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**Professor**  
**University of Massachusetts Dartmouth**  
**College of Engineering - Physics Department**  
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**North Dartmouth, MA 02747**

CURRENT TITLE:

Professor of Physics in the College of Engineering  
Director of the University of Massachusetts Collaborative for Intelligent Transportation Systems  
Director of the University of Massachusetts Intelligent Transportation & Simulation Laboratory

EXPERTISE:

Intelligent Transportation Systems, Congestion Management & Capacity Analysis, Tolling, Decision Support Systems, Transportation Data Wireless Transmission, Electronic Traffic Payment Systems

DEGREES

[University of Central Florida](#), (UCF) Orlando, Florida; Ph.D. Civil and Environmental Engineering, emphasis in Intelligent Transportation Systems (ITS), August, 1998.

[University of Illinois at Urbana-Champaign](#), Illinois; M.S. Physics, May, 1981.

[Purdue University](#), West Lafayette, Indiana; B.S. Physics, December, 1978.

WORK EXPERIENCE

[University of Massachusetts Dartmouth](#): Professor, Sept 1998 – today

Full Professor, Sept 2011 - today

Associate Professor, Sept 2004 – Sept 2011

Department Chair, June 2006 – October 2008

Assistant Professor, September 1998 - August 2004

Full-Time-Lecturer (FTL) September 1991 - August 1992

Part-Time-Lecturer (PTL) September 1986 - August 1991; Physics Department.

[Brandeis University](#): Teaching Assistant and Research Assistant, September 1985 – May 1990; Physics Department.

[Bradley University](#): Full-Time-Lecturer (FTL), September 1983 – June 1985; Physics Department.

PUBLICATIONS in brief

1. Marguerite, Neuza Pedro, David Prairie, Tyler Spilhaus, Venkateswaran Shekar, *Sixteen Year Survey: Reported Security & Privacy Breaches in Electronic Transportation Payment Systems, ETPS*. Peer review, *Proceedings of the 93<sup>rd</sup> Annual Meeting of the Transportation Research Board*, [TRB](#), Washington D.C., paper number 14-1435, January 2014.
2. Zarrillo, Marguerite, Elia El Lazkani, David Prairie, Tyler Spilhaus, *ITPS Security & Privacy Breaches; Extent of the Problem and a Simulated Case Study*. Peer reviewed *Proceedings of the 92<sup>nd</sup> Annual Meeting of the Transportation Research Board*, [TRB](#), Washington D.C., paper number 13-0650, January 2013. Lecture Presentation session #325.
3. Masoud, Neda, Marguerite Zarrillo, Nathan Gartner, *Traffic Flow with Increasing Density Assuming a Simple Safe Stopping Distance Formula*. Peer reviewed *Proceedings of the 92<sup>nd</sup> Annual Meeting of the Transportation Research Board*, [TRB](#), Washington D.C., paper number 13-1765, January 2013. Poster session #497.
4. O'Connor, Scott, Ramprasad Balasubramanian, Marguerite Zarrillo, Heather Miller, Honggang

- Wang. Modeling and Decision Support System to Determine When to Impose Seasonal Load Restriction (SLR), the *Proceedings of WAMS 2012, International Workshop on Applied Modeling and Simulation*, Rome, Italy, September 24-27, 2012.
5. Zarrillo, M., H. Miller, R. Balasubramanian, R. Berg, R. Eaton and M. Kestler. Preliminary Development of a Real Time Seasonal Load Restriction System for Remote Sites. Peer reviewed *Proceedings of ASCE's 15<sup>th</sup> International Conference on Cold Regions Engineering*, Quebec, Canada, August 19-22, 2012.
  6. Zarrillo, Marguerite and Elia El Lazkani. Impact of Security Measures and Algorithms on Operations at Transportation Facilities. Peer reviewed *Proceedings of SAM'12, 2012 International Conference on Security and Management*, Las Vegas, NV, July 16-19, 2012.
  7. Gartner, Nathan and Marguerite Zarrillo. Alternative Level-of-Service and Quality of Progression, Models for Urban Street Analysis. Peer reviewed *Proceedings of the Joint Midyear Meeting and Conference, Innovations in Traffic Flow Theory, Highway Capacity, and Quality of Service Symposium*, and presented at the Joint Conference of TRB's [TFTC](#) (AHB45) and TRB HCQS Committees' Fort Lauderdale, FL, June 19-22, 2012.
  8. Zarrillo, Marguerite, Neda Masoud. Simulations of the Flow-Density Relationship Considering Driver Behavior. Peer reviewed *Proceedings of the TRB TFTC Committee's Summer Meeting (AHB45)*, and presented at the [Joint Conference](#) of the TRB [TFTC](#) Committee's Summer Meeting and Second Workshop of the Multitude COST Action, Annecy, France, July 7-9, 2010,
  9. Deshpande, Rahul, Nathan Gartner and Marguerite Zarrillo, Urban Street Performance: Level-of-Service and Quality-of-Progression Trade off Analysis. *Transportation Research RECORD (TRR): Journal of the Transportation Research Board*, Vol. 2173, pp 57-63, 2010.
  10. Zarrillo, Marguerite L. and A. Essam Radwan, Methodology SHAKER and the Capacity Analysis of 5 Toll Plazas, *Journal of Transportation Engineering of the American Society of Civil Engineers*, Volume 135, Issue 3, pp 83-93, March 2009.
  11. Zarrillo, Marguerite L., Using Decision Support System and Graphical User Interface to Choose Appropriate Lane Configurations at Toll Facilities. *Transportation Research RECORD (TRR): Journal of the Transportation Research Board*, Vol. 1935, p. 8-16, April 2005.
  12. Zarrillo, Marguerite L., A. Essam Radwan and Joseph H. Dowd. Toll Network Capacity Calculator : Operations Management and Assessment Tool for Toll Network Operators. *Transportation Research RECORDS (TRR): Journal of the Transportation Research Board*. Vol. 1781, p. 49-55, April 2002.

#### GRANTS RECEIVED, most recent

- ▲ PI: *Security and Privacy Breaches in ETPS: Problem Survey & Case Study of I-90*, subcontract University of Massachusetts Amherst, \$74,170, subaward #13-007257 B 00, New England UTC Prime Award Number MIT 570003339, June 1, 2012 – July 31, 2014
- ▲ PI: *Data Collection via CRS&SI Technology to Determine when to Impose SLR*, USDOT Research and Innovative Technology Administration, [RITA](#) -RS10-01, \$771,049, June 1, 2011 - December 31, 2013.
- ▲ PI: *TC: Medium: Collaborative Research: Pay-as-you-Go: Security and Privacy for Integrated Transportation Payment Systems*, National Science Foundation (NSF), CNS Trustworthy Computing, \$100,000, June 1, 2010 – December 31, 2013.