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## ARTYOM G. NAHAPETYAN, AVP - Research & Development

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Artyom Nahapetyan is Assistant Vice President of Research & Development at Innovative Scheduling. Artyom holds a B.S. in Mathematics from Yerevan State University, a M.S. in Mathematics from Yerevan State Engineering University, and a M.S. in Industrial and Systems Engineering from American University of Armenia. He earned his Ph.D. in Industrial and Systems Engineering from the University of Florida, Gainesville.

Artyom's research interests include network flow problems with nonlinear cost functions and user equilibrium problems arising in network design, routing, traffic assignment, multi-commodity multi-mode transportation systems, supply-chain management, and logistics. Prior to joining the company, Artyom worked for several years at a software company, where he was involved in several projects for large clients including Toshiba, Fujitsu, and IBM. Artyom has also developed inventory control systems used by several warehouses in Armenia.

At Innovative Scheduling, Artyom is taking a lead role in developing several software products including a real-time locomotive assignment system, a simulation decision support system for locomotive assignment, and network planning and execution systems for trucking companies.



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### PROFESSIONAL EXPERTISE

- Mathematical modeling of network flows, traffic assignment, transportation and logistics business problems
- Deep insight into cutting plane, branch and cut, continuous approximation and meta-heuristic techniques to solve linear, mixed, integer, nonlinear, and global optimization problems
- Considerable experience in C++, C#, SQL, GAMS, CPLEX, and Concert Technology
- Proficient in VB, Java, and Matlab
- Considerable experience in using SQL Server and Oracle databases.

### SELECTED PAPERS

- “Discrete-time Dynamic Traffic Assignment Model with Periodic Planning Horizon: System Optimum,” A. Nahapetyan and S. Lawphongpanich, *Journal of Global Optimization* 38 (2007), 41-60.
- “A Bilinear Relaxation Based Algorithm for Concave Piecewise Linear Network Flow Problem,” A. Nahapetyan and P. Pardalos, *Journal of Industrial and Management Optimization* 3 (2007), 71-85.
- “Adaptive Dynamic Cost Updating Procedure for Solving Fixed Charge Network Flow Problems,” A. Nahapetyan and P. Pardalos, *Computational Optimization and Applications* 39 (2007), 37-50.

### SELECTED PROJECTS

- Equipment distribution planning for an intermodal company
- Network planning decision support system for a trucking company
- Toll pricing framework for dynamic traffic control systems
- Heuristic algorithms for several supply chain management problems
- Decision support system for locomotive shop router
- Algorithms for railroad curfew planning
- Simulation-based decision support system for locomotive planning