Cybernetics And Systems 90

This book is dedicated to Prof. Sadaaki Miyamoto and presents cutting-edge papers in some of the areas in which he contributed. Bringing together contributions by leading researchers in the field, it concretely addresses clustering, multisets, rough sets and fuzzy sets, as well as their applications in areas such as decision-making. The book is divided in four parts, the first of which focuses on clustering and classification. The second part puts the spotlight on multisets, bags, fuzzy bags and other fuzzy extensions, while the third deals with rough sets. Rounding out the coverage, the last part explores fuzzy sets and decision-making.

This book is a concise navigator across the history of cybernetics, its state-of-the-art and prospects. The evolution of cybernetics (from N. Wiener to the present day) and the reasons of its ups and downs are presented. The correlation of cybernetics with the philosophy and methodology of control, as well as with system theory and systems analysis is clearly demonstrated. The book presents a detailed analysis focusing on the modern trends of research in cybernetics. A new development stage of cybernetics (the so-called cybernetics 2.0) is discussed as a science on general regularities of systems organization and control. The author substantiates the topicality of elaborating a new branch of cybernetics, i.e. organization theory which studies an organization as a property, process and system. The book is intended for theoreticians and practitioners, as well as for students, postgraduates and doctoral candidates. In the first place, the target audience includes tutors and lecturers preparing courses on cybernetics, control theory and systems science.

This volume contains all papers presented at the Eighth European Meeting on Cybernetics and Systems Research. 169 draft papers were submitted for evaluation. In the process of careful refereeing, 33 papers were rejected and the remaining authors were invited to submit final papers. Out of these, 119 were accepted for presentation at the conference and publication in this volume. These papers were prepared by 173 scientists, authors and co-authors, from 22 European and non-European countries, with different cultural, social, and economic structures. Everybody tried hard to make this conference and its proceedings a true representation of state-of-the-art research worldwide: The members of the Programme Committee and the Chairmen of the Symposia were selected among the ~internationally leading scientists. Great care was taken not to make this conference a "European" or even "Austrian" one. We are happy and proud to hear that these "European Meetings" (the name is a purely traditional one) are recognized as the internationally leading conferences in cybernetics and systems research. Important scientists from allover the world carefully prepare their papers, containing their most recent research findings, and then enjoy the discussions with their co 11 eagues.

Contents:How Many "Demons" Do We Need? Endophysical Self-Creation of Material Structures and the Exophysical Mystery of Universal Libraries (G Kampis & O E Rössler)Some Implications of Re-Interpretation of the Turing Test for Cognitive Science and Artificial Intelligence (G Werner)Why Economic Forecasts will be Overtaken by the Facts (J D M Kruisinga)Simulation Methods in Peace and Conflict Research (F Breitenecker et al)Software Development Paradigms: A Unifying Concept (G Chroust)Hybrid Hierarchies: A Love-Hate Relationship Between ISA and SUPERC (D Castelfranchi & D D'Aloisi)AI for Social Citizenship: Towards an Anthropocentric Technology (K S Gill)Organizational Cybernetics and Large Scale Social Reforms in the Context of Ongoing Developments (E Bekjarov & A Athanassov)China's Economic Reform and its Obstacles: Challenges to a Large-Scale Social Experiment (J Hu & X Sun)Comparing Conceptual Systems: A Strategy for Changing Values as well as Institutions (S A Umpleby)and other Readership: Researchers in the fields of cybernetics and systems, artificial intelligence, economics and mathematicians.

Cybernetics and Development deals with the ways in which growing and developing biological systems control themselves during development. It is a preliminary attempt to apply some of the insights and techniques of cybernetics to the problem of understanding such development and its control. The book begins with a discussion of the nature of cybernetics and its methods. Separate chapters cover the use of cybernetics in the field of biological development; previous work in the area of cybernetics related to autonomous regulation; and the application of information theory to development. Subsequent chapters present models of development. These include computer programs which continually replicate themselves and control the resulting development; growing automata nets as models of development; and a method that allows a system to control the relative sizes of its parts during development and afterwards during regeneration. This book provides enough background material to make it understandable both to the biologist with little knowledge of cybernetics and the cybernetician with no great knowledge of developmental biology.

