1.	Record Nr.	UNINA9910813424503321
	Autore	Dunin-K#eplicz Barbara
	Titolo	Teamwork in multi-agent systems : a formal approach / / Barbara Dunin-Keplicz, Rineke Verbrugge
	Pubbl/distr/stampa	Hoboken, New Jersey : , : John Wiley, , 2010 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2010]
	ISBN	1-119-95760-5 1-282-69074-4 9786612690747 0-470-66523-8 0-470-66518-1
	Descrizione fisica	1 online resource (246 p.)
	Collana	Wiley series in agent technology
	Classificazione	85.03
	Altri autori (Persone)	VerbruggeRineke
	Disciplina	006.3
	Soggetti	Intelligent agents (Computer software) Formal methods (Computer science) Artificial intelligence
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	About the Authors -- Foreword -- Preface -- 1 Teamwork in Multi-Agent Environments -- 1.1 Autonomous Agents -- 1.2 Multi-Agent Environments as a Pinnacle of Interdisciplinarity -- 1.3 Why Teams of Agents? -- 1.4 The Many Flavors of Cooperation -- 1.5 Agents with Beliefs, Goals and Intentions -- 1.6 From Individuals to Groups -- 1.7 Group Attitudes -- 1.8 A Logical View on Teamwork: TEAMLOG -- 1.9 Teamwork in Times of Change -- 1.10 Our Agents are Planners -- 1.11 Temporal or Dynamic? -- 1.12 From Real-World Data to Teamwork -- 1.13 How Complex are Models of Teamwork? -- 2 Beliefs in Groups -- 2.1 Awareness is a Vital Ingredient of Teamwork -- 2.2 Perception and Beliefs -- 2.3 Language and Models for Beliefs -- 2.4 Axioms for Beliefs -- 2.5 Axioms for Knowledge -- 2.6 Relations between Knowledge and Belief -- 2.7 Levels of Agents' Awareness -- 3 Collective Intentions -- 3.1 Intentions in Practical Reasoning -- 3.2 Language and Models for Goals and Intentions -- 3.3 Goals and Intentions of Individual Agents -- 3.4 Collective Intention Constitutes a

Sommario/riassunto	What makes teamwork tick? Cooperation matters, in daily life and in complex applications. After all, many tasks need more than a single agent to be effectively performed. Therefore, teamwork rules! Teams are social groups of agents dedicated to the fulfilment of particular persistent tasks. In modern multiagent environments, heterogeneous teams often consist of autonomous software agents, various types of robots and human beings. Teamwork in Multi-agent Systems: A Formal Approach explains teamwork rules in terms of agents' attitudes and their complex interplay. It provides the first comprehensive logical theory, TeamLog, underpinning teamwork in dynamic environments. The authors justify design choices by showing TeamLog in action. The book guides the reader through a fascinating discussion of issues essential for teamwork to be successful: . What is teamwork, and how can a logical view of it help in designing teams of agents?. What is the role of agents' awareness in an uncertain, dynamic environment?. How does collective intention constitute a team?. How are plan-based collective commitments related to team action?. How can one tune collective commitment to the team's organizational structure and its communication abilities?. What are the methodological underpinnings for teamwork in a dynamic environment?. How does a team and its attitudes adjust to changing circumstances?. How do collective intentions and collective commitments arise through dialogue?. What is the computational complexity of TeamLog?. How can one make TeamLog efficient in applications? This book is an invaluable resource for researchers and graduate students in computer science and artificial intelligence as well as for developers of multi-agent systems. Students and researchers in organizational science, in particular those

investigating teamwork, will also find this book insightful. Since the authors made an effort to introduce TeamLog as a conceptual model of teamwork, understanding most of the book requires solely a basic logical background.