

Abhilash Chandra Singh

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EDUCATION	PhD, Transportation Engineering Imperial College London, UK <i>Committee: Aruna Sivakumar (advisor), Dan Graham (internal examiner)</i> <i>Thesis: Endogeneity and consideration set issues in residential location choice modelling</i>	2019 - September 2023 (tentative)
	MS, Transportation Engineering The University of Texas at Austin, USA <i>Committee: Chandra Bhat (advisor), Stephen Boyles (examiner)</i> <i>Thesis: Quantifying the relative contribution of factors to household vehicle miles of travel</i>	2016 - 2017
	BTech, Civil Engineering Indian Institute of Technology Bombay, India <i>Committee: Tom Mathew (advisor), Raaj Ramsankaran</i>	2012 - 2016
RESEARCH	Theoretical and applied econometrics, Machine learning, Behavioural modelling, Transportation systems engineering and planning	
HONOURS	Imperial College Global Fellowship	UK, 2022
	Turing Scheme Research Award	UK, 2022
	Department Dixon Scholarship	UK, 2019 - 2023
	Wellcome Trust Scholarship	UK, 2019 - 2023
	Professional Development Award	USA, 2018
	Texas District Student Fellowship	USA, 2017
	Graduate fellowship	USA, 2016-2018
	University of Alberta Research fellowship	Canada, 2015
WORKING PAPERS	IITBAA-NY Chapter scholarship	USA, 2014
	5. Singh, A.C., A. Faghih-Imani and Audrey de Nazelle. Route choice analysis with Moves data: The PASTA project	
	4. Singh, A.C. and N. Daina. Choice-based optimization of electricity consumption during overnight charging of electric vehicles.	
	3. Singh, A.C., H. Watanabe and A. Sivakumar. Combining Consideration-Set and Endogeneity in Residential Location Choices: An Application of Control Function Methods incorporating Decision Trees.	
	2. Watanabe H. and A.C. Singh. A probit instrumental variable model for addressing endogeneity in multinomial choice and its choice set formation.	
JOURNAL PAPERS	1. Sivakumar, A., A.C. Singh, F. Guo and A. Gough. Incorporating the impacts of air pollutants and exposure to crime into accessibility-based planning: A London Case Study.	
	5. Singh, A.C., A. Sivakumar and R. Moeckel. Semi-compensatory probabilistic model for residential location choices (R&R with Journal of Choice Modelling).	
	4. Singh, A.C., A. Faghih-Imani, A. Sivakumar, Y. Xi and E. J. Miller. A joint analysis of accessibility and household trip frequencies by travel mode (R&R with Transportation Research: Part A).	
	3. Singh, A.C., A. Sivakumar. Accessibility in the Era of Big Data and Emerging Technologies (R&R with Transport Reviews).	
	2. Singh, A.C., S. Astroza, V.M. Garikapati, R.M. Pendyala, C.R. Bhat, and P.L. Mokhtarian (2018), Quantifying the Relative Contribution of Factors to Household Vehicle Miles of Travel. Transportation Research Part D, Vol. 63, pp. 23-36.	

**CONFERENCE
PAPERS**

1. Boyles, S. D., C. Bhat, J. Duthie, N. Jiang, F. Dias, E. Jafari, V. Pandey, **A.C. Singh**, and C. Yahia. (2017) Methods for Improving Consistency between Statewide and Regional Planning Models. Texas Department of Transportation Report FHWA/TX-17/0-6900-1
14. **Singh, A.C.** and N. Daina*. Choice-based optimization of electricity consumption during overnight charging of electric vehicles (*invited for INFORMS presentation, October 2023, Arizona, USA).
13. Watanabe H. and **A.C. Singh**. A probit instrumental variable model for addressing endogeneity in multinomial choice and its choice set formation (accepted for presentation at World Conference on Transportation Research (WCTR) 2023, Montreal, Canada).
12. Sivakumar, A., **A.C. Singh**, F. Guo and A. Gough. Incorporating the impacts of air pollutants and exposure to crime into accessibility-based planning: A London Case Study (accepted for presentation at Irish Transport Research Network Conference 2023, Sligo, Ireland).
11. **Singh, A.C.**, A. Faghih-Imani, A. Sivakumar, Y. Xi and E. J. Miller. A joint analysis of accessibility and household trip frequencies by travel mode (accepted for presentation at World Conference on Transportation Research (WCTR) 2023, Montreal, Canada).
10. **Singh, A.C.**, A. Sivakumar. Semi-compensatory probabilistic model for residential location choices. 7th International Choice Modeling (ICMC), Reykjavik, Iceland, May 2022.
9. **Singh, A.C.**, H. Bouscasse, A. Sivakumar. Psychosocial Factors associated with Intended Use of Automated Vehicles: A Latent-Class and Latent-Variable Analysis. 9th Symposium of the European Association for Research in Transportation (hEART), Lyon, France, February 2021.
8. **Singh, A.C.**, K.C. Abel, J.W. Hutchinson, K.M. Faust, and C.R. Bhat. Food Access for Low Income Individuals. Session on Highlights from the 2017 NHTS Data Workshop. 98th Annual Meeting of the Transportation Research Board, Washington, DC, January 2019.
7. **Singh, A.C.**, K.C. Abel, J.W. Hutchinson, K.M. Faust, and C.R. Bhat. Predictive Food Desert Simulation Modelling to increase Food Access in Underserved Communities. National Household Travel Survey (NHTS) Data for Transportation Applications Workshop in Washington, DC in August 2018.
6. **Singh, A.C.**, P. Lavieri, T. Kim, C.R. Bhat, and R.M. Pendyala. Evaluating the Effects of Consumer's Perceptions of Safety and Productive Use of Time on the Intention to Adopt Autonomous Vehicle Technology. 15th International Conference on Travel Behaviour Research, Santa Barbara, California, July 2018.
5. Bouscasse H., **A.C. Singh**, S. Astroza, C.R. Bhat. Modeling Simultaneous Choices in Transportation. Rencontres Francophones Transport-Mobilité (RFTM), Lyon, June 2018.
4. Copperman R., J. Lemp, T. Rossi, **A.C. Singh**, C.R. Bhat, R.M. Pendyala, S. Khoeini, S. Astroza. Adapting an Existing Activity Based Modeling Structure for the New York Region. 2018 TRB Innovations in Travel Modeling Conference, June 2018.
3. **Singh, A.C.**, S. Astroza, V.M. Garikapati, R.M. Pendyala, and C.R. Bhat. Quantifying the Contribution of Various Factors to Household Vehicle Miles of Travel. 97th Annual Meeting of the Transportation Research Board, Washington, DC, January 2018.
2. **Singh, A.C.**, L. Yang, and M. Al-Hussein. Predicting the Energy Output for Solar PV Systems: A Statistical Analysis. University of Alberta Research Experience (UARE) Poster Symposium, Edmonton, Alberta, July 2015