This book presents a biographical history of the field of systems thinking, by examining the life and work of thirty of its major thinkers. It discusses each thinker's key contributions, the way this contribution was expressed in practice and the relationship between their life and ideas. This discussion is supported by an extract from the thinker's own writing, to give a flavour of their work and to give readers a sense of which thinkers are most relevant to their own interests.

International Series of Monographs in Pure and Applied Biology: Zoology
Self-Adaptive Software
Cybernetics
Proceedings of the Eighth European Meeting on Cybernetics and Systems Research, organized by the Austrian Society for Cybernetic Studies, held at the University of Vienna, Austria, 1–4 April 1986
International Journal of Systems and Society (IJSS).
Proceedings of the 4th International ISKE Conference, Hasselt, Belgium, 27-28 November 2008
Fuzzy Logic
Critical and Systemic Implications for Democracy
Intelligent Decision Making Systems
Reflections on Constraints and Derivations
Improving Decision-Making and Cost Efficiency in Business and Commercial Environments
Directory of Published Proceedings
Modern Trends in Cybernetics and Systems: Proceedings of official and other meetings, exhibitions, symposia and Section 1 Economic cybernetic systems and management

Risto Miikkulainen draws on recent connectionist work in language comprehension tocreate a model that can understand natural language. Using the DISCERN system as an example, hedescribes a general approach to building high-level cognitive models from distributed neuralnetworks and shows how the special properties of such networks are useful in modeling humanperformance. In this approach connectionist networks are not only plausible models of isolatedcognitive phenomena, but also sufficient constituents for complete artificial intelligencesystems.Distributed neural networks have been very successful in modeling isolated cognitivephenomena, but complex high-level behavior has been tractable only with symbolic artificialintelligence techniques. Aiming to bridge this gap, Miikkulainen describes DISCERN, a completenatural language processing system implemented entirely at the subsymbolic level. In DISCERN,distributed neural network models of parsing, generating, reasoning, lexical processing, andepisodic memory are integrated into a single system that learns to read, paraphrase, and answerquestions about stereotypical narratives.Miikkulainen's work, which includes a comprehensive surveyof the connectionist literature related to natural language processing, will prove especiallyvaluable to researchers interested in practical techniques for high-level representation,inferencing, memory modeling, and modular connectionist architectures.Risto Miikkulainen is anAssistant Professor in the Department of Computer Sciences at The University of Texas atAustin.

The 18 revised full papers presented in this book together with an introductory survey were carefully reviewed and constitute the documentation of the Second International Workshop on Self-adaptive Software, IWSAS 2001, held in Balatonfüred, Hungary in May 2001. Self-adaptive software evaluates its own behavior and changes it when the evaluation indicates that the software does not accomplish what it is intended to do or when better functionality or better performance is possible. The self-adaptive approach in software engineering builds on well known dynamic features familiar to Lisp or Java programmes and aims at improving the robustness of software systems by gradually adding new features of self-adaption or autonomy.

