

## Fuminori Toyasaki

Associate Professor  
Faculty of Liberal Arts and Professional Studies  
School of Administrative Studies  
York University  
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### EDUCATION

University of Massachusetts Amherst <b>Ph.D. in Business Administration</b> ; Concentration in Management Science; Minor in Environmental and Resource Economics.	09/2005
Osaka University, Japan <b>Master of Science, Economics</b>	03/2000
Osaka University, Japan <b>Bachelor of Science, Economics</b>	03/1998

### EMPLOYMENT

School of Administrative Studies, York University, Toronto, Canada <b>Associate Professor</b>	07/2011 – present
Member of graduate programs in School of Administrative Studies (Disaster and Emergency area), York University	07/2011 – present
School of Administrative Studies, York University, Toronto, Canada <b>Assistant Professor</b>	07/2007 – 06/2011
Desautels Faculty of Management, McGill University, Montreal, Canada <b>Postdoctoral Research Fellow</b>	09/2005 – 06/2007
Virtual Center for Supernetworks, University of Massachusetts Amherst ( <a href="http://supernet.som.umass.edu/">http://supernet.som.umass.edu/</a> ) <b>Student Research Associate</b> Involved in the mathematical modeling of green supply chain networks.	09/2001 – 08/2005

### VISITING SCHOLAR

Vienna Economics and Business, Vienna, Austria <b>Visiting Professor</b>	06/2016 – 08/2016
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International Institute for Applied Systems Analysis, Laxenburg, Austria  
Risk, Policy and Vulnerability Program, **Visiting Researcher** 07/2013 – 06/2014  
(Sabbatical leave)

### **AWARDS AND HONORS**

Nominee for LA&PS Award for Distinction in Research, Creativity or Scholarship	2017
Recognition for Excellence in Research, School of Administrative Studies, York University in the 2015-2016 academic year	2016
Recognition for Excellence in Teaching, School of Administrative Studies, York University in the 2015-2016 academic year	2016
Beta Gamma Sigma	2005

### **RESEARCH AND TEACHING INTERESTS**

Sustainable logistics and transportations, closed-loop supply chains, humanitarian logistics, and supply chain risk management

### **PROFESSIONAL MEMBERSHIPS**

The Institute for Operations Research and the Management Sciences (INFORMS), Production and Operations Management Society (POMS), Japanese Economic Association (JEA).

### **SCHOLARLY AND PROFESSIONAL CONTRIBUTIONS**

#### **Articles in refereed journals**

Toyasaki, F. and Wakolbinger, T. Joint fundraising appeals: allocation rules and conditions that encourage aid agencies' collaboration. *Decision Sciences*. (accepted for publication)

Burkart, C., Wakolbinger, T. and Toyasaki, F. (2018) Funds allocation in NPOs: the role of administrative cost ratios. *Central European Journal of Operations Research*, 26 (2), 307-330. DOI 10.1007/s10100-017-0512-9.

Toyasaki F., Arikan E., Silbermayr L., and Falagara I. (2017) Disaster relief inventory management: horizontal cooperation between humanitarian organizations. *Production and Operations Management*, 26(6), 1221-1237. DOI: 10.1111/poms.12661.

Mochizuki J., Toyasaki F. and Falagara I. (2015). Simulation models for horizontal cooperation among humanitarian organizations in inventory management. *Journal of Natural Disaster Science*, 36 (2), 35-52.

Toyasaki F., Wakolbinger T. (2014). Impacts of earmarked private donations for disaster fundraising. *Annals of Operations Research*, 221(1), 427-447.

Wakolbinger T., Toyasaki F., Nowak T., Nagurney A. (2014). When and for whom would e-waste be a treasure trove? Insights from a network equilibrium model of e-waste flows. *International Journal of Production Economics*, 154, 263-273.

Toyasaki F., Daniele P., Wakolbinger T. (2014). A variational inequality formulation of equilibrium models for end-of-life products with nonlinear constraints. *European Journal of Operational Research*, 236 (1), 340-350.

