Name:	Johanna Törnqvist Krasemann
Nationality:	Swedish
Date of birth:	1977-05-31
Languages:	Fluent in Swedish and English. German and French (modest)

1 Education

2001	Master of Science in Civil Engineering focusing on Communication and Transport Systems, Linköping University (LiU)
2006	PhD in Computer Science, Blekinge Institute of Technology (BTH), Dissertation title: *Railway traffic disturbance management*, Advisors: Prof. Paul Davidsson, Dr. Jan A. Persson and Prof. Peter Värbrand.
2008	Pedagogic courses for teaching and for supervising Ph.D. students (mandatory in Sweden).
2019	Introduction to psychology, 15 credits, Karlstad University, Sweden.
2020	Work environment psychology, 7.5 credits, Mälardalen University, Sweden.
2022	The leadership programme "Klart Ledarskap" (via BTH).
2022	History of philosophy, 7.5 credits, Umeå university
	Epistemology, 7.5 credits, Umeå university
	Ethics in Artificial Intelligence, 7.5 credits, Linköping University
2023	Ethics, 7.5 credits, Umeå university
	Critical thinking, 7.5 credits, Umeå university
	Business Ethics, 7.5 credits, Uppsala University.

2 Current employment(s)

2013-present	Associate Professor (Docent) in Computer Science, BTH.

3 Previous employments (a selection)

April-Aug 2000	Trainee at ASG/DHL, ASG Tarkett and the Malmö office
Jan-June 2001	Employed during my master thesis project, ABB HVC.
Aug 2001-June 2006	PhD student, Blekinge Institute of Technology.
Jan-Aug 2004	Transport consultant, BMT Transport Solutions GmbH in Hamburg, Germany (worked part-time during PhD studies).

| 2006-2013 | Assistant Professor (Universitetslektor) in Computer Science, BTH. |
| 2008-2019 | Assistant Professor in Quantitative Logistics, LiU. Working part-time during the entire time, between 10-50 %. |

4 Graduated Ph D students

2009-2012 (Licentiate degree)	Lars Backåker, LiU (role: co-supervisor).
2010-2015 (Licentiate degree)	Emma Andersson, LiU (role: co-supervisor).
2015-2018 (Licentiate degree)	Fahimeh Khoshniyat, LiU (role: co-supervisor).
2016-2021 (Doctoral degree)	Sai Prashanth Josyula, BTH (role: main supervisor).

5 Academic and Professional Activities

Administration and Management

Leading a part of BTH's strategic development work (point 1.1.1 in BTH Handlingsplan 2024) during 2024-2025.

Leader for strategic development and assessment (Sv. "utbildningsledare") of different programme clusters at BTH during 2021-2022.

Project manager for the research project BLIXTEN II (2020-2022). Funded by FORMAS and the municipality of Karlshamn via ERA-NET.

Project manager for the Swedish part of the ERA-NET project TRANSFORM (2016-2019). Funded by FORMAS and the municipality of Karlshamn via ERA-NET.

Project manager for the research project RELÄET (2016-2018). Funded by Trafikverket.

Project manager for the research project *FLOAT - FLexibel Omplanering Av Tåglägen i drift (*2013-2017). Funded by Trafikverket and Karlshamns kommun.

Project manager for the research project *Robust timetables for railway traffic* (2009-2013). Funded by Trafikverket, VINNOVA, and SJ.

Project manager for the research project *Efficient real-time re-scheduling of train traffic during disturbances* (2010-2013). Funded by Trafikverket.

Work package leader in the research project *ELVIS* (2011-2014) coordinated by VTI. Funded by Energimyndigheten, Trafikverket and the Swedish forest industry.

Program manager for the master program in Computer Science at BTH 2014-2015.

Program manager for the civil engineering program in Industrial Economics and Management at BTH August 2015-August 2018.

Legal guardian for unaccompanied minors seeking asylum (Sv. "god man för ensamkommande barn") during November 2015 - December 2018. Appointed by the municipality of Ronneby, Sweden.

Work environment and safety representative, April 2017-December 2018 at Blekinge Institute of Technology.

Board and committee memberships

Steering board member for the national research and innovation program KAJT (Kapacitet i JärnvägsTrafiken, www.kajt.org) established in 2013. Jan 2013-Oct 2022.

Academic steering board member and Assisting Director of the Swedish Postgraduate School in Intelligent Transport Systems during 2008-2015.

Editorial advisory board member for the Journal of Rail Transport Planning and Management, Elsevier, 2011-2020.

Member of the organizing committee for RailCopenhagen2013, the 5th International Conference on Railway Operations Modelling and Analysis organized by IAROR in Copenhagen, May 2013.

University board member for Blekinge Institute of Technology, March-December 2012 and March-December 2015.

Swedish Operations Research Society (SOAF) board member during 2009-2012.