Complexity and Complex Chemo-Electric Systems presents an analysis and synthesis of chemo-electric systems, providing insights on transports in electrolytes, electrode reactions, electrocatalysis, electrochemical membranes, and various aspects of heterogeneous systems and electrochemical engineering. The book describes the properties of complexity and complex chemo-electric systems as the consequence of formulations, definitions, tools, solutions and results that are often consistent with the best performance of the system. The book handles cybernetics, systems theory and advanced contemporary techniques such as optimal control, neural networks and stochastic optimizations (adaptive random search, genetic algorithms, and simulated annealing). A brief part of the book is devoted to issues such as various definitions of complexity, hierarchical structures, self-organization examples, special references, and historical issues. This resource complements Sieniutycz recently published book, Complexity and Complex Thermodynamic Systems, with its inclusion of complex chemo-electric systems in which complexities, emergent properties and self-organization play essential roles. Covers the theory and applications of complex chemo-electric systems through modeling, analysis, synthesis and optimization Provides a clear presentation of the applications of transport theory to electrolyte solutions, heterogeneous electrochemical systems, membranes, electro-kinetic phenomena and interface processes Includes numerous explanatory graphs and drawings that illustrate the properties and complexities in complex chemo-electric systems Written by an experienced expert in the field of advanced methods in thermodynamics and related aspects of macroscopic physics

Over the past three decades, phonological theory has advanced in many areas, but it has changed little in its foundational assumptions about how computational processes can serve as a basis for the theory. This volume suggests that it may be worthwhile to reconsider some of those assumptions. Is there an order to the rules in a phonological derivation? What kinds of links other than derivations are possible between the level of mental representation and the level of speech sounds? Since phonological representations are so much more sophisticated today than they were a few decads ago, do we need any phonological rules at all? In this provocative book, leading linguists and computer scientists consider the challenges that computational innovations pose to current rule-based phonological theories and speculate about the advantages of phonological models based on artificial neural networks and other computer designs. The authors offer new conceptions of phonological theory for the 1990s, the most radical of which proposes that phonological processes cannot be characterized by rules at all, but arise from the dynamics of a system of phonological representations in a high-dimensional vector space of the sort that a neural network embodies. This new view of phonology is becoming increasingly attractive to linguists and others in the cognitive sciences because it answers some difficult questions about learning while drawing on recent results in philosophy, psychology, artificial intelligence, and neuroscience. The contributors are John A. Goldsmith, Larry M. Hyman, George Lakoff, K. P. Mohanan, David S. Touretzky, and Deirdre W. Wheeler.

This book gathers the peer-reviewed and revised versions of papers from the Seventh International Conference on Design Computing and Cognition (DCC'16), held at Northwestern University, Evanston (Chicago), USA, from 27–29 June 2016. The material presented here reflects cutting-edge design research with a focus on artificial intelligence, cognitive science and computational theories. The papers are grouped under the following nine headings, describing advances in theory and applications alike and demonstrating the depth and breadth of design computing and design cognition: Design Creativity; Design Cognition - Design Approaches; Design Support; Design Grammars; Design Cognition - Design Behaviors; Design Processes; Design Synthesis; Design Activity and Design Knowledge. The book will be of particular interest to researchers, developers and users of advanced computation in design across all disciplines, and to all readers who need to gain a better understanding of designing.

In the digital era, novel applications and techniques in the realm of computer science are increasing constantly. These innovations have led to new techniques and developments in the field of cybernetics. The Handbook of Research on Applied Cybernetics and Systems Science is an authoritative reference publication for the latest scholarly information on complex concepts of more adaptive and self-regulating systems. Featuring exhaustive coverage on a variety of topics such as infectious disease modeling, clinical imaging, and computational modeling, this publication is an ideal source for researchers and students in the field of computer science seeking emerging trends in computer science and computational mathematics.

Fuzzy If-Then Rules in Computational Intelligence
Proceedings of the Tenth European Meeting on Cybernetics and Systems Research
Advances in Theory and Applications
Theory and Applications
An Introduction to Cybernetic Synergy
Cybernetics And Systems '94 - Proceedings Of The 12th European Meeting On Cybernetics And Systems Research (In 2 Volumes)
Cybernetics and Systems '90
Artificial Life IV
International Encyclopedia of Systems and Cybernetics
Control and Dynamic Systems V39: Advances in Robotic Systems Part 1 of 2
Proceedings of the NATO Advanced Research Workshop on Comprehensive Systems Design: A New Educational Technology, held in Pacific Grove, California, December 2–7, 1990
Fuzzy Sets and Interactive Multiobjective Optimization
Systems Thinkers