Toyasaki F., Wakolbinger T., and Kettinger B. (2013). The value of information systems for product recovery management. *International Journal of Production Research*, 51 (4), 1214-1235.

Toyasaki F., Boyaci T., and Verter V. (2011). An analysis of monopolistic and competitive take-back schemes for WEEE recycling. *Production and Operations Management*, 20 (6), 805-823.

Alves J. C., Lovelace K. J., Manz C. C., Matsypura D., Toyasaki F., and Ke K. (2006). A cross-cultural perspective of self-leadership. *Journal of Managerial Psychology*, 21, 338-359.

Nagurney A. and Toyasaki F. (2005). Reverse supply chain management and electronic waste recycling: a multitiered network equilibrium framework for e-cycling. *Transportation Research Part E*, 41, 1-28. (ranked top 3 cited article in the last five years from 2009; [http://www.elsevier.com/wps/find/journaldescription.cws\\_home/600244/description#description](http://www.elsevier.com/wps/find/journaldescription.cws_home/600244/description#description))

Nagurney A. and Toyasaki F. (2003). Supply chain supernetworks and environmental criteria. *Transportation Research Part D*, 8, 185-213.

### **Refereed proceedings**

Falagara Sigala I. and Toyasaki F. (2018). Prospects and bottlenecks of reciprocal partnerships between the private and humanitarian sectors in Cash Transfer Programming for humanitarian response, in *Dynamics of Disasters—Key Concepts, Models, Algorithms, and Insights*. Kotsireas I. S., Nagurney, A., Pardalos P. M. Editors, Springer proceedings, Berlin, Germany.

Nowak T., Toyasaki F., Wakolbinger T., and Ng D. (2014). Reverse logistics decision making for modular products: the impact of supply chain strategies. *Lecture Notes in Management Science Vol. 6: 65–73*, 6th International Conference on Applied Operational Research, Proceedings.

### **Refereed book chapters**

Nowak T., Toyasaki F., and Wakolbinger T. (2018). The road towards a circular economy: the role of modular product designs in supply chains, in *Innovative Solutions for Sustainable Supply Chains*. H. Quadrat-Ullah, Editor, Springer, Berlin, Germany.

Nagurney A, Cruz J., and Toyasaki F. (2008). Statics and dynamics of global supply chain networks with environmental decision-making, in *Pareto Optimality, Game Theory and Equilibria*. A. Chinchuluun, A. Migdalas, P. M. Pardalos, and L. Pitsoulis, Editors, Springer, Berlin, Germany, pp. 803-836.

### **Abstract published in conference proceedings**

Toyasaki F., Boyaci T., and Verter V., An analysis of monopolistic and competitive take-back schemes for recycling, Japan Industrial Management Association, Tokyo, Japan, May 10-11, 2008, 214-215.

### **Invited book chapters**

Wakolbinger T. and Toyasaki F. (2018). The impact of funding systems on humanitarian operations, in *Humanitarian Logistics*, 3<sup>rd</sup> edition, M. Christopher and P. Tatham, Editors, Kogan Page, London, UK, pp. 33-46.

Wakolbinger T. and Toyasaki F. (2011). The impact of funding systems on humanitarian operations, in *Humanitarian Logistics*, M. Christopher and P. Tatham, Editors, Kogan Page, London, UK, pp. 33-46.

### **Articles under revision**

Toyasaki F. and Wakolbinger T., Joint fundraising Appeals: Allocation Rules and Conditions that Encourage Aid Agencies' Collaboration. *Decision Sciences* (under first revision)

Boyaci T., Verter V., Toyasaki F., and Wojanowski R., Collection system design, strategy choice and financial incentives for product recovery. *Manufacturing & Service Operations Management*. (under second revision)

### **Articles under review**

Ghazanfari, M., Hakimifar, M., Wakolbinger, T., Toyasaki, F., Scenario-Based Multi-stage Disaster Preparedness Measurement Methodology for High Hazard Potential Regions. *International Journal of Disaster Risk Reduction* (under second review)

### **Working Paper**

The impact of budget constraints on the interaction between fundraising and procurement decisions (with E. Arikan and L. Silbermayr).

