



Department of Clinical Neuroscience
Division of Insurance Medicine

Curriculum Vitae – Helena Stigson, born 1979

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Current Position

- Research Manager, Folksam Insurance Group, Stockholm, Sweden 2015 – Present
- Associated researcher at the Division of Insurance Medicine, Karolinska Institutet, since 2010

Previous Positions

- Traffic Safety Researcher, Folksam Insurance Group, Stockholm, Sweden 2010 – 2015
- Postdoctoral Researcher, Department of Public Health Sciences, Karolinska Institutet, Solna, Sweden. 2009 – 2010
- Ph.D. Student at Department of Clinical Neuroscience, Karolinska Institutet, Solna, Sweden. 2005 – 2009
- Visiting researcher at ESRI (Ergonomics and Safety Research Institute) at Loughborough University, Loughborough, United Kingdom 2007
- Research Assistant, Folksam Insurance Group, Stockholm, Sweden 2004 – 2005

Academic exams

2014	Associate Professor (Docent), Department of Applied Mechanics, Chalmers University of Technology, Gothenburg, Sweden
2009	Ph.D. Karolinska Institutet, Stockholm, Sweden
2004	M.Sc., Mechanical engineering Chalmers technical university, Gothenburg, Sweden
2002	Bachelor of Science, Biomechanics, Halmstad University, Halmstad, Sweden

Line of Research

As a researcher at I am mainly working with collection of in-depth crash injury data and doing analysis of different data sets of real-life crashes as well as crash tests. I have been responsible for several research projects in many different fields such as vulnerable road users, child safety in cars, injury risk for car occupant, sport injuries, helmet testing and real-time driving data. The overall objective of my research during the years has been to study road crashes using a system approach to identify system weaknesses as well as important factors that need to be addressed to further develop a safe road transport system in line with Vision Zero. In recent years I have also studied long-term consequences in terms of sickness absence and disability

pension following a road traffic accident. Another challenge for me is to support lifelong sport activate by conducting research connected to sport injury prevention.

Commissions of Trust

- Adviser to the European Commission on Key Performance Indicators (KPI) for strategic EU road safety framework for 2020-2030
- Adviser to the U.S. Department of Transportation regarding Swedish experience with Vision Zero
- Secretary of the panel for Swedish national group regarding vulnerable road users and their safety (Gruppen för Nationell Samverkans expertgrupp Oskyddade trafikanters säkerhet)
- Council members of International Research Council on Biomechanics of Injury
- Council members of the Safety Committee for the Swedish Equestrian Federation
- Tylösandsseminariet's Conference Program Committee
- Folksam Research Grants Committee
- Technical Committee SIS/TK 525 Helmets
- Technical Committee ISO/TC22/SC36/WG 2 Child Restraint Systems

Teaching Experience

I have been teaching at Chalmers University of Technology, Royal Institute of Technology, The Swedish National Police Academy and Umeå Institute of Design.

Supervision on Doctoral Level

Rasmus Elrud, Sickness Absence, Disability Pension, and Permanent Medical Impairment After a Car Crash, Karolinska Institutet, 2020. I was the primary supervisor.

Johan Strandroth, Identifying Potentials of Combined Road Safety Interventions: A Method to Evaluate Future Effects of Integrated Road and Vehicle Safety Technologies, Chalmers University of Technology 2015. I was co-supervisor. The primary supervisor was Anders Kullgren.

I am presently co-supervisor of the PhD-students Iman Kalakutti, Uppsala University, and Linnea Kjeldgård, Karolinska Institutet.

Supervision on Licentiate Level

Linnea Kjeldgård, Sickness absence and disability pension among individuals injured in a bicycle crash, Karolinska Institutet, 2020. I was co-supervisor. The primary supervisor was Emilie Friberg.

Scientific Production

54 original research papers and 32 reviews in peer-reviewed journals (published or in press) and 41 scientific reports in Swedish or English.