Educational technology in the broadest sense is knowledge and competence forimproving the educational process: for using hardware (equipment), software (methods), and "underware" (underlying organizational structures). This volume in the Special Programme on Advanced Educational Technology presents the results of a NATO Advanced Research Workshop on educational systems design as a new educational technology. The objective of the workshop was toadvance our knowledge about the comprehensive systems design approach for improving educational systems. The workshop was organized for the transdisciplinary interaction of three scientific groups representing design science, organizational/systems science, and educationaltechnology. Participants were selected based on their scholarship as members of one or more of these three groups. The book opens with theframing papers sent by the editors to participants prior to the workshop, then presents five sets of thematic contributions: the conceptual and empirical contexts of comprehensive systems design, the systems design focus, a systems view of designing educational systems, the educational context of systems design, and high technology focus in systems design.

Cybernetics and Systems Theory in Management: Tools, Views, and Advancements provides new models and insights into how to develop, test, and apply more effective decision-making and ethical practices in an organizational setting.

Fuzzy sets were introduced by Zadeh (1965) as a means of representing and manipulating data that was not precise, but rather fuzzy. Fuzzy logic pro vides an inference morphology that enables approximate human reasoning capabilities to be applied to knowledge-based systems. The theory of fuzzy logic provides a mathematical strength to capture the uncertainties associ ated with human cognitive processes, such as thinking and reasoning. The conventional approaches to knowledge representation lack the means for rep resentating the meaning of fuzzy concepts. As a consequence, the approaches based on first order logic and classical probablity theory do not provide an appropriate conceptual framework for dealing with the representation of com monsense knowledge, since such knowledge is by its nature both lexically imprecise and noncategorical. The developement of fuzzy logic was motivated in large measure by the need for a conceptual framework which can address the issue of uncertainty and lexical imprecision. Some of the essential characteristics of fuzzy logic relate to the following [242]. • In fuzzy logic, exact reasoning is viewed as a limiting case of ap proximate reasoning. • In fuzzy logic, everything is a matter of degree. • In fuzzy logic, knowledge is interpreted a collection of elastic or, equivalently, fuzzy constraint on a collection of variables. • Inference is viewed as a process of propagation of elastic con straints. • Any logical system can be fuzzified. There are two main characteristics of fuzzy systems that give them better performance für specific applications.

Contributed papers.

This book brings together contributions to the Fourth Artificial Life Workshop, heldat the Massachusetts Institute of Technology in the summer of 1994.

Rescuing the Enlightenment from Itself: Critical and Systemic Implications for Democracy presents papers that make the case that good governance is about thinking and practice that can lead to a better balance of social, cultural, political, economic and environmental concerns to ensure a sustainable future for ourselves and for future generations. The work is inspired by the thinking of C. West Churchman and forms the first volume in a new series: C. West Churchman's Legacy and Related Works. The book features contributions from a range of invited authors including Russell L. Ackoff, Ken Bausch, John van Gigch and Norma Romm. The volume is aimed at academics, post-graduate students and members of professional associations working in the fields of systems sciences, public policy and management, politics, and international relations.

Fuzzy Sets, Rough Sets, Multisets and Clustering
Multicriteria Analysis
Complexity and Complex Chemo-Electric Systems
Comprehensive Systems Design: A New Educational Technology
Introduction to Neuro-Fuzzy Systems
Managing Knowledge for Design, Planning and Decision Making
Cybernetics and Systems '86
Cybernetics and Systems Theory in Management: Tools, Views, and Advancements
Advances in Artificial Life
Subsymbolic Natural Language Processing
Current Topics in Cybernetics and Systems
Proceedings of the Tenth European Meeting on Cybernetics and Systems Research, Organized by the Austrian Society for Cybernetic Studies, Held at the University of Vienna, Austria, 17-20 April 1990
Design Computing and Cognition '16

Fuzzy Logic: State of the Art covers a wide range of both theory and applications of fuzzy sets, ranging from mathematical basics, through artificial intelligence, computer management and systems science to engineering applications. Fuzzy Logic will be of interest to researchers working in fuzzy set theory and its applications.

