

# Table of Contents

---

## I Introduction

---

Balancing Reactivity and Social Deliberation in Multi-Agent Systems – A Short Guide to the Contributions .....	3
<i>Markus Hannebauer, Jan Wendler, Enrico Pagello</i>	
Reactivity and Deliberation: A Survey on Multi-Robot Systems .....	9
<i>Luca Iocchi, Daniele Nardi, Massimiliano Salerno</i>	

---

## II Architectures and Frameworks

---

Bridging Deliberation and Reactivity in Cooperative Multi-Robot Systems through Map Focus .....	35
<i>Stefano Carpin, Carlo Ferrari, Enrico Pagello, Pierluigi Patuelli</i>	
Balancing between Reactivity and Deliberation in the ICAGENT Framework .....	53
<i>Vangelis Kourakos Mavromichalis, George A. Vouros</i>	
On Augmenting Reactivity with Deliberation in a Controlled Manner .....	76
<i>Jacek Malec</i>	
HAC: A Unified View of Reactive and Deliberative Activity .....	92
<i>Marc S. Atkin, David L. Westbrook, Paul R. Cohen</i>	

---

## III Enhanced Reactivity

---

Team Cooperation Using Dual Dynamics .....	111
<i>Ansgar Bredenfeld, Hans-Ulrich Kobiakka</i>	
A Hierarchy of Reactive Behaviors Handles Complexity .....	125
<i>Sven Behnke, Raúl Rojas</i>	
Reinforcement Learning for Cooperating and Communicating Reactive Agents in Electrical Power Grids .....	137
<i>Martin Riedmiller, Andrew Moore, Jeff Schneider</i>	
Being Reactive by Exchanging Roles: An Empirical Study .....	150
<i>Olivier Sigaud, Pierre Gérard</i>	

---

**IV    Controlled Social Deliberation**

---

Situation Based Strategic Positioning for Coordinating a Team  
of Homogeneous Agents ..... 175  
*Luís Paulo Reis, Nuno Lau, Eugénio Costa Oliveira*

Deliberation Levels in Theoretic-Decision Approaches for Task Allocation  
in Resource-Bounded Agents ..... 198  
*Maroua Bouzid, Hossam Hanna and Abdel-illah Mouaddib*

Cognition, Sociability, and Constraints ..... 217  
*Gerhard Weiß*

**Author Index ..... 237**

Balancing Reactivity and Social Deliberation in  
Multi-Agent Systems

From RoboCup to Real-World Applications

Hannebauer, M.; Wendler, J.; Pagello, E. (Eds.)

2001, VIII, 244 p., Softcover

ISBN: 978-3-540-42327-0