Articles in International Peer Reviewed Scientific Journals

1. Stigson, H., I. Malakuti and M. Klingegård (2021). "Electric scooters accidents: Analyses of two Swedish accident data sets." *Accid Anal Prev* 163: 106466.
2. Sommar, J. N., C. Johansson, B. Lövenheim, P. Schantz, A. Markstedt, M. Strömgren, H. Stigson and B. Forsberg (2021). "Overall health impacts of a potential increase in cycle commuting in Stockholm, Sweden." *Scand J Public Health*: 14034948211010024.
3. Kjeldgård, L., H. Stigson, M. Klingegård, K. Alexanderson and E. Friberg (2021). "Sickness absence and disability pension among injured working-aged pedestrians - A population-based Swedish register study" *BMC Public Health*.
4. Abayazid, F., Ding, K., Zimmermann, K., Stigson, H., & Ghajari, M. (2021). A New Assessment of Bicycle Helmets: The Brain Injury Mitigation Effects of New Technologies in Oblique Impacts. *Annals of Biomedical Engineering*.
5. Kjeldgård, L., Stigson, H., Alexanderson, K. & Friberg, E. (2020). Sequence analysis of sickness absence and disability pension in the year before and the three years following a bicycle crash; a nationwide longitudinal cohort study of 6353 injured individuals. *BMC Public Health* 20, 1710. <https://doi.org/10.1186/s12889-020-09788-x>
6. Stigson, H., Boström, M., & Kullgren, A. (2020). Health status and quality of life among road users with permanent medical impairment several years after the crash. *Traffic Inj Prev*, Accepted for publication.
7. Kullgren, A., Stigson, H., & Axelsson, A. (2020). Developments in car crash safety since the 1980s, *Int. IRCOBI Conf. on the Biomechanics of Injury*.
8. Stigson, H., Åman, M., & Larsson, M. (2019). Incidence of Acute Injuries among Licensed and Non-Licensed Cyclists using Insurance Registry Data. *Int. IRCOBI Conf. on the Biomechanics of Injury*, Florence, Italy.
9. Meredith, L., & Stigson, H. (2019). Mapping equestrian injuries and injury incidence in Sweden using insurance registry data. *Transl Sports Med.*, 00:1-9.
10. Kullgren, A., Stigson, H., Ydenius, A., Axelsson, A., Engstrom, E., & Rizzi, M. (2019). The potential of vehicle and road infrastructure interventions in fatal bicyclist accidents on Swedish roads-What can in-depth studies tell us? *Traffic Inj Prev*, 20(sup1), S7-S12.
11. Elrud, R., Friberg, E., Alexanderson, K., & Stigson, H. (2019). Sickness absence, disability pension and permanent medical impairment among 64 000 injured car occupants of working ages: A two-year prospective cohort study. *Accident Analysis and Prevention*, 127, 35-41.
12. Kjeldgard, L., Ohlin, M., Elrud, R., Stigson, H., Alexanderson, K., & Friberg, E. (2019). Bicycle crashes and sickness absence - a population-based