This book is a record of the contents of the papers accepted by the Congress Committee for presentation at the Fourth International Congress of Cybernetics and Systems (Amsterdam, The Netherlands, 21-25 August 1978). Two hundred and forty-five papers from authors from thirty-three countries of all the five continents are included. The papers are presented in an abridged form in order to highlight the main themes and produce a book that is both readable and relatively inexpensive. It was felt that after the publication of the weighty and rather costly form of the Proceedings of the Third International Congress of Cybernetics and Systems held in Bucharest, Romania in 1975 (Modern Trends in Cybernetics and Systems, eds. Rose and Bilciu, W. O. G. S. c. and Springer-Verlag, 1977; 3 volumes about 3500 pages; $150), an abridged but comprehen sive version would be more acceptable to readers. It is worth noting that the full names and addresses of authors are given for each paper, and requests to authors for more information and even full-scale papers would produce a positive response. As a matter of interest, each paper carries, in addition, brief summaries. The papers are arranged in each section or symposium in the alphabetical order of authors' names; this is not necessarily the order of presentation at the Congress.

ISKE2009 is the fourth in a series of conferences on Intelligent Systems and Knowledge Engineering. The ISKE2009 proceedings covers state-of-the-art research and development in various areas of Intelligent Systems and Knowledge Engineering, particularly of Intelligent Decision Making Systems.

The fifteen papers comprising this book were chosen out of the sixty-one contributions to the Symposium and Section on Social Systems held in the context of the Fourth International Congress of Cybernetics and Systems (Amsterdam, The Netherlands, 21-25 August, 1978). These papers, as sembled here on the basis of their topicality, depth and originality, cover a wide range of problems, ranging from 'Societies and Turing machines' to 'Dialectics and catastrophe'. An interesting array of themes is considered by authors from six countries. It is felt that these papers, some of them thought-provoking and of great merit, will cast new light on social problems. Though the contributions consider a wide variety of topics, the underlying trend is apparent in many instances. Of special value is the discussion of the relevance of cybernetics and systems to a wide spectrum of social problems. I think the treatment and the approach adopted by the contributors merit wide attention, since their contributions constitute an appreciable advance in a fairly novel field. 1. ROSE BLACKBURN (U.K.) May, 1978 Acknowledgements First of all, we want to thank the authors for their contributions to these volumes, often produced under severe time pressure. We are particularly indebted to publisher Hans van der Sluijs and desk editor Judy Marcure for their helpful cooperation in having both volumes edited and published on schedule.

The main characteristics of the real-world decision-making problems facing humans today are multidimensional and have multiple objectives including eco nomic, environmental, social, and technical ones. Hence, it seems natural that the consideration of many objectives in the actual decision-making process re quires multiobjective approaches rather than single-objective. One ofthe major systems-analytic multiobjective approaches to decision-making under constraints is multiobjective optimization as a generalization of traditional single-objective optimization. Although multiobjective optimization problems differ from single objective optimization problems only in the plurality of objective functions, it is significant to realize that multiple objectives are often noncom mensurable and conflict with each other in multiobjective optimization problems. With this ob servation, in multiobjective optimization, the notion of Pareto optimality or effi ciency has been introduced instead of the optimality concept for single-objective optimization. However, decisions with Pareto optimality or efficiency are not uniquely determined; the final decision must be selected from among the set of Pareto optimal or efficient solutions. Therefore, the question is, how does one find the preferred point as a compromise or satisficing solution with rational pro cedure? This is the starting point of multiobjective optimization. To be more specific, the aim is to determine how one derives a compromise or satisficing so lution of a decision maker (DM), which well represents the subjective judgments, from a Pareto optimal or an efficient solution set.

