

PRATIK J. PARIKH

Department of Biomedical, Industrial and Human Factors Engineering
207 Russ Engineering Center, Wright State University
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EDUCATION

Virginia Polytechnic Institute and State University, Blacksburg, VA Aug '03 - Sep '06
Ph.D. in Industrial and Systems Engineering
Advisor: Russell D. Meller, Ph.D.

Binghamton University (S.U.N.Y.), Binghamton, NY Aug '01 - Dec '02
Master of Science in Systems Science

The Maharaja Sayajirao University of Baroda, India Aug '97 - May '01
Bachelor of Engineering in Mechanical Engineering

PROFESSIONAL EXPERIENCES

Assistant Professor Feb '09 - present
Dept. of Biomedical, Industrial and Human Factors Engineering, Wright State University, Dayton, OH

Member, Science Team — Global R&D Oct '06 - Feb '09
Manhattan Associates, Inc., Atlanta, GA

Visiting Scholar Sep '05 - Aug '06
Dept. of Industrial Engineering, University of Arkansas, Fayetteville, AR

Facilities Planning Consultant Aug '05
Corning, Inc., Blacksburg, VA

Facilities Planning and Material Flow Analyst Jul '05
Coral Graphics, Inc., Winchester, VA

RESEARCH INTERESTS

My interests are in applying operations research methodologies to solve real-world problems. In particular, I utilize deterministic and stochastic techniques to model and optimize complex systems.

Methodologies: Mathematical Programming (linear, integer, and mixed-integer), Markov Chains, Order Statistics, Simulation, Meta-Heuristics, Soft Computing, etc.

Application Domains: Supply Chain Management, Transportation/Distribution Planning, Resource Planning, Workforce Management, Manufacturing, Health-care, etc.

TEACHING INTERESTS

- Supply Chain Management
- Operations and Facility Design
- Warehousing and Transportation
- Manufacturing Systems
- Simulation Modeling and Analysis
- Soft Computing

PUBLICATIONS

Journal

1. Parikh, P. J. and Lam, S. S. Y. (2005), "A Hybrid Approach to Solve the Forward Kinematics Problem in Parallel Manipulators," *IEEE Transactions on Robotics*, Vol. 21, Iss. 1, pp. 18-25.
2. Parikh, P. J. and Meller, R. D. (2008), "Selecting Between Batch and Zone Order Picking Strategies in a Distribution Center," *Transportation Research Part E*, Vol. 44, Iss. 5, pp. 696-719.
3. Parikh, P. J. and Lam, S. S. Y. (2009), "Parameter Estimation for Abrasive Water Jet Machining Process Using Neural Networks," *International Journal of Advanced Manufacturing Technology*, Vol. 40, No. 5-6, pp. 497-502.
4. Parikh, P. J. and Lam, S. S. Y. (2009), "Solving the Forward Kinematics Problem in Parallel Manipulators Using an Iterative Artificial Neural Network Strategy," *International Journal of Advanced Manufacturing Technology*, Vol. 40, No. 5-6, pp. 595-606.
5. Parikh, P. J. and Meller, R. D. (2009), "Estimating Picker Blocking in Wide-Aisle Order Picking Systems," *IIE Transactions*, Vol. 41, Iss. 3, pp. 232-246.
6. Parikh, P. J. and Meller, R. D. (2009), "A Travel-Time Model for an Order Picking System Employing a Person-Onboard Equipment," *to appear in European Journal of Operational Research*.
7. Ellis, K. P., Meller, R. D., Wilck, J. H., Parikh, P. J., and Marchand, F. (2009), "Effective Material Flow for Assembly Operations at Volvo Trucks," *accepted with minor revisions to International Journal of Production Research*.
8. Parikh, P. J. and Meller, R. D. (2009), "A Note on Worker Blocking in Narrow-Aisle Order Picking Systems with Stochastic Pick-Time," *revised and resubmitted to IIE Transactions*.

Working

1. Parikh, P. J. and Meller, R. D., "Joint Wave Generation and Order Batching Problem in a Warehouse."
2. Parikh, P. J. and Meller, R. D., "Analyzing the Effect of Aisle-Width on Space and Throughput in Distribution Centers."
3. Parikh, P. J., "A Model for Designing Storage Racks in a Distribution Center."
4. Parikh, P. J., "Consolidation Opportunities in Parcel Delivery Transportation Systems."

Referred Conference Proceedings

1. Ellis, K. P., Meller, R. D., Wilck J., Parikh, P. J., and Marchand, F. (2008), "Material Flow Design for Assembly Operations," *to appear in Progress in Material Handling Research*, Material Handling Industry of America, Charlotte, NC.
2. Parikh, P. J. and Meller, R. D. (2007), "Modeling Pick-Face Blocking in Order Picking Systems," *in Proceedings of Industrial Engineering Research Conference*, May 19-23, Nashville, TN.
3. Meller, R. D. and Parikh, P. J. (2006), "The Effect of Batching Orders on Workload-Imbalance in Order Picking Systems," *in Proceedings of International Material Handling Research Colloquium (IMHRC)*, June 11-15, Salt Lake City, Utah.
4. Parikh, P. J. and Meller, R. D. (2005), "Stochastic Models for a Manual Pick-to-Belt Order Picking System," *in Proceedings of 2005 Industrial Engineering Research Conference*, May 14-18, Atlanta, GA, pp. 1-6 (CD proceedings).
5. Parikh, P. J., Lin, C. H., and Lam, S. S. Y. (2002), "Approximating the Forward Kinematics Solution of a Stewart Platform Using Two Concepts in Neural Networks," *in Intelligent Engineering Systems Through Artificial Neural Networks: Smart Engineering System Design: Neural Networks, Fuzzy Logic, Evolutionary Programming, Complex Systems and Artificial Life, Vol. 12 (Dagli et al., editors)*, ASME Press, pp. 847-852.