The role of private sector in cash transfer programing of humanitarian response (with I. Falagara).

### **Refereed conference paper**

Toyasaki F., Boyaci T., and Verter V., An analysis of monopolistic and competitive take-back schemes for WEEE recycling, MSOM Supply Chain Management SIG (Special Interest Group) Conference, Baltimore, Maryland, June 7, 2008.

### **Professional service**

College of Sustainable Operations, Production and Operations Management Society (POMS)

Board member (secretary), 2012 – 2014

Board member (online editor), 2008 – 2012

College of Humanitarian Operations & Crisis Management, Production and Operations Management Society (POMS)

Referee of Best Paper Award Competition for the Humanitarian Operations & Crisis Management (HOCM) track, March 2013 – April 2017

Referee of 2018 POMS Wickham Skinner Teaching Award, March 2018 – April 2018

### **Ad-hoc referee**

*Management Science, Production and Operations Management, European Journal of Operational Research, International Journal of Production Economics, International Journal of Production Research, Transportation Research Part B, Transportation Research Part E, OMEGA, OR Spectrum, Applied Mathematical Modeling, Annals of Operations Research, Transportation Science, Nonprofit and Voluntary Sector Quarterly, Asia-Pacific Journal of Operations Management, Environmental Economics and Policy Studies, IBM R&D Journal, Journal of Economic Dynamics and Control, Journal of Industrial Ecology, Journal of the Operations Research Society of Japan, Sustainability, International Transaction in Operational Research.*

### **Funding**

SSHERC Travel Fund, 2010 (\$500).

NSERC Discovery Grant – Individual, Principal Investigator, (An analysis of impacts of downstream infrastructure on environmentally friendly product design), 2009 – 2015 (\$100,000).

Junior Faculty Fund, Principal Investigator, Atkinson Faculty of Liberal Arts and Professional Studies, York University, 2007 and 2008 (\$1,520).

### **Invited conference and workshop presentations (Last five years only)**

The impact of budget constraints on the interaction between fundraising and procurement decisions (with E. Arikan and L. Silbermayr), POMS Annual Meeting, 2018, Huston, May 6; EURO Annual Meeting, Valencia, Spain, July 8, 2018; IFORS 2017, Quebec, Canada, July 18, 2017.

Is lower always better? Shedding light on the debate about administrative cost-ratios for NPOs (with C. Burkart, T. Wakolbinger), Production and Operations Management Society (POMS) Annual Meeting, 2017 Seattle, Washington, May 7.

Disaster relief inventory management: horizontal cooperation between humanitarian organizations (with E. Arikan, I. S. Falagara, and L. Silbermayr), Production and Operations Management Society (POMS) Annual Meeting, 2016 Orland, Florida, May 8; European Conference on Operational Research (EURO) 2015 Glasgow, England, July 13; 2nd International conference on Dynamics of Disasters July 1, 2015, Kalamata, Greece; POMS 26th Annual Conference Washington D.C., May 8, 2015.

Funds allocation in NPOs: the role of administrative cost ratios (with C. Burkart, T. Wakolbinger, M. Fearon), Production and Operations Management Society (POMS) Annual Meeting, 2016 Orland, Florida, May 8; International Conference on Operations Research, Vienna, Austria, September 3, 2015.

Impacts of supply chain strategies on modular product designs in the context of reverse logistics (with T. Wakolbinger and T. Nowak), European Conference on Operational Research (EURO) 2015 Glasgow, England, July 14; POMS 26th Annual Conference Washington D.C., May 8, 2015.

Simulation models for horizontal cooperation among humanitarian organizations in inventory management (with J. Mochizuki and I. S. Falagara), European Conference on Operational Research (EURO) 2015 Glasgow, England, July 13.