This volume contains 71 revised refereed papers, including seven invited surveys, presented during the Third European Conference on Artificial Life, ECAL '95, held in Granada, Spain in June 1995. Originally AL was concerned with applying biologically inspired solutions to technology and with examining computational expertise in order to reproduce and understand life processes. Despite its short history, AL now is becoming a mature scientific field. The volume reports the state of the art in this exciting area of research; there are sections on foundations and epistemology, origins of life and evolution, adaptive and cognitive systems, artificial worlds, robotics and emulation of animal behavior, societies and collective behavior, biocomputing, and applications and common tools.

Handbook of Research on Applied Cybernetics and Systems Science
An actor-oriented social systems approach Vol. 2
Series SEMT: Science/engineering/medicine/technology
Proceedings of the Fourth International Workshop on the Synthesis and Simulation of Living Systems
Recent Advances in Cybernetics and Systems
Modern Trends in Cybernetics and Systems
Tools, Views, and Advancements
Third European Conference on Artificial Life, Granada, Spain, June 4 - 6, 1995 Proceedings
The Last Phonological Rule
Cybernetics and Development
Proceedings of the XIth International Conference on MCDM, 1 – 6 August 1994, Coimbra, Portugal
Sociocybernetics
国立国会図書館所蔵科学技術関係欧文会議録目録

Advances in Robotic Systems, Part 1 shows how the activity in robotic systems has increased significantly over the past decade. Major centers of research and development in robotic systems were established on the international scene, and these became focal points for the brilliant research efforts of many academicians and industrial professionals. The systems aspects of robotics, in general, and of robot control, in particular, are manifested through a number of technical facts. This book comprises 10 chapters, with the first focusing on applications of neural networks to robotics. The following chapters then discuss a unified approach to kinematic modeling, identification and compensation for robot calibration; nonlinear control algorithms in robotic systems; and kinematic and dynamic task space motion planning for robot control. Other chapters cover discrete kinematic modeling techniques in Cartesian space for robotic system; force distribution algorithms for multifingered grippers; frequency analysis for a discrete-time robot system; minimum cost trajectory planning for industrial robots; tactile sensing techniques in robotic systems; and sensor data fusion in robotic systems. This book will be of interest to practitioners in the fields of computer science, systems science, and mathematics.

Cybernetics is about having a goal and taking action to achieve that goal. Knowing whether you have reached your goal (or at least are getting closer to it) requires "feedback", a concept that was made rigorous by cybernetics. The subject of Cybernetic Synergy, although emanating from a socio-economic experiment of economic control by cybernetic means in Chile in the early 1970s, has never been approached as an applied subject in its own right. Indeed, the subject of applied cybernetics has never been addressed as a separate issue, although it has been shown that the overall subject of cybernetics applies to a wide range of disciplines, from biology to business via mathematics and engineering. Cybernetic synergy is the study of relationships and controls of and between corporate entities, on an external basis, and departments within corporate entities, on an internal basis. It concerns the decision-making process, and how decisions can be made based on feedback from any part of the organization being managed. It therefore concerns the issue of input of raw material or information, the output of the transformed information and materials, and the rectification of any issue based on negative feedback related to the productive process. It investigates not only the basic theory of the subject but also its applications in the commercial and business environment, as well as touching on government and administrative issues where shortcomings have emerged owing to a lack of synergy and communication. There are already several books available on the subject to cybernetics, but they are all concerned with mathematical approaches along with very heavy technical texts, most of which are completely alien to the layman or the simple practitioner. Furthermore, other than references to business or economic practice in some books, there has never been a book published purely about the subject of applied cybernetics relating to business practices. The book covers the subjects of management and economic cybernetics, and how the theory of cybernetic control can be used to manage business and government functions, whether small, medium or large. It looks at the history of cybernetics, and how some pioneering cybernetic concepts were used in Chile in the early 1970s to manage the Chilean economy. It uses these same principles, along with later cybernetic models, to show how such concepts can be applied to the present-day economy and business practices. It examines present-day business practices and shows how weaknesses in these systems can be addressed and eliminated by the application of cybernetic practices. The aims of the book are to provide an insight into the subject of management and business cybernetics, using the principle of cybernetic synergy, to resolve intra-corporate issues and create more efficient business practices based on simple command-and-control processes. Essentially, this book provides an in-depth insight into the use of cybernetics in business and administration environments, and would explain how cybernetics is a valuable tool in resolving corporate issues concerning efficiency and overall control. It would give a detailed explanation of the various practices and functions involved in business operations and practices.