- Swedish register study of all individuals of working ages. *BMC Public Health*, 19(1), 019-7284.
13. Axelsson, A., & Stigson, H. (2019). Characteristics of bicycle crashes among children and the effect of bicycle helmets. *Traffic Inj Prev*, 13, 1-6.
 14. Ohlin M, Kjeldgård L, Elrud R, Stigson H, Alexanderson K, Friberg E. Duration of sickness absence following a bicycle crash, by injury type and injured body region: A nationwide register-based study. *Journal of Transport & Health*. 2018.
 15. Elrud, R., H. Stigson, M. Ohlin, K. Alexanderson och E. Friberg. Sickness absence among passenger car occupants following a crash. *Int. IRCOBI Conf. on the Biomechanics of Injury*, 2017 Antwerpen, Belgium.
 16. Stigson, H., M. Rizzi, A. Ydenius, E. Engström och A. Kullgren. Consumer testing of bicycle helmets. *Int. IRCOBI Conf. on the Biomechanics of Injury*, 2017, Antwerpen, Belgium.
 17. Nilsson, P., Stigson, H., Ohlin, M., and Strandroth, J. Modelling the effect on injuries and fatalities when changing mode of transport from car to bicycle. *Accid. Anal. Prev.*, 2017. 100: p. 30-36
 18. Stigson, H., Gustafsson, M., Sunnevang, C., Krafft, M., and Kullgren, A. Differences in long-term medical consequences depending on impact direction involving passenger cars. *Traffic Inj Prev*, 2015. 16 Suppl 1: p. S133-9
 19. Gustafsson, M., H. Stigson, M. Krafft and A. Kullgren (2015). "Risk of Permanent Medical Impairment (RPMI) in Car Crashes Correlated to Age and Gender." *Traffic Inj Prev* 16(4): 353-361
 20. Stigson, H, Hagberg, J, Kullgren, A, Krafft, M A One Year Pay-As-You-Speed Trial With Economic Incentives For Not Speeding *Traffic Injury Prevention* , (2014). *Traffic Inj Prev* 15(6): 612-618.
 21. Bohman, K, Stigson, H, Krafft, M. Long-term Medical Consequences for Child Occupants 0-12 years Injured in Car Crashes *Traffic Injury Prevention*; 2014 15(4), s. 370-8.
 22. Rizzi, M, Stigson, S, Krafft, M. Cyclist Injuries Leading to Permanent Medical Impairment in Sweden and the Effect of Bicycle Helmets *Int. IRCOBI Conf. on the Biomechanics of Injury*, Gothenburg, Sweden; 09/2013
 23. Tingvall, C, Ifver, J, Krafft, M, Kullgren, A, Lie, A, Rizzi, M, Sternlund, S, Stigson, H, Strandroth, J. The Consequences of Adopting a MAIS 3 Injury Target for Road Safety in the EU, a Comparison with Targets Based on Fatalities and Long-term Consequences *Int. IRCOBI Conf. on the Biomechanics of Injury*, Gothenburg, Sweden; 09/2013
 24. Kullgren, A, Stigson, H, Krafft, M. Development of Whiplash Associated Disorders for Male and Female Car Occupants in Cars Launched Since the 80s in Different Impact Directions *Int. IRCOBI Conf. on the Biomechanics of Injury*, Gothenburg, Sweden; 09/2013
 25. Stigson, H, Rosén, E, Kullgren, A. Injury Risk Functions in Frontal Impacts using Data from Crash Pulse Recorders. *Annals of Advances in Automotive Medicine* 01/2012; 56:267-76

26. Sunnevång, C, Boström, O, Lie, A, Stigson, H. Census Study of Fatal Car-To-Car Intersection Crashes in Sweden Involving Modern Vehicles. *Traffic Injury Prevention* 08/2011; 12(4):333-8.
27. Rosén, E, Stigson, H, Sander, U. Literature Review of Pedestrian Fatality Risk as a Function of Car Impact Speed. *Accident, Analysis and Prevention* Jan 2011;43(1):25-33.
28. Tingvall, C, Stigson, H, Eriksson, L, Johansson, R, Krafft, M, Lie A. The properties of Safety Performance Indicators in target setting, projections and safety design of the road transport system. *Accident, Analysis and Prevention* 03/2010; 42(2):372-6
29. Stigson, H, Ydenius, A, Kullgren A. Variation in Crash Severity Depending on Different Vehicle Types and Objects as Collision Partner *International Journal of Crashworthiness* 12/2009; 14(6):613-622
30. Stigson, H, Hill, J. Use of Car Crashes Resulting in Fatal And Serious Injuries to Analyze a Safe Road Transport System Model and to Identify System Weaknesses. *Traffic injury prevention* 10/2009; 10(5):441-50
31. Stigson, H. Evaluation of Safety Ratings of Roads Based on Frontal Crashes with Known Crash Pulse and Injury Outcome. *Traffic injury Prevention* 07/2009; 10(3):273-8.
32. Stigson H, Krafft M, Tingvall C. Use of Fatal Real-Life Crashes to Analyze a Safe Road Transport System Model, Including the Road User, the Vehicle, and the Road. *Traffic Injury Prevention*. 2008; 9(5): 463-71

