

Caleb Ronald Munigety, Ph.D.

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Contact

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CAREER OBJECTIVE

Excel in the field of Transportation and Infrastructure Engineering through hard work, research and perseverance to serve the student community and the society with the best of my abilities.

RESEARCH INTERESTS

Driver behavioral modeling; Traffic flow modeling; Intelligent transportation systems; Transportation data analysis methods; Activity based transport demand modeling; Geometric design consistency.

EDUCATION

- **Ph.D.** 2010-2015
Indian Institute of Technology Bombay, Mumbai, India
Department of Civil Engineering, (Specialization: Transportation Systems Engineering)
Ph. D. Dissertation: Driver Behavioral Modeling in Mixed Traffic Conditions.
- **M.Tech** May 2010
National Institute of Technology Calicut, Kozhikode, Kerala, India
Department of Civil Engineering, (Specialization: Traffic & Transportation Planning)
Thesis: Simulation Modeling of Traffic Roundabout.
- **B.Tech** May 2008
Jawaharlal Nehru Technological University, Kakinada, Andhra Pradesh, India
Department of Civil Engineering
Thesis: Design of Pile Foundation for a Rail Bridge.

SPONSORED RESEARCH

- **Composite Signal Control Strategy (CoSiCost-2G)** with Prof. Tom V Mathew, Professor, IIT Bombay as Principal Investigator
Agency: Department of Electrical & Information Technology, Government of India.
Contribution: Driver Behavioral Models. Duration: Dec-2010 to Dec-2013
- **Indo-HCM** with Prof. K V Krishna Rao, Professor, IIT Bombay as Principal Investigator
Agency: Council of Scientific & Industrial Research (CSIR) - Central Road Research Institute (CRRI), New Delhi, India.
Contribution: Traffic Data Extraction Tool. Duration: Jan-2012 to Jan-2013

COLLABORATIVE WORKS

- Visited Purdue University in March-June 2013 to collaborate with Prof. Srinivas Peeta, Director, NEXTRANS center, USA in the domain of Intelligent Transportation Systems under the aegis of the Indo-US center on ITS supported by the Indo-US Science and Technology Forum (IUSSTF).

AWARDS

- Recipient of the best presentation award in the 2nd PTV –VISSIM User Group Meeting, 2013, New-Delhi, India.

PUBLICATIONS

• **Papers in refereed Journals**

1. Mathew, T.V., **Munigety, C.R.**, and Bajpai, A. 2013. Strip-based approach for the simulation of mixed traffic conditions. *ASCE J. Comput. Civ. Eng.* [http://ascelibrary.org/doi/abs/10.1061/\(ASCE\)CP.1943-5487.0000378](http://ascelibrary.org/doi/abs/10.1061/(ASCE)CP.1943-5487.0000378)
2. **Munigety, C.R.**, Vivek V., and Mathew, T.V. 2014. Semi-automated tool for extraction of microlevel traffic data from videographic survey. *Transportation Research Record*, Vol. 2443, pp. 88-95. <http://trb.metapress.com/content/q048554185565245/>