During the last three decades, interest has increased significantly in the representation and manipulation of imprecision and uncertainty. Perhaps the most important technique in this area concerns fuzzy logic or the logic of fuzziness initiated by L. A. Zadeh in 1965. Since then, fuzzy logic has been incorporated into many areas of fundamental science and into the applied sciences. More importantly, it has been successful in the areas of expert systems and fuzzy control. The main body of this book consists of so-called IF-THEN rules, on which experts express their knowledge with respect to a certain domain of expertise. Fuzzy IF-THEN Rules in Computational Intelligence: Theory and Applications brings together contributions from leading global specialists who work in the domain of representation and processing of IF-THEN rules. This work gives special attention to fuzzy IF-THEN rules as they are being applied in computational intelligence. Included are theoretical developments and applications related to IF-THEN problems of propositional calculus, fuzzy predicate calculus, implementations of the generalized Modus Ponens, approximate reasoning, data mining and data transformation, techniques for complexity reduction, fuzzy linguistic modeling, large-scale application of fuzzy control, intelligent robotic control, and numerous other systems and practical applications. This book is an essential resource for engineers, mathematicians, and computer scientists working in fuzzy sets, soft computing, and of course, computational intelligence.

J. CIimaco and C. H. Antunes After the pleasure which has been to host the community of researchers and practitioners in the area of multicriteria analysis (MA) in Coimbra in August 1994, this volume of proceedings based on the papers presented at the conference is the last step of that venture. Even though this may not be the appropriate place we cannot resist, however, the temptation to express herein some brief feelings about the conference. Almost everything concerning the conference organisation has been "handcrafted" by a small number of people, with the advantages and disadvantages that this approach generates. Our first word of acknowledgement is of course due to those who have had a permanent and active role in the multiple aspects which make the success of a conference: Maria Joao Alves, Carlos Henggeler Antunes (who is a co author of this introduction since he has closely collaborated with me in the scientific programme), Joao Paulo Costa, Luis Dias (who greatly contributed to the organisation of this volume) and Paulo Melo, as well as Leonor Dias, from the Faculty of Economics, who has shown an outstanding dedication. To those who collaborated with the organisers in the framework of their professional activity, special thanks due to Adelina whose dedication greatly exceeded her duties. As you probably know from your own experience every small detail of the conference organisation required a lot of "sweating", but the atmosphere of joy and friendship then generated has been a generous "pay-off".

Proceedings of the Third International Congress of Cybernetics and Systems, Bucharest, Romania, August 25-29, 1975
State of the Art
Systems, Cybernetics and Innovations
From Past to Future
Proceedings of the Fourth International Congress of Cybernetics & Systems 21-25 August, 1978 Amsterdam, The Netherlands

Rescuing the Enlightenment from Itself
An Integrated Model of Scripts, Lexicon, and Memory
Proceedings of the Ninth International Congress of Cybernetics and Systems, January 18-23, 1993 New Delhi
Second International Workshop, IWSAS 2001, Balatonfüred, Hungary, May 17-19, 2001, Revised Papers