Strategic decision-making about fundraising: comparison of competitive and joint fundraising (with T. Wakolbinger), The 5th conference of the International Society for Integrated Disaster Risk Management (IDRIM 2014), London, Canada, October 30, 2014.

When and for whom would e-waste be a treasure trove? Insights from a network equilibrium model of e-waste flows (with T. Wakolbinger, T. Nowak, and A. Nagurney), The European Consortium for Mathematics in Industry (ECMI), Recent advances on equilibrium problems with applications to networks, Taormina, Italy, June 9 – 13, 2014; IFORS 2014, Barcelona, Spain, July 14, 2014.

Reverse logistics decision making for modular products (with T. Nowak and T. Wakolbinger), 6th International Conference on Applied Operational Research, Vancouver, Canada, August 31; IFORS 2014, July 14, 2014.

A variational inequality formulation of equilibrium models for end-of-life products with nonlinear constraints (with P. Daniele and T. Wakolbinger), The European Consortium for Mathematics in Industry (ECMI), Recent advances on equilibrium problems with applications to networks, Taormina, Italy, June 9 – 13, 2014

Strategic decision-making about fundraising: comparison of competitive and joint fundraising (with T. Wakolbinger), INFORMS Annual Meeting, Minneapolis, October 6, 2013.

Reverse logistics strategies for modular products: an integrated view, (with T. Nowak and T. Wakolbinger), INFORMS Annual Meeting, Minneapolis, October 7, 2013.

An analysis of competition and coalition fundraising strategy for disaster relief operations (with Wakolbinger T.), Joint session SPPSN/MAS: Humanitarian logistics and disaster response III, INFORMS 2012, Annual Meeting, Phoenix, October 14 -17, 2012.

Variational inequality problems for end-of-life products with nonlinear constraints in economic network equilibrium models (with P. Daniele and T. Wakolbinger), Special Session: Variational Analysis and Equilibrium Problems, 9<sup>th</sup>American Institute Mathematical Society (AIMS) Conference, Orlando, July 3 2012.

The value of information systems for product recovery management (with T. Wakolbinger and W. Kettinger), POMS Annual Meeting, Chicago, April 20-23, 2012.

The influence of technical, market, and legislative factors on e-waste flows (with T. Wakolbinger, A. Nagurney, and T. Nowak), International Closed-loop Supply Chain Conference, Paraninfo, Zaragoza, Spain, March 30-31, 2012; POMS Annual Meeting, Chicago, April 20-23, 2012; 9<sup>th</sup>American Institute Mathematical Society (AIMS) Conference, Orlando, July 3 2012.

Green information systems for product recovery management (with T. Wakolbinger and W. Kettinger), INFORMS 2011 Annual Meeting, North Carolina, Charlotte, November 13-16, 2011.

Development of a virtual training system for transitional shelter

management in second life (with A. Asgary, J. Reid, and A. Kong), Health and Humanitarian Logistics conference, A Unit of the Supply Chain and Logistics Institute, Georgia Tech Health & Humanitarian Logistics Center, March 3-4, 2011.

Collection system design, strategy choice and financial incentives for product recovery (with T. Boyaci V. Vedat, and R. Wojanowski), INFORMS 2010 Annual Meeting, Austin, Texas., November 7-10, 2010.

An analysis of fundraising strategies for disaster relief operations (with T. Wakolbinger), POMS conference 2010, Vancouver, May 7 – 10, 2010.

