Name:	Johanna Törnquist Krasemann
Nationality:	Swedish
Date of birth:	1977-05-31
Languages:	Swedish, English, German and French

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).

2 Current employment(s)

2008-present	Assistant Professor in Quantitative Logistics, LiU. Currently working 10%.
2013-present	Associate Professor (Docent) in Computer Science, BTH. Currently working 90%.

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.

4 PhD supervision

2009-2012 (licentiate)	Lars Backåker, LiU.
2010-2014 (terminated)	Muhammad Zeeshan Iqbal, BTH.
2010-2015 (licentiate)	Emma Andersson, LiU.
2015-ongoing	Fahimeh Khoshniyat, LiU
2016-ongoing	Sai Prashanth Josyula, BTH

5 Academic and Professional Activities

Administration and Management

Vice-Dean of the Faculty of Computing, BTH since January 2018.

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 since 2015.

Board and committee memberships

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

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, since 2011.

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.

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.

External reviewer (Sw. 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).

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), Copenhagen, 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), Copenhagen, May 2018.

Reviewer for 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)

Undergraduate and graduate courses in Mathematical modelling and Optimization, Java Programming, Data structures and algorithms, Public transportation, Railway 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).

Recent master thesis supervision:

- 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)

1,8MSEK 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 is 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.

0,5 MSEK during Aug 2012-March 2013 via VINNOVA for the organization and development of the national research program KAJT (Capacity in Railway Traffic Systems). Additional funding is also provided by Trafikverket and several other Swedish industry partners in rail transportation. Co-applicant via LiU and BTH (main applicant was Martin Joborn, LiU)

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.

150 000 SEK during 2009 from Trafikverket for demonstration of the railway traffic decision-support system developments in OAT+ during the ITS World Congress 2009 in Stockholm.

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

Gholami, O., Törnquist Krasemann, J. (2018), “A Heuristic Approach to Solve the Train Traffic Re-scheduling Problem in Real-time”, *Algorithms, Vol.* 11 (special issue on “Algorithms for scheduling problems”) doi:10.3390/a11040055, MDPI.

Iqbal, S.M.Z, Grahn, H., Törnquist Krasemann**,** J. (2013) “Multi-strategy-based train scheduling during railway traffic disturbances”, In proceedings of RailCopenhagen 2013, Copenhagen Denmark, May 13-15.

Josyula, S., Törnquist Krasemann, J. (2017). ”Passenger-oriented Railway Traffic Re-scheduling: A Review of Alternative Strategies utilizing Passenger Flow Data”. Peer-reviewed conference paper in proceedings from RailLille - the 7th International Conference on Railway Operations Modelling and Analysis, Lille, France, April 2017.

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

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.

A complete list can be found via Google Scholar.