Conference Proceedings

1. Lundström, E., Rödén, M., Stigson, H. Knowledge of the brain ladder among the Swedish Equestrian Federation's members, Sport-related Concussion, Visby, Sweden 27-28 August 2021.
2. Stigson, H. Consumer Testing of Equestrian Helmets, Sport-related Concussion Visby, Sweden 27-28 August 2021.
3. Stigson, H. Consumer Testing of Bicycle Helmets, Virtual: 4th Frontiers in Traumatic Brain Injury 2020.
4. Kullgren, A., Stigson, H., Ydenius, A., & Axelson, A. (2019). The Potential of Vehicle and Road Infrastructure Interventions in Fatal Bicyclist Accidents on Swedish Roads – What Can In-Depth Studies Tell Us? the 26th ESV Conference, Eindhoven, the Netherlands, 10-13 June 2019.
5. Kullgren, A., Axelson, A., Stigson, H., & Ydenius, A. (2019). Developments in Car Crash Safety and Comparisons Between Results From Euro NCAP Tests and Real-World Crashes. the 26th ESV Conference, Eindhoven, the Netherlands, 10-13 June 2019.
6. Axelsson A, Stigson H. Identifying Reasons for Injuries in Bicycle Crashes and the Effect of Helmet Use Among Children in Sweden. Barcelona, Spain; 10-11 October 2018; 7th International Cycling Safety Conference 2018.
7. Elrud, R., Friberg, E., Alexanderson, K., Stigson, H. Disability pension and permanent medical impairment among injured car occupants of working ages. 11th European Public Health Conference. 28 November- 1 December 2018. Ljubljana, Slovenia.

8. Kjeldgård, L., Ohlin, M., Elrud, R., Stigson, H., Alexanderson, K., Friberg, E. Bicycle crashes and sickness absence - A nationwide Swedish cross-sectional study. 10th European Public Health Conference, 1-4 November 2017. Stockholm, Sweden.
9. Kullgren, A., M. Rizzi, H. Stigson, A. Ydenius och J. Strandroth. The Potential of Vehicle and Road Infrastructure Interventions in Fatal Pedestrian and Bicyclist Accidents on Swedish Rural Roads – What Can In-Depth Studies Tell us? 25th ESV Conference, 2017 Detroit. Paper number 17-0284.
10. Ydenius, A., A. Kullgren, E. Engström, H. Stigson och J. Strandroth. 2017. Fatal car to moose collisions: Real-world in-depth data, crash tests and potential of different countermeasures. 25th ESV Conference, 2017 Detroit. Paper Number 17-0294.
11. Stigson, H., M. Rizzi, A. Ydenius och A. Kullgren. 2017. Fatal bicyclist accidents on rural roads. 6th Annual International Cycling Safety Conference, 2017b Davis, US.
12. Stigson, H., Svensson, M., and Fahlstedt, M. Preventing Shoulder Injuries in Bicycle Crashes. 5th International Cycling Safety Conference 2016, 2016. Bologna, Italy
13. Stigson, H., Gustafsson, M., Sunnevång, C., Krafft, M., and Kullgren, A. Differences in Long-Term Medical Consequences Depending on Impact Direction Involving Passenger Cars. Proceedings of The 24th International Technical Conference on the Enhanced Safety of Vehicles (ESV), 2015. Gothenburg , Sweden
14. Stigson, H., M. Krafft, M. Rizzi and A. Kullgren "Shoulder Injuries in Single Bicycle Crashes". The 3rd International Cycling Safety Conference, 2014, Gothenburg, Sweden.
15. Bohman K, Stigson H, Krafft M. Long-term medical consequences to children injured in car crashes and influence of crash directions. Paper presented at: Protection of children in cars 10th International Conference Dec 4-6, 2013, Munich, Germany.
16. Ydenius H. Stigson A. Kullgren, Sunnevång C. Accuracy Of Folksam Electronic Crash Recorder (ECR) In Frontal And Side Impact Crashes The 23rd International Conference on the Enhanced Safety Vehicles (ESV).; 05/2013, Seoul, Korea.
17. Stigson H, Kullgren A, Krafft, M. A One Year Pay-As-You-Speed Trial With Economic Incentives For Not Speeding The 23rd International Conference on the Enhanced Safety Vehicles (ESV).; 05/2013, Seoul, Korea.
18. Stigson H, Kullgren A, Krafft M. Use of Car Crashes Resulting in Injuries to Identify System Weaknesses. The 22th International Conference on the Enhanced Safety Vehicles (ESV) 2011; Washington, DC.
19. Stigson H, Kullgren A. Effect of Side Impact Protection in Reducing Injuries. The 22th International Conference on the Enhanced Safety Vehicles (ESV)2011; Washington, DC.
20. Stigson H, Krafft M, Tingvall C. Analysis Of A Safe Road Transport System Model And Analysis Of Real-Life Crashes On The Interaction Between

