., Zobel C. W. (2019).** Quantifying Disaster Risk in Hurricane Florence to Support Sheltering Decisions. 30th POMS Annual Meeting, Washington, DC, USA, May 2-6.

**Pamukcu D., Celik M., Balcik B. (2018).** Routing for Post-Disaster Needs Assessment to Improve Information Accuracy and Precision. INFORMS Annual Meeting, Phoenix, AZ, USA, November 4-7.

**Pamukcu D.,** Celik M., Balcik B. (2017). Routing for Post-Disaster Needs Assessment to Improve Information Accuracy. INFORMS Annual Meeting, Houston, TX, USA, October 22-25.

**Pamukcu D.,** Eroglu D. I. (2017). Decomposition-based Stochastic Program for a Debris Collection Problem. 37th National Congress on Operations Research and Industrial Engineering, Istanbul, July 5.

**Pamukcu D.,** Balcik B. (2016). Models for The Needs Assessment Routing Problem. 2016 INFORMS Annual Meeting, Nashville, TN, USA, November 13-16.

## INVITED RESEARCH SEMINARS AND PANELS

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**Speaker** – University of Central Florida Urban Resilience Initiative Leading Scholar Lecture Series, “Supporting Disaster Management with Non-Emergency eGovernment Systems”, with Christopher Zobel, May 2023.

**Panelist** – EENA Webinar on Introducing ISCRAM: Bridging research and public safety, Virtual, 2022  
COVID-19 in Context – A Deans' Forum on Living with a Pandemic Series, Virginia Tech, 2021

## PROFESSIONAL ACTIVITIES

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**Track Co-Chair** - Analytical Modeling and Simulation Track – ISCRAM 2020-present

**Session Organizer/Chair** – Crisis/Disaster Management and Covid-19 Pandemic Track, 2022 POMS Annual Conference, Humanitarian Operations and Crisis Management, 2021 POMS Annual Conference, Disaster and Disruption Management I, 2018 INFORMS Annual Meeting

**Posters/Demo. Co-Chair** - International Conference on ISCRAM 2020-2021

**Local Arrangements Committee Member** - International Conference on ISCRAM 2020-2021

**Meta-reviewer** - ISCRAM Proceedings - 2020-present

**Journal Reviewer** - Journal of Operations Management, Applied Artificial Intelligence, International Journal of Disaster Risk Reduction, Natural Hazards Review, Socio-Economic Planning Sciences

**Conference Reviewer** - Information Systems for Crisis Response and Management (ISCRAM) Conference Proceedings, Hawaii International Conference on System Sciences (HICSS) Proceedings

## CERTIFICATES

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The Graduate Certificate in Disaster Resilience and Risk Management, Virginia Tech	2022
The Future Professoriate Certificate, Virginia Tech	2022
The Extreme Event Facilitator Program Certificate	2020
Basic Responsible Conduct of Research Certificate, CITI	2021-2024
Human Subjects Research - Social and Behavioral Research Certificate, CITI	2021-2024

## TECHNICAL SKILLS

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Programming Languages and Tools: C, JAVA, R, Python, MATLAB, VBA, GAMS

Package Software and Platforms: Amazon Mechanical Turk, ArcGIS, ARENA Simulation Software, IBM CPLEX OPL, Minitab Statistical Software, Qualtrics, SAS JMP, WordPress

Last Updated: 07 August 2023

## **MEMBERSHIPS/PROFESSIONAL AFFILIATIONS**

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INFORMS	Institute for Operations Research and the Management Sciences	2016- <i>present</i>
POMS	Production and Operations Management Society	2019- <i>present</i>
DSI	Decision Sciences Institute	2023-present
ISCRAM	Information Systems for Crisis Response and Management Association	2021- <i>present</i>
DRRM	Disaster Resilience and Risk Management Interdisciplinary Program, Virginia Tech	2018-2022

## **ADDITIONAL AFFILIATIONS**

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Treasurer	Turkish Student Association at Virginia Tech	2020-2021
Volunteer	Education Volunteers Foundation of Turkey	2012-2021
Intern	Production Planning Department, Turkish Aerospace Industries Inc., Ankara, Turkey	Jun 2014 - Sep 2014
Intern	Methods Engineering, VESTEL Company, Manisa, Turkey	Jul 2013 - Jul 2013