## **TEACHING EXPERIENCE**

### **Undergraduate**

#### **York University, Toronto, Canada**

##### School of Administrative Studies

ADMS 3331: Introduction to Operations Research

ADMS 4704: Disaster and Logistics

ADMS 3351: Operations Management

ADMS 3330: Quantitative Methods

ADMS 2320: Quantitative Methods I

ADMS 4000: Supervisor of undergraduate Directed Reading Course for Jia Yue (Summer 2011)

##### Department of Economics

Supervisor of undergraduate research project of Ng David (April 2013 – August 2014)

##### Faculty of Environmental Studies

Supervisor of undergraduate research project of Donghyun Kim (April 2012 – August 2013)

### **Graduate**

#### **York University, Toronto, Canada**

##### Graduate Program in Disaster and Emergency Management

Supervisor for Major Research Paper (MRP), “Inter-agency humanitarian logistics cooperation: exploring benefits and challenges,” of Abdullah Shah. (February 2011 – August 2011)

##### Schulich School of Business

Outside examiner for dissertation of Olga Kaminer, “Antecedents and outcomes of supplier environmental responsiveness.” (April, 2010)

#### **International Institute for Applied Systems Analysis, Austria**

##### Risk, Policy and Vulnerability Program

Supervisor for post-doctoral research of Junko Mochizuki (May 2014 – October 2015)

## **Vienna University of Economics and Business, Austria**

### Department of Information Systems and Operations

Supervisor for post-doctoral research of Emel Arikan (April 2014 – present)

Supervisor for post-doctoral research of Lena Silbermayr (April 2014 – present)

### Institute for Transport and Logistics Management

Co-supervisor (with Professor Tina Wakolbinger) for doctoral research of Ioanna Falagara, “Disaster relief inventory management: horizontal cooperation between humanitarian organizations.” (April 2014 – present)

Co-supervisor (with Professor Tina Wakolbinger) for doctoral research of Thomas Nowak (February 2010 – May 2016). Dissertation title: “Reverse logistics decision making under uncertainty: A producer's perspective.”

Co-supervisor (with Professor Tina Wakolbinger) for doctoral research of Christian Bukart, “Funds allocation in NPOs: the role of administrative cost ratios.” (January 2014 – present)

Co-supervisor (with Professor Tina Wakolbinger) for doctoral research of Mehdi Ghazanfari, “Scenario-based multi-stage disaster preparedness measurement methodology for high hazard potential regions.” (January 2015 – present)

## **The University of Newcastle, Australia**

### Faculty of Architecture and Built Environments

Supervisor for master research projects of Michael Fearon (November 2012 – February 2014), “The interaction between administrative cost ratios and NPOs’ operations”

### Courses taught at other institutions

University of Massachusetts Amherst  
Department of Finance & Operations Management

FOMGT 347: Introduction to Operations Management (Fall 2004)

FOMGT 456: Management Science Applications (Spring 2004)

FOMGT 341: Transportation and Logistics (Fall 2003, Teaching Assistant)

### Course/curriculum development

Supply Chain Risk Management (GS/MSMG 6560), Master of Science in Management (Supply Chain Management Focus)

Reverse Logistics & Closed-Loop Supply Chains (GS/MSMG 6570), Master of Science in Management (Supply Chain Management Focus)



Humanitarian Logistics and Operations Research (Winter 2015), Ph.D. program plan for Disaster and Emergency Area for ADMS, York University.

Humanitarian Logistics and Transportation (Winter 2009), Master of Science in Logistics Management course plan for ADMS, York University.

Reverse Logistics & Closed-loop Supply Chains in Transportation (Winter 2009), Master of Science in Logistics Management course plan for ADMS, York University.

Disaster and Logistics (Fall 2007 and Summer 2008), Undergraduate course plan for ADMS, York University.

### **Course release award**

LA&PS Course Release Program (2016-17): 0.5 course release for research projects: Disaster relief inventory management: horizontal cooperation between humanitarian organizations.

LA&PS Course Release Program (2014-15): 0.5 course release for research projects: Strategic Decision-making about Fundraising: Comparison of Competitive and Joint Fundraising Modes.

YUFA Release-Time Teaching Fellowship (2011-12): 0.5 course release for course development project entitled "A project to develop a disaster and logistics course."