• **Papers in refereed Conference Proceedings**

1. **Munigety, C.R.**, Vivek V., and Mathew, T.V. 2014. Semi-automated tool for extraction of microlevel traffic data from videographic survey. In: *Proceedings of the 93rd Annual Meeting of Transportation Research Board, Washington D.C.*, January 2014. <http://trid.trb.org/view.aspx?id=1289230>
2. **Munigety, C.R.**, Sruthi, M., Mathew, T.V., and Krishna Rao, K.V. 2014. Analysis and modelling of tactical decisions of vehicular lateral movement in mixed traffic environment. In: *Proceedings of the 93rd Annual Meeting of Transportation Research Board, Washington D.C.*, January 2014. <http://trid.trb.org/view.aspx?id=1289043>
3. Mathew, T.V., **Munigety, C.R.**, Ashish, C., and Abhijeet, O. 2014. A space-discretization based simulation approach for non-lane based conditions. In: *Proceedings of the 93rd Annual Meeting of Transportation Research Board, Washington D.C.*, January 2014. <http://trid.trb.org/view.aspx?id=1289056>
4. **Munigety, C.R.**, Sruthi, M., Mathew, T.V., and Krishna Rao, K.V. 2013. Effect of surrounding traffic characteristics on lateral movement behavior in heterogeneous traffic conditions. In: *Proceedings of the 92nd Annual Meeting of Transportation Research Board, Washington D.C.*, January 2013. <http://trid.trb.org/view.aspx?id=1242081>
5. Omair, A., **Munigety, C.R.**, Mathew, T.V., and Sahoo, A. 2012. A strip-based simulation model for mixed traffic conditions. In: *Proceedings of the 91st Annual Meeting of Transportation Research Board, Washington D.C.*, January 2012. <http://trid.trb.org/view.aspx?id=1129720>
6. **Munigety, C.R.**, Mathew, T.V., and Krishna Rao, K.V. 2012. Behavioral Analysis of Lateral Movements in Heterogeneous Traffic Environment In: *Proceedings of the International Conference on Transportation Planning & Implementation Methodologies for Developing Countries (TPMDC)*, IIT Bombay, India, December 2012.
7. **Munigety, C.R.**, Mathew, T.V., and Krishna Rao, K.V. 2011. Development of a space-oriented microscopic simulation model. In: *Proceedings of the first Conference of Transportation Research Group of India (CTRG)*, Bangalore, India, December 2011.
8. **Munigety, C.R.**, and Anjaneyulu, M. V. L. R. 2010. Simulation Modelling of Traffic Roundabout. In: *Proceedings of the International Conference on Infrastructure, Sustainable Transportation and Urban Planning of CiSTUP*, Bangalore, India, October 2010.
9. **Munigety, C.R.** and Anjaneyulu, M. V. L. R. 2009. Simulation Modelling of Road Traffic Roundabout. In: *Proceedings of the International Conference on latest Trends in Simulation Modeling and Analysis*, NIT Calicut, India, December 2009.

TECHNICAL SKILLS

- **VISSIM, SUMO** - Traffic Simulation and Analysis
- **Alogit, NLOGIT** - Statistical Tool
- **ArcGIS** - A GIS Tool
- **SPSS** - Statistical Tool
- **MATLAB**
- Programming Languages: **C, C++**

TEACHING

- **Teaching Assistant:** Traffic engineering and Behavioral travel demand modeling courses at postgraduate levels.
Department of Civil Engineering, IIT Bombay July 2010-Present
- **Teaching Assistant:** Traffic engineering course at undergraduate level.
Department of Civil Engineering, NIT Calicut July 2008-July 2010

INTERNSHIP STUDENTS SUPERVISION

- **Abhishek Ashish** May 2012-July 2012
Topic: Evaluation of a Mixed Traffic Simulator: **SiMTraM**
- **Sruthi Mantri** Nov 2011-May 2012
Topic: Analysis & Modeling of Lateral Movement Tactical Decisions in Mixed Traffic
- **Seles Johnson** May 2011-July 2011
Topic: Development of Traffic Data Extraction Tool for Mixed Traffic Conditions
- **Swathi Johnson** May 2011-July 2011
Topic: Development of a Traffic Data Extraction for Mixed Traffic Conditions

PROFESSIONAL ACTIVITIES

- **Organizing Conferences/workshops**
 - Student organising member, International conference on Transportation Planning & Implementation Methodologies for Developing Countries (**TPMDC**) December 2012, IIT Bombay.
 - Student organising member, National conference on Intelligent Transportation Systems (**InTranSe**) 2011, IIT Bombay.
 - Student organising member, International conference on Transportation Planning & Implementation Methodologies for Developing Countries (**TPMDC**) December 2010, IIT Bombay.
 - Student organising member, Faculty development programme on Planning, Design and Evaluation of Urban Transportation Systems (**UTS**) May-June 2010, NIT Calicut.

Reference

1. Prof. Tom V Mathew Phone: +91-22-2576 7349
Department of Civil Engineering, IIT Bombay, Mumbai, India.
2. Prof. Srinivas Peeta Phone: +1-765-494-2209
Director, NEXTRANS Center, Purdue University, West Lafayette, USA
3. Prof. K V Krishna Rao Phone: +91-22-2576 7302
Department of Civil Engineering, IIT Bombay, Mumbai, India.
4. Prof. S L Dhingra Phone: +91-22-2576 7329
Department of Civil Engineering, IIT Bombay, Mumbai, India.