

# NSF Symposium on Supply Chain Management in Process Industries

## Final Program

Thursday, May 6, 2004

Walter Library  
University of Minnesota  
Minneapolis, MN 55455

**8:00 - 8:30**    **Breakfast and Registration**

**8:30 - 8:45**    **Opening Welcomes**

**Saif Benjaafar**, Professor and Director, Center for Supply Chain Research, University of Minnesota

**Peter McMurry**, Professor and Head, Department of Mechanical Engineering, University of Minnesota

**8:45 - 9:45**    **KEYNOTE**

**Strategic Issues in Process Industries: Supply Chain Design, Location, Capacity and Planning**

**Uday Karmarkar**, LA Times Professor of Technology and Management Strategy, Anderson Graduate School of Management, University of California Los Angeles

**9:45 - 10:00**    **Coffee Break**

**10:00 - 12:00**    **SESSION I: OPTIMIZATION**

*Chair: Jan Fransoo*

**Global Optimization in Supply Chain Management**

**Nick Sahinidis**, Professor, Department of Chemical Engineering, University of Illinois Urbana-Champaign

**MILP Approaches to Supply Network Planning in the Chemical and Pharmaceutical Industries**

**Martin Grunow**, Assistant Professor, Technical University of Berlin

**Integrated Planning and Scheduling for the Process Industry: A Cutting-Planes Approach**

**Lisa Miller**, Assistant Professor, Department of Mechanical Engineering, University of Minnesota (joint work with **S. Benjaafar** and **F. Gaglioppa**)

**Optimal Solution Range Analysis in Production Planning: Refinery Feedstock Selection**

**Dimitrios Varvarezos**, Senior Technologist, AspenTech

12:00 - 1:30 **Lunch**

1:30 - 3:30 **SESSION II: COPING WITH UNCERTAINTY**

*Chair: Uday Karmarkar*

**Real Options in Process Industry Supply Chain Management**

**John Birge**, Dean, Robert R. McCormick School of Engineering and Applied Science, Northwestern University

**What Does Stochastic Programming Offer Decision Makers in Process Industries?**

**Suvrajeet Sen**, Program Director, National Science Foundation; and Professor, University of Arizona

**Supply Chain Network Design Under Uncertainty**

**Shabbir Ahmed**, Assistant Professor, Department of Industrial and Systems Engineering, Georgia Tech (joint work with **T. Santoso**, **M. Goetschalckx** and **A. Shapiro**)

**An Analytical Framework for the Management of Risk in Supply Chain Networks**

**N. Vishwanadham**, Professor and Deputy Director, Logistics Institute – Asia Pacific, National University of Singapore

3:30 - 4:00 **Coffee Break**

4:00 **PANEL DISCUSSION: Research Challenges and Opportunities in Optimization**

*Chair: Mike Pinedo*

Panelists: **Jan Fransoo**, Professor, Department of Operations Planning & Control, Technische Universiteit Eindhoven

**Marc Goetschalckx**, Industrial & Systems Engineering, Georgia Institute of Technology

**Uday Karmarkar**, LA Times Professor of Technology and Management Strategy, Anderson Graduate School of Management, University of California Los Angeles

**Suvrajeet Sen**, Program Director, National Science Foundation; and Professor, University of Arizona

7:00 **Dinner at the McNamara Alumni Center**

# NSF Symposium on Supply Chain Management in Process Industries

## Final Program

Friday, May 7, 2004

Walter Library  
University of Minnesota  
Minneapolis, MN 55455

8:00 - 8:30 **Breakfast**

8:00 - 10:00 **SESSION III: OPTIMIZATION IN INDUSTRY**

*Chair: Nick Sahinidis*

**Planning and Scheduling in Supply Chains: An Overview of Issues in Practice**

**Mike Pinedo**, Julius Schlesinger Professor of Operations Management, Stern School of Business, New York University (joint work with **S. Kreipl**)

**Research on Logistics and Optimization of the Oil Industry's Downstream Supply Chain Case: World-Wide Crude Supply**

**Marco A. Duran**, Team Leader for Global Supply Chain Logistics and Optimization, Exxon Mobil

**Modeling Blocking Systems with Zero Buffers in Semi-Process Industries. The Brewing Case**

**Nico Vandaele**, Professor, Faculty of Applied Economics University of Antwerp (joint work with **N. Goossens**)

**A Planning Decision Support System for the Float Glass Manufacturing Industry**

**Nicolas Miègeville**, St Gobain & Ecole Centrale Paris (joint work with **Y. Dallery**)

10:00 - 10:30 **Coffee Break**

10:30 - 12:00 **SESSION IV: SUPPLY CHAIN MANAGEMENT I**

*Chair: John Birge*

**Regression Models for Capacity Planning in Multipurpose Batch Chemical Plants**

**Jan Fransoo**, Professor, Department of Operations Planning & Control, Technische Universiteit Eindhoven

**Manufacturing Capacity Management in Process Industries**

**Diwakar Gupta**, Professor, University of Minnesota

**Impact of Resource Allocation Decisions in Supply Chain Networks**  
Seza Orcun, Purdue University (joint with **J. Pekny** and **R. Uzsoy**)

**12:00 - 1:30**    **Lunch**

**1:30 - 3:00**    **SESSION V: SUPPLY CHAIN MANAGEMENT II**

*Chair: Marco Duran*

**Contingency Planning in Hybrid Seed Corn Preparation**

**Philip Jones**, Sylvia and Clement T. Hanson Professor of Manufacturing Productivity, Tippie College of Business, University of Iowa (joint work with **T.J. Lowe**)

**Dynamic Programming in a Heuristically Confined State Space:  
Stochastic Supply Chain Management**

**Matthew J. Realf**, Associate Professor, School Of Chemical Engineering, Georgia Tech (joint work with **J. Choi** and **J.H. Lee**)

**The Value of Stable Production Cycles and Advanced Demand  
Information in the Presence of Significant Changeovers and Demand  
Uncertainty**

**James A. Rappold**, Assistant Professor, School of Business and the College of Engineering, University of Wisconsin-Madison (joint work with **K.D. Yoho**)

**3:00 - 3:30**    **Coffee Break**

**3:30 - 4:30**    **PANEL DISCUSSION: Research Challenges and Opportunities in Supply  
Chain Management**

*Chair: Diwakar Gupta*

Panelists: **Beth Allen**, Professor of Economics, Department of Economics, University of Minnesota

**John Birge**, Dean, Robert R. McCormick School of Engineering and Applied Science, Northwestern University

**Marco Duran**, Team Leader for Global Supply Chain Logistics and Optimization, Exxon Mobil

**Nick Sahinidis**, Professor, Department of Chemical Engineering, University of Illinois Urbana-Champaign

**4:30**            **Symposium Wrap Up**

**Saif Benjaafar**, Professor and Director, Center for Supply Chain Research, University of Minnesota