LA&PS Course Release Program (2010-11): 0.5 course release for research projects: Roles of Interorganizational Information Systems in Closed-loop Supply Chains for WEEE; and Reverse Supply Chain Management and Electronic Waste Recycling with Hazardous Waste Disposal.

### **Seminar presentations**

Recent research on humanitarian logistics and its new directions. GMAP SESAMI Research Seminar Lecture Series, Graduate School of Business Administration Kobe University, Kobe, Japan, July 30-31, 2018.

Introduction into main theories in sustainable transportation logistics, Johannes Kepler University Linz, Linz, Austria, April 10, 2017.

Disaster relief inventory management: horizontal cooperation between humanitarian organizations, 10<sup>th</sup> Seminar on Supply Chain Risk Management Forum, Tokyo Metropolitan University, July 22, 2016; Research project presentation to the chief of the United Nations Humanitarian Response Depot (UNHRD), Brindisi, Italy, July 8, 2016.

Recent trend of research in humanitarian logistics and introduction of humanitarian logistics course, Nihon University, Tokyo, Japan, March 25, 2014.

Impacts of the East Japan Earthquake on commercial supply chains, Workshop: supply chain disruptions caused by natural disasters, 18th International Symposium on Logistics, Vienna, Austria, July 7- July 10, 2013.

Impacts of fundraising systems on humanitarian operations, Research seminar at DeGroot School of Business, McMaster University, February 21, 2013; Research Seminar at IIASA, Laxemburg, Austria July 8, 2013.

Introduction to humanitarian logistics and reverse logistics, Shin-kanrinmaru Project (joint workshop with University California Berkley, Stanford University, and Osaka University), Osaka University San Francisco Center, October 28, 2012.

Green Inter-organizational IS for Product Recovery Management (with T. Wakolbinger and W. Kettinger), MIS Colloquium, Fogelman College of Business and Economics, Memphis, February 4, 2011.

Earmarking of private donations for disaster relief projects: a quantitative analysis of its impact (with T. Wakolbinger), SAS Brown Bag Research Forum, April 8, 2010.

An analysis of monopolistic and competitive take-back schemes for WEEE recycling (with T. Boyaci and V. Verter), Rotman School of Management, University of Toronto, March 7, 2008.

A unified complex network framework for environmental decision-making with applications to green logistics and electronic waste recycling, Faculty of Management, McGill University, May 24, 2005.

Design for global sustainability, UMASS Amherst Operations Research / Management Science Seminar Series, March 25, 2005.

## **SERVICE**

### **To the area, school, and university**

Area Coordinator for Decision Science, School of Administrative Studies (leadership hiring part-time instructors, course planning and curricular changes, student advising, in conjunction with the Director, advising the Undergraduate Coordinator on curriculum reforms and changes) 07/2018– present

Tenure and Promotion File Preparation Committee in SAS  
for Full Professor (Dr. Adriano Solis) 07/2018– present

Course Coordinator for ADMS 3330 Fall 2008 – Fall 2017 (coordinate 6 -10 sections, 1-5 part time professor and 2-3 full time professors)

Communication Committee in SAS 7/2017 – present

Member of Master of Science in Management plan for York University's  
new Markham Campus (expected to be operational by Fall 2020) 07/2016 – present

Tenure and Promotion Committee in SAS 1/2015 – 06/2017

Research Committee in SAS 07/2015 – 06/2016  
Tenure and Promotion Committee in SAS 07/2014 – 06/2015

Tenure and Promotion File Preparation Committee in SAS 07/2014 – present  
for Full Professor (Dr. David Etkin and Dr. You-Ta Chuang)

Research Coordinator in SAS	07/2012 – 09/2013
Communication Committee in SAS (Chair)	07/2012 – 06/2014
Tenure and Promotion File Preparation Committee in SAS for Associate Professor (Dr. Peng Songlan)	2010
Tenure and Promotion Committee in SAS	07/2009 – 06/2010
Member of Adjudication Committee for promotion in SAS	11/2008