GRANT PARTICIPATION

1. *Collaborative Research: Designing Distribution Centers for a Service Economy* (PI: Russell D. Meller; Participant: Pratik J. Parikh) — a three-year grant awarded in the amount of \$238,797 by the NSF-CMMI-SEE program (#0600671).
2. *Evaluating a Business Case for RFID Implementation* (PI: Kevin D. Creehan; Co-PI: Russell D. Meller; Participant: Pratik J. Parikh) — a one-year Center-Designated Project (Jul '05 - Jun '06) awarded in the amount of \$41,231 by the Center for High Performance Manufacturing, Virginia Tech.
3. *Setting up an RFID Test Facility in the Center of High Performance Manufacturing* (PIs: Russell D. Meller, Rohith Kori, and Pratik J. Parikh) — a one-half year grant (Nov '05 - Apr '05) awarded in the amount of \$10,375 from the Center for High Performance Manufacturing, Virginia Tech.

INTELLECTUAL PROPERTY DISCLOSURES

1. *Offset Aisle Design for Distribution Centers* — disclosure (UAF ID # 06-29) submitted to University of Arkansas in Apr 2006 (with Kevin R. Gue and Russell D. Meller).
2. *Dual-Purpose Belt Conveyor* — disclosure (VTIP 04.033) submitted to Virginia Tech Intellectual Properties in Feb 2004 (with Russell D. Meller).

PRESENTATIONS

1. Parikh, P. J. and Meller, R. D. (2006), “The Distribution Center Batch versus Zone Problem,” 2006 Industrial Engineering Research Conference, Orlando, FL, May 20-24.
2. Parikh, P. J. (2006), “Order Picking System Design in Distribution Centers - II,” Center for Engineering Logistics and Distribution (CELDi) meeting, Orlando, FL, April 18-19.
3. Parikh, P. J. and Meller, R. D. (2005), “Modeling the Pick-Face Blocking Phenomenon in a Batch Picking System,” INFORMS, San Francisco, CA, November 13-16.
4. Parikh, P. J. (2005), “Order Picking System Design in Distribution Centers - I,” Center for Engineering Logistics and Distribution (CELDi) meeting, Louisville, KY, November 8-9.

INVITED LECTURES/SEMINARS

1. “Configuring Storage System in a Distribution Center,” Department of Biomedical, Industrial and Human Factors Engineering, Wright State University, Dayton, OH (Feb 2009).
2. “Designing Distribution Centers for Supply Chains,” Department of Biomedical, Industrial and Human Factors Engineering, Wright State University, Dayton, OH (Oct 2008).
3. “Supply Chain Planning and Execution – II,” The H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, Atlanta, GA (Apr 2008).
4. “Supply Chain Planning and Execution – I,” The H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, Atlanta, GA (Nov 2007).
5. “A Facility Logistics Problem: Design of Order Picking Systems for Distribution Centers,” INFORMS chapter, Virginia Polytechnic Institute and State University, Blacksburg, VA (Sep 2006).
6. “A Facility Logistics Problem: Design of Order Picking Systems in a Distribution Center,” Department of Industrial Engineering, University of Louisville, Louisville, KY (Apr 2006).
7. “Facility Logistics,” Department of Engineering Technology, Northern Illinois University, Dekalb, IL (Feb 2006).
8. “Auto-ID Applications in Supply Chain Management,” Grado Department of Industrial and Systems Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA (Mar 2005).

HONORS AND AWARDS

1. Listed in the 2009 edition of Who's Who in America
2. Listed in the 9th ('06 -'07) and 10th ('08 -'09) editions of Who's Who in Science and Engineering
3. Nominated by the Grado Department of Industrial & Systems Engineering at Virginia Tech to attend the doctoral colloquium at the Industrial Engineering Research Conference in Orlando, FL (May 20, '06)
4. Material Handling Education Foundation, Inc. - Logistics Execution Systems Association Fellowship (Aug '04 - Jul '05) and J. Sherman McLaughlin Endowed Scholarship (Aug '05 - Jul '06), Material Handling Industry of America, Charlotte, NC
5. Dover Endowed Fellowship, Grado Department of Industrial & Systems Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA (Aug '04 - Jul '05)
6. Dr. Bhagwan Gajwani Fellowship for pursuing graduate studies at Binghamton University (S.U.N.Y.) (Aug '01 - Dec '02)
7. Four first-place and one second-place awards during undergraduate technical paper symposiums at BITS-Pilani and The M. S. University of Baroda in India (Mar '00, May '00, and Mar '01)

REVIEWER

1. *IIE Transactions*
2. *European Journal of Operations Research*
3. *International Journal of Production Research*
4. *International Journal of Production Economics*
5. *International Journal of Advanced Manufacturing Technology*
6. *International Journal of Operations and Production Management*
7. *Proceedings of Industrial Engineering Research Conference*

PROFESSIONAL AFFILIATIONS

1. Member, Institute of Industrial Engineers
2. Member, Institute for Operations Research and the Management Sciences