Expert review assignments (a selection)

Research application expert reviewer for Research Foundation Flanders (FWO) in Belgium, 2011.

Research application expert reviewer for ProRail in the Netherlands, 2011.

Research application expert reviewer for the Dutch research council (NWO) in the Netherlands, 2012.

Research application expert reviewer for the German Research Foundation (DFG), 2020.

External reviewer (Sv. "Sakkunnig") of applications to the position as Assistant Professor in Computer Science at Malmö University (2011).

External reviewer of applications to the position as Assistant Professor in Information Systems at Halmstad University (2013).

External reviewer of applications to the position as Assistant Professor in Computer Science at Jönköping University (2022).

External reviewer of applications to the position as senior lecturer in Informatics with specialization in Software development at Högskolan Borås (2022).

External reviewer of applications to the position as Associate Professor in Transportation and Infrastructure Planning at the Technical University of Denmark (DTU), (2023).

Evaluation committee member of the doctoral dissertation by Anne Christine Torp Handstangers titled "Scheduled waiting time from crossing on single track railway

lines" at the Norwegian University of Science and Technology (NTNU), Trondheim, July 2009.

Evaluation committee member of the doctoral dissertation by Olov Lindfeldt titled "Railway operation analysis: Evaluation of quality, infrastructure and timetable on single and double-track lines with analytical models and simulation", KTH, Stockholm, May 2010.

Evaluation committee member of the doctoral dissertation by Oded Cats titled "Dynamic Modelling of Transit Operations and Passenger decisions", KTH/Technion-Israel Institute of Technology, Stockholm, December 2011.

Evaluation committee member of the licentiate dissertation by Sara Gestrelius titled "Mathematical models for optimising decision support systems in the railway industry", Mälardalen University, Västerås, April 2015.

Evaluation committee member of the doctoral dissertation by Per Thorlacius titled "Integrated Rolling Stock Planning for Suburban Passenger Railways", Danmarks Tekniske Universitet (DTU), March 2017.

Evaluation committee member of the doctoral dissertation by Fabrizio Cerreto titled "Analytical, Big Data and Simulation Models of Railway Delays", Danmarks Tekniske Universitet (DTU), May 2018.

Evaluation committee member of the doctoral dissertation by Menno Yap titled "Measuring, Predicting and Controlling Disruptions for Urban Public Transport", TU Delft, February 2020.

Reviewer for a wide range of scientific journals such as:

- Transportation Science
- Transportation Research Part B
- Transportation Research Part C
- Transportation Research Part D
- European Journal of Operational Research
- Journal of Rail Transport Planning & Management
- International Journal of Physical Distribution and Logistics Management

Teaching (a selection)

Teacher in courses on Leadership, Ethics and Supply chain management 2023-2024.

Course responsible and examiner for courses in Data structures and Algorithms at BTH 2017-2018 and 2020-2021.

2016-2006: Various roles in several undergraduate and graduate courses at LiU and BTH in e.g. Mathematical modelling and Optimization, Java Programming, Public transportation, Intelligent Transport Systems and Logistics.

Developer of and lecturer in the postgraduate course *Modelling and Optimization of Railway Problems* (8 hp) at Linköping University and Blekinge Institute of Technology.

Lecturer in the IAROR summer school at TU Delft (2008), during RailCopenhagen at DTU (2013) and RailLille (2017).

More recent master thesis supervision:

- Victoria Jansson and Malin Kronwall, "Managing and executing innovation effectively in large-scale distributed organisations: A case study", Master thesis, Civil Engineering in Industrial Economics and Management, BTH, 2022.
- Yones Khateeb and Mahmoud Atta, "Visualizing potential for improvements in the information flow for road haulages", Master thesis, Civil Engineering in Industrial Economics and Management, BTH, 2022.
- Anton Peterson,"Train Re-scheduling: A Massively Parallel Approach Using CUDA", Master thesis, Computer Science, BTH, 2015.
- My Klasson Westerdal,"En förstudie för ett effektivare lager i en kampanjorienterad organisation", Master thesis, Civil Engineering in Industrial Economics and Management, BTH, 2015.

6   Research grants (a selection)

1.6 MSEK for the project ANAKIN 2022-2024 funded by Trafikverket via KAJT. Main applicant via BTH, co-applicants are Anton Borg and Martin Svensson (also BTH).

2.4 MSEK for the project BLIXTEN II 2020-2022 funded by Trafikverket via KAJT. Main applicant via BTH.

1,8MSEK for the project RELÄET 2016-2018 funded by Trafikverket via KAJT. Main applicant via LiU.

10 MSEK for the ERA-NET project "TRANS-FORM" 2016-2018 in ""Smart cities and communities", where 1.875 MSEK is allocated to BTH and funded by FORMAS and the municipality of Karlshamn. Co-applicant via BTH. TU Delft was the project manager.