- Human, Vehicle And Infrastructure. The 20th International Technical Conference on the Enhanced Safety of Vehicles (ESV)2007; Lyon, France.
21. Stigson H, Ydenius A, Kullgren A. Variation of Crash Severity and Injury Risk Depending on Collisions with Different Vehicle Types and Objects, The Int. IRCOBI Conf. on the Biomechanics of Injury2006; Madrid , Spain.
 22. Hanson L, Sperling L, Akselsson R, Moberg K, Stigson H. Posture at Car Driving, The Nordic Ergonomic Society Annual Conference 2002; Kolmården, Sweden.

Scientific Reports in Swedish

1. Stigson, H. Forskningsrapport: Folksam's test av ridhjälm 2021. Folksam: Stockholm
2. Stigson, H. Forskningsrapport: Folksam's test av cykelhjälm för ungdomar och vuxna 2021. Folksam: Stockholm
3. Stigson, H. Forskningsrapport: Folksam's test av cykelhjälm för barn 2021. Folksam: Stockholm
4. Stigson, H., Carlsson, A. Kartläggning av hur gravida använder bilbältet, Folksam: Stockholm
5. Stigson, H., & Klingegård, M. (2020). Kartläggning av olyckor med elsparkcyklar och hur olyckorna kan förhindras. Folksam: Stockholm.
6. Kullgren, A., Boström, M., Axelson, A., & Stigson, H. (2020). Översyn av nationellt mått Allvarligt skadad i vägtrafiken: koppling mellan Allvarlig skada och självrapporterad hälsa. Folksam: Stockholm.
7. Stigson, H. Forskningsrapport: Folksam's test av cykelhjälm för ungdomar och vuxna 2020. Folksam: Stockholm
8. Kullgren, A., Ydenius, A., Axelson, A., & Stigson, H. (2020). Hur kan dödsolyckor med fotgängare på kommunalt och statligt vägnät undvikas?
9. Stigson, H. Forskningsrapport: Folksam's test av cykelhjälm för barn 2019. 2019. Folksam: Stockholm
10. Stigson, H. Forskningsrapport: Folksam's test av cykelhjälm för vuxna 2019. 2019. Folksam: Stockholm
11. Stigson, H. Folksam's test av skihjälm 2019. 2019. Folksam: Stockholm
12. Kullgren, A., Axelson, A., Engström, E., Stigson, H., & Ydenius, A. (2018). Analys av dödsolyckor med cyklister på statligt och kommunalt vägnät.
13. Stigson, H. Folksam's test av ridhjälm 2018. 2018. Folksam: Stockholm
14. Kullgren, A, Rizzi, M, Ydenius, A, Stigson, H. Analys av dödsolyckor med fotgängare och cyklister på statligt vägnät, 2018 Folksam: Stockholm
15. Stigson, H. Folksam's test av cykelhjälm 2017. 2017. Folksam: Stockholm
16. Stigson, H. Folksam's test av cykelhjälm för barn 2017. 2017. Folksam: Stockholm
17. Stigson, H. and Ydenius, A. Folksam's test av bilbarnstolar 2015-2017. 2017, Folksam: Stockholm.
18. Stigson, H. and Ydenius, A. Folksam's test av bilbarnstolar 2015. 2015, Folksam: Stockholm.
19. Stigson, H. Folksam's test av cykelhjälm 2015. 2015.