	<p>1. Yang L., E.K. Salim, A.C. Singh, H. Awad, H. Yu, M. Gül, and M. Al-Hussein. Integrating solar PV systems into residential buildings in cold-climate regions. University of Alberta Research Experience (UARE) Poster Symposium, Edmonton, Alberta, July 2015.</p>	
INVITED TALKS	<p>10. “Semi-compensatory probabilistic model for residential location choices” TU Berlin Kai Nagel’s Lab, July 2022</p> <p>9. “Semi-compensatory probabilistic model for residential location choices” ICMC, May 2022</p> <p>8. “Theoretical and Applied Choice Modelling” ASDA, March 2022</p> <p>7. “Incorporating the impacts of air pollutants and exposure to crime into accessibility-based planning: A London Case Study.” WSTLUR, Sep 2021</p> <p>6. “Exploring and quantifying the effect of weather on sales.” The Alan Turing Institute, July 2021</p> <p>5. “Psychosocial Factors associated with Intended Use of Automated Vehicles: A Latent-Class and Latent-Variable Analysis.” hEART, Feb 2021</p> <p>4. “Food Access for Low Income Individuals.” TRB, Jan 2019</p> <p>3. “Evaluating the Effects of Consumer’s Perceptions of Safety and Productive Use of Time on the Intention to Adopt Autonomous Vehicle Technology.” IATBR, July 2018</p> <p>2. “Quantifying the Contribution of Various Factors to Household Vehicle Miles of Travel.” TRB, Jan 2018</p> <p>1. “Integrating solar PV systems into residential buildings in cold-climate regions.” UARE, July 2015</p>	
TEACHING EXPERIENCE	Imperial College London	
	Transport Demand and Economics (CIVE70016)	2022
	Advanced Transport Modelling (CIVE97126)	2020, ’21, ’22
SERVICE	Steering Committee Member: Imperial Network of Excellence	2021 - present
	Urban Systems Lab, Imperial College London	2021 - present
	Mentor — The AMOS Bursary and TechLabs London	2021 - 2022
	IIT Bombay Department Academic Mentorship Program (DAMP)	2015 - 2016
	Reviewing Activities:	
	Data Science for Transportation	2023 - present
	Journal of Transport and Land Use	2022 - present
	Transportation	2021 - present
	Transportmetrica A: Transport Science	2021 - present
	World Symposium on Transport and Land Use Research	2021
	Transportation Research Record	2019 - 2021
WORK EXPERIENCE	Senior Data Scientist - ASDA Business Services	
	Leeds, UK	2021 - 2022
	Alan Turing Institute &	
	Leeds Institute of Data Analytics, UK	Summer 2021
	WELLCOME Trust - Pathways to Equitable Healthy Cities	
	Imperial College London	2019 - present
	Transit Performance and Reliability Evaluation for Arterial Corridors; Activity Based Model for Qatar; New York Best Practice Model Base Year Update	
	Center for Transportation Research, U.T.Austin; ItalConsult & Ministry of Transport and Communication Qatar; Cambridge Systematics & NYMTC, New York	2016 - 2019
RELEVANT COURSES	Imperial College London	2019 - 2023
	Teaching training: Introduction to Assessment and Feedback for Learning	
	Teaching training: Introduction to Learning and Teaching	
	Teaching training: Applying for Associate Fellowship (AFHEA)	
	Ensuring Integrity: Plagiarism (Online Course)	
	Research Computing: Writing Theses in LaTeX	

Impact in Academia: Alternative Ways to Measure Your Research Impact
Econometrics Methods for Causal Inference (Kings College London, *audit*)
Econometrics for Research (London School of Economics, *audit*)
Writing a Research Paper
Data Processing with Python Pandas
Research Computing: Object-Oriented Python

The University of Texas at Austin 2016 - 2018
[*Statistics and Econometrics Coursework*] Mathematical Statistics 1, Econometrics 1 (MS)
and 2 (PhD), Bayesian Statistical Methods, Longitudinal Data Analysis, Maximum Likelihood
Estimation Statistics
[*Transportation Engineering Coursework*] Transportation Systems Management, TransCAD
GIS, Transportation Network Analysis, Discrete Choice Methods

Indian Institute of Technology Bombay 2012 - 2016
Traffic Analysis and Design, Urban Transportation Planning,

REFERENCES

Dr. Aruna Sivakumar
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