BIOGRAPHICAL SKETCH: MANOJ K. JHA

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Education and Training

Dr. Manoj K. Jha is Associate Professor of Civil Engineering and Director of the Center for Advanced Transportation and Infrastructure Engineering Research at Morgan State University. His education and post-doctoral training are as follows:

6/91 B.E. (Mechanical Engineering) National Institute of Technology, Durgapur, India
5/93 M.S. (Mechanical Engineering) Old Dominion University
8/93-5/94 Doctoral Work, Mechanical Engineering, Rensselaer Polytechnic Institute
5/00 Ph.D. (Civil Engineering-Transportation) University of Maryland, College Park
6/00-7/01 Part-time Post Doc. Research with Prof. Dusan Teodorovic, Virginia Tech. (Falls Church Campus)

Dr. Jha's research interests are in Bayesian Network Application for Assessing Impacts of Extreme Events, Game Theoretic Modeling under Uncertainty, Highway Design Optimization and Visualization, Highway Maintenance, Geographic Information Systems, and Image Processing. He is a two-time winner of the United Negro College Fund Special Programs/Department of Defense (UNCFSP/DoD) Faculty Development Award. He was a summer research fellow at the Study of Terrorism and Responses to Terrorism (START) Center of Excellence at the University of Maryland, College Park funded by the Department of Homeland Security. He has served as a PI, Co-PI, or collaborator with other researchers on numerous research projects totaling over $4 M. The key sponsoring agencies of his research projects include Army Research Lab., Maryland State Highway Administration, Federal Highway Administration, NSF, City of Baltimore, and several Baltimore area consulting firms.

Dr. Jha has authored (or co-authored) more than 70 articles in journals, books, and conference proceedings in the highway design, optimization, and transportation literature. He has also co-authored 2 books on road design.

Research and Professional Experience

2006-present	Associate Professor and Director, Center for Adv. Transp. & Infra. Eng. Res., Dept. of Civil Engineering, Morgan State University
2001-2006	Assistant Professor, Dept. of Civil Engineering, Morgan State University
1994-2001	Transportation Engineer, Maryland State Highway Administration
1993-1994	Graduate Research Assistant, Rensselaer Polytechnic Institute
Summer 1994	Summer Intern, MetLife, Troy, NY
1991-1993	Graduate Research Assistant, Old Dominion University

Awards

For his scholastic and research achievements Dr. Jha has received several awards, among which are the 2005 and 2006 UNCFSP/DoD Faculty Development Award, 2005 DHS Summer Faculty Research award by the START Center, University of Maryland, College Park, and 2005 NSF-PASI-TS (National Science Foundation's Pan-American Advanced Study Institute on Transportation Sciences) award by the Rensselaer Polytechnic Institute. He is a registered Professional Engineer in the State of Maryland since 1997.

Selected Publications

Jha, M.K. (2007, in press). A Dynamic Bayesian Network for Predicting the Likelihood of a Terrorist Attack at Critical Transportation Infrastructure Facilities, *Journal of Infrastructure Systems.*

Jha, M.K., P. Schonfeld, and S. Samanta (2007). Optimizing Transit Rail Routes with Genetic Algorithms and GIS, *Journal of Urban Planning and Development,* 133(3), 161-171.

Jha, M.K. and A. Maji (2007). A Multi-Objective Genetic Algorithm for Optimizing Highway Alignments, proceedings of the 2007 *IEEE Symposium on Computational Intelligence in Multi-Criteria Decision-Making (MCDM 2007*), 261-266.

Jha, M.K. (2006). Applying Bayesian Networks to Assess Vulnerability of Critical Transportation Infrastructure, in *Applications of Advanced Technology in Transportation (AATT),* pp. 1-5, Wang, K.C. et al. (eds.), ASCE Press, Reston, VA, ISBN: 0-7844-0799-1, 872 pp.

Jha, M.K. and O. Marroquin (2006). A Dynamic Bayesian Network for Hurricane Planning and Preparedness, proceedings of the *Seventh International Congress on Advances in Civil Engineering,* October11-13, 2006, Yildiz Technical University, Istanbul, Turkey.

Kikuchi, S. and M.K. **Jha** (2006). A Communicative Approach in Adjustment of Values, proceedings of the Workshop on *Artificial Intelligence and Data Mining, INFORMS Sections on Artificial Intelligence and Data Mining,* Pittsburgh, PA, Oct. 2006.

Kim, E., M.K. **Jha**, P. Schonfeld, and H.-S. Kim (2007). Highway Alignment Optimization Incorporating Bridges and Tunnels, *Journal of Transportation Engineering,* 133(2), 71-81.

Jha, M.K., P. Schonfeld, J.-C. Jong, and E. Kim (2006). *Intelligent Road Design*, WIT Press, SouthHampton, UK, ISBN: 1-84564-003-9, 448 pp.

Jha, M.K. and J. Abdullah (2006). A Markovian Approach for Optimizing Highway Life-Cycle with Genetic Algorithms by Considering Maintenance of Roadside Appurtenances, *Journal of the Franklin Institute,* 343, 404-419.

Jha, M.K. (2006). Feasibility of Computer Visualization in Highway Development: A Fuzzy Logic-Based Approach, *Computer-Aided Civil and Infrastructure Engineering,* 21(2), 136-147.

Synergistic Activities

1. Dr. Jha is the Director of the Center for Advanced Transportation and Infrastructure Engineering Research at the Morgan State University which has over 20 graduate and undergraduate students, 10 affiliated faculty, and a budget of over 1 M.
2. He works in numerous professional committees and societies, including American Society of Civil Engineers' Body of Knowldege-2nd Edition Committee.
3. He is a collaborator on a multi-million dollar Army Research Lab. funded project for developing an Intelligent Decision Support System to combat Iraqi insurgency and a NSF funded Center for Computer-Integrated Surgical Systems and Technology led by the Johns Hopkins University, and Carnegie Mellon University and MIT as partner institutions.

Collaborators and Other Affiliations

Recent Collaborators: P. Schonfeld and D. Lovell (Univ. of MD), M. Karlaftis (N.T.U., Athens), Jyh-Cherng Jong, (Sinotech Engineering Consultants, Inc., Taiwan), Eungcheol Kim (University of Incheon, South Korea), W. Kuhn (Univ. of Leipzig, Germany), S. Kikuchi (Virginia Tech.)

Advisors: Graduate advisors: Paul Schonfeld, D. Lovell. (Univ. of MD), S. N. Tiwari (Old Dominion Univ.)

Advisees:

PhD: C. Davis (now faculty with Virginia State University), J. Abdullah (now with City of Baltimore), and 12 current students; Masters: 4 graduated, and 5 current students.