20. Stigson, H., Krafft, M., et al. Utveckling av provmetod för axelskydd för cyklister, in Projektrapport. 2015.
21. Stigson, H. Folksams test av cykelhjälm 2015. 2015
22. Stigson, H., I. Samuelson, J. Lindblom, M. Krafft, A. Kullgren, M. Rizzi and A. Ydenius. Folksams ridhjälmstest 2014; Folksam forskning. Stockholm, 2014.
23. Stigson H, Åman M, Krafft M, Rizzi M, Kullgren A, Ydenius A, Folksams skidhjälmstest 2014: Folksam forskning, Stockholm, 2014.
24. Stigson H, Krafft M, Rizzi M, Kullgren A, Ydenius A, Lindmark K. Folksams cykelhjälmstest maj 2013: Folksam forskning, Stockholm, 2013.
25. Stigson H, Hasselwander M, Krafft M, Kullgren A, Rizzi M, Ydenius A. In Swedish: Folksams cykelhjälmstest juni 2012: Folksam Forskning; 2012.
26. Stigson H, Krafft M, Kullgren A, Rizzi M. Grönt ljus - Kan en säkrare trafik uppnås med hjälp av ISA (Intelligent Stöd för Anpassning av hastighet) kopplad till en bonusgrundad bilförsäkring? : Folksam Forskning; 2012.
27. Krafft M, Kullgren A, Stigson H, Ydenius A. Bilkollision med älg – utvärdering av verkliga olyckor och krockprov: Folksam forskning; 2011.
28. Stigson H, Kullgren A. Fotgängares risk i trafiken - Analys av tidigare forskningsrön. Stockholm: Institutionen för folkhälsovetenskap, Avdelningen för interventions- och implementeringsforskning, Karolinska Institutet; 2010.
29. Stigson H. Krockkudde kontra bilbarnstol – Krockkuddens påverkan på barn i bakåtvänd bilbarnstol. Göteborg: Institutionen för Maskin- och fordonssystem, Chalmers tekniska högskola 2004.

Scientific reports in English

1. Stigson H. (2020) Equestrian Helmets 2021 Tested by Folksam. Stockholm: Folksam
2. Stigson H. (2020) Bicycle Helmets 2021 Tested by Folksam. Stockholm: Folksam
3. Stigson H. (2020) Bicycle Helmets for Children 2021 Tested by Folksam. Stockholm: Folksam
4. Stigson H. (2020) Bicycle Helmets 2020 Tested by Folksam. Stockholm: Folksam
5. Stigson H. (2019) Bicycle Helmets for Children 2019 Tested by Folksam. Stockholm: Folksam
6. Stigson H. (2019) Bicycle Helmets 2019 Tested by Folksam. Stockholm: Folksam
7. Stigson H. (2018) Equestrian Helmets 2018 Tested by Folksam. Stockholm: Folksam
8. Stigson, H. (2017). Bicycle helmets for children 2017 tested by folksam. Stockholm: Folksam
9. Stigson, H. (2017). Bicycle helmets 2017 tested by folksam. Stockholm: Folksam
10. Stigson, H. and Ydenius, A. Folksam Test of CRSs for Children Nine Months to Four Years 2015- 2017. 2017, Folksam: Stockholm.

11. Kullgren A, Stigson H, Achterberg F, Townsend E. In-Car Enforcement Technologies Today ETSC 2005.
12. Kullgren A, Stigson H. WP1 - Task 1.2 report from Folksam, ADSEAT, Project no. 233904, CP Sustainable Surface Transport. Stockholm: Folksam Research; 2010.

Peer reviewer for the following scientific journals

Accident Analysis and Prevention, Annals of Biomedical Engineering, Traffic Injury Prevention, Medical Science Monitor, Transport Policy, International Conference on the Enhanced Safety Vehicles (ESV) and BioMed Central, Int. IRCOBI Conf. on the Biomechanics of Injury