3 MSEK during 2013-2017 for the project *FLexibel Omplanering Av Tåglägen i drift (*2013-2017). Funded by Trafikverket (the Swedish Transport Administration) and the municipality of Karlshamn. Main applicant via BTH.

0,7 MSEK during 2011-2014 for part III in the ELVIS project (co-applicant via LiU; main applicant was VTI) from The Swedish Energy Agency, Trafikverket and several major stakeholders in the Swedish forest and transport industry.

4,336 MSEK during 2010-2012 for the project *Effektiv operativ Omplanering av Tåglägen vid driftstörningar* (EOT) from Trafikverket (the Swedish Transport Administration). Main applicant together with Håkan Grahn via BTH.

4,33 MSEK during 2009-2013 for the project *Robusta tidtabeller för järnvägstrafik* (RTJ) from SJ, Trafikverket and Vinnova (Swedish Governmental Agency for Innovation Systems). Main applicant together with Anders Peterson via LiU.

1,2 MSEK during 2007-2009 for the project *OAT+* 2007-2009 from Banverket (now Trafikverket). Main applicant via BTH.

980 000 SEK during 2005-2007 for the project *Omplanering Av Tåglägen (OAT)* from Banverket. Main applicant together with Paul Davidsson and Jan Persson via BTH.

7 Selected publications

Andersson, E, Peterson, A., Törnquist Krasemann, J. (2015),"Reduced Railway Traffic Delays using a MILP Approach to Increase Robustness in Critical Points", Journal of Rail Transport & Planning, Elsevier.

Andersson, E, Peterson, A., Törnquist Krasemann, J. (2013),"Quantifying railway timetable robustness in critical points", Journal of Rail Transport & Planning, Volume 3, Issue 3, August 2013, Pages 95–110, Elsevier

Backåker, L., Törnquist Krasemann, J., (2012), "Trip Plan Generation using Optimization: A Benchmark of Freight Routing and Scheduling Policies within the Carload Service Segment", *Journal of Rail Transport Planning & Management, Elsevier*, Vol. 2, Issue 1-2, pp. 1-13.

Carlsson, A., Törnquist Krasemann, J., Vierth, I. (2014), "Nuvarande förutsättningar och försök med längre godståg mellan Gävle och Malmö", VTI rapport 828.

Josyula, S., Törnquist Krasemann, J., Lundberg, L., (2018). "A Parallel Algorithm for Train Rescheduling", Transportation Research Part C Vol. 95, pp. 545-569.

Josyula, S.P., Törnquist Krasemann, J., Lundberg, L. (2020) "An evaluation framework and algorithms for train rescheduling", Algorithms 2020 – special issue on "Algorithms in Decision Support Systems", 13(12), 332. DOI: 10.3390/a13120332. https://www.mdpi.com/1999-4893/13/12/332

Josyula, S.P., Törnquist Krasemann, J., Lundberg, L. (2021) "Parallel Computing for Multi-Objective Train Rescheduling," in IEEE Transactions on Emerging Topics in Computing, vol. 9, no. 4, pp. 1683-1696. doi: 10.1109/TETC.2020.3030984.

Khoshniyat, F., Törnquist Krasemann, J., (2017), "On-Demand Timetabling in Dense Railway Networks: Methods and Challenges", in proceedings of RailLille - the 7th International Conference on Railway Operations Modelling and Analysis, Lille, France, April 2017.

Lamorgese, L., Mannino, C., Pacciarelli, D., & Törnquist Krasemann, J., (2018), *Train Dispatching*, In (eds.) Borndörfer, R., Klug, T., Lamorgese, L., Mannino, C., Reuther, M., Schlechte, T., *Handbook of Optimization in the Railway Industry*, International Series in Operations Research & Management Science 268, Springer, https://doi.org/10.1007/978-3-319-72153-8_12.

Ramstedt, L., Törnquist Krasemann, J., Davidsson, P. (2013), "Movement of people and goods", in (eds.) Edmonds, B. and Moss, S., *Simulating social complexity*, Springer, ISBN 978-3-540-93812-5.

Törnquist Krasemann, J. (2012), "Design of an effective algorithm for fast response to the re-scheduling of railway traffic during disturbances", *Transportation Research Part C* (20), pp. 62-78, Elsevier Ltd.

Törnquist Krasemann, J. (2015) "Computational decision-support for railway traffic management and associated configuration challenges: An experimental study", *Journal of Rail Transport Planning & Management*, Elsevier, Volume 5, Issue 3, November 2015, pp.95–109. Awarded best paper in RailTokyo, 2015.

Yap, M., Cats, O., Törnquist Krasemann, J., van Oort, N., Hoogendoorn, S., (2021)"Quantification and control of disruption propagation in multi-level public transport networks", International Journal of Transportation Science and Technology, ISSN 2046-0430, Vol. 11, nr 1, pp. 83 - 106, Elsevier.

A complete list can be found via [Google Scholar](#).