I. Introduction to the Special Issue by the Editors

1. Current Research on Networked Control Systems---A Survey
P.J. Antsaklis, Notre Dame University
J. Baillieul, Boston University

II. Current State of the Technology

1. The Emergence of Industrial Control Networks for Manufacturing Control, Diagnostics and Safety Data
J. R. Moyne and D. M. Tilbury, The University of Michigan

2. Collective Motion, Sensor Networks and Ocean Sampling
Naomi Ehrich Leonard, Derek A. Paley, Francois Lekien, Mechanical and Aerospace Engineering, Princeton University
David m. Fratantoni, Woods Hole Oceanographic Institution
Rodolphe Sepulchre, Electrical Eng. and Computer Science, Universite de Liege
Russ E. Davis, Scripps Institution of Oceanography

3. Control of Large Scale Irrigation Networks
Michael Cantoni, Erik Weyer, Yuping Li, Su Ki Ooi, Iven Mareels
Department of Electrical and Electronic Engineering, The University of Melbourne, Parkville VIC 3010, Australia
and Matthew Ryan
Rubicon Systems Australia Pty Ltd, P.O. Box 114, Camberwell VIC 3124, Australia

4 Network-Centric Systems for Military Operations in Urban Terrain: The Role of UAVs
John Bay, AirForce Research Laboratory, Rome, NY,
Tariq Samad, and Datta Godbole, Honeywell Laboratories

III. Foundations of Networked Real-Time Systems

1. Feedback Control under Data Rate Constraints: an Overview
Girish N Nair, University of Melbourne, Australia
Fabio Fagnani, Politecnico di Torino
Sandro Zampieri, Universiti' di Padova, Italy
Robin J Evans, University of Melbourne, Australia

2. A Survey of Recent Results in Networked Control Systems
Joao P. Hespanha, Payam Naghshtabrizi, Yonggang Xu,
Dept. of Electrical and Computer Engineering, University of California at Santa Barbara

3. Foundations of Control and Estimation over Lossy Networks
Luca Schenato, University of Padova

Bruno Sinopoli, Department of Electrical Engineering, UC Berkeley
Massimo Franceschetti, Dept of Electrical and Computer Engineering, UC San Diego
Kameshwar Poolla and Shankar Sastry, Department of Electrical Engineering, UC Berkeley

4. Bio-inspired formation sensing with a network of visual sensors
B. K. Ghosh, A.D. Polpitiya and W. Wang
Department of Electrical and Systems Engineering, Washington University

5. Consensus and Cooperation in Networked Multi-Agent Systems
Reza Olfati Saber, Dartmouth College
J. Alexander Fax Northrop Grumman
and Richard M. Murray, California Institute of Technology

IV. Wireless Networks --- the Backbone of Networked Control Systems

1. Tracking and coordination of multiple agents using sensor networks: system design, algorithms and experiments
Songhwai Oh, Department of Electrical Engineering, UC Berkeley
Luca Schenato, University of Padova
Phoebus Chen and Shankar Sastry, Department of Electrical Engineering, UC Berkeley

2. Layering as Optimization Decomposition
Mung Chiang, Princeton University
Steven H. Low, Caltech
Robert A. Calderbank, Princeton University
John Doyle, Caltech