Abhilash Chandra Singh

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EDUCATION

PhD, Transportation Engineering *2019 - August 2023 (tentative)*
Imperial College London, UK
Committee: Aruna Sivakumar (advisor), Dan Graham (internal examiner)
Thesis: Endogeneity and choice set issues in residential location choice modelling

MS, Transportation Engineering *2016 - 2017*
The University of Texas at Austin, USA
Committee: Chandra Bhat (advisor), Stephen Boyles (examiner)
Thesis: Quantifying the relative contribution of factors to household vehicle miles of travel

BTech, Civil Engineering *2012 - 2016*
Indian Institute of Technology Bombay, India
Committee: Tom Mathew (advisor), Raaj Ramsankaran

RESEARCH

Theoretical and applied econometrics, Machine learning, Behavioural modelling, Transportation systems engineering and planning

HONOURS

Imperial College Global Fellowship (Germany) *UK, 2022*

Turing Scheme Research Award *UK, 2022*

Department Dixon Scholarship *UK, 2019 - 2023*

Wellcome Trust Scholarship *UK, 2019 - 2023*

Professional Development Award *Texas, 2018*

Texas District Student Fellowship *Texas, 2017*

Graduate fellowship *Texas, 2016-2018*

University of Alberta Research fellowship *Canada, 2015*

IITBAA-NY Chapter exchange scholarship *New York, 2014*

IIT JEE rank 1,321 out of 1,000,000 *India, 2012*

State Mathematics Olympiad Rank 19 out of 1,000,000 *India, 2010*

PAPERS

17. 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), Montreal, Canada, July 2023).

16. Singh, A.C., A. Sivakumar and R. Moeckel. Semi-compensatory probabilistic model for residential location choices (working paper).

15. 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 (working paper).

14. 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), Montreal, Canada, July 2023).

13. Singh, A.C., A. Sivakumar. Accessibility in the Era of Big Data and Emerging Technologies (submitted to Transport Reviews).

12. Singh, A.C., A. Sivakumar. Semi-compensatory probabilistic model for residential location choices. 7th International Choice Modeling (ICMC), Reykjavik, Iceland, May 2022.

11. 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.

10. 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.

9. 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.

8. 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.

7. Bouscasse H., **A.C. Singh**, S. Astroza, C.R. Bhat. Modeling Simultaneous Choices in Transportation. Rencontres Francophones Transport-Mobilité (RFTM), Lyon, June 2018.

6. 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.

5. 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.

4. 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.

3. 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

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

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.

INVITED/ CONFERENCE TALKS

10. "Semi-compensatory probabilistic model for residential location choices" TU Berlin Kai Nagel's Lab, July 2022

9. "Semi-compensatory probabilistic model for residential location choices" ICMC, May 2022

8. "Theoretical and Applied Choice Modelling" ASDA, March 2022

7. "Incorporating the impacts of air pollutants and exposure to crime into accessibility-based planning: A London Case Study." WSTLUR, Sep 2021

6. "Exploring and quantifying the effect of weather on sales." The Alan Turing Institute, July 2021

5. "Psychosocial Factors associated with Intended Use of Automated Vehicles: A Latent-Class and Latent-Variable Analysis." hEART, Feb 2021

4. "Food Access for Low Income Individuals." TRB, Jan 2019

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

2. "Quantifying the Contribution of Various Factors to Household Vehicle Miles of Travel." TRB, Jan 2018

1. "Integrating solar PV systems into residential buildings in cold-climate regions." UARE, July 2015

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
Center for Transportation Research, Austin *Spring 2019*

Activity Based Model for Qatar
ItalConsult & Ministry of Transport and Communication Qatar *2017 - 2018*

New York Best Practice Model Base Year Update
Cambridge Systematics & NYMTC, New York *2016 - 2018*

Coordinating consistency between state and regional planning models
Texas Department of Transportation *2016 - 2017*

Hindustan Construction Company, India *Fall 2015*

University of Alberta &
Landmark Group of Builders, Canada *Summer 2015*

Indian Institute of Management Lucknow, India *Summer 2014*

RELEVANT COURSES

Imperial College London *2019 - present*
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
Urban Systems Lab, Imperial College London
South Kensington Campus, London SW7 2AZ, U.K.
Email: a.sivakumar@imperial.ac.uk

Dr. Rolf Moeckel
Associate Professorship of Travel Behavior, Technical University of Munich
Augustenstr. 44, Munich 80333, Germany
Email: rolf.moeckel@tum.de

Dr. Ahmadreza Faghih Imani
Centre for Environmental Policy, Imperial College London
South Kensington Campus, London, SW7 2AZ, U.K.
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Dr. Eric Miller
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Dr. Fangce Guo
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