
Fifth Latin American Workshop on
Non-Monotonic Reasoning
2009
LANMR '09

Proceedings

Tlaxcala, México
Noviembre, 2009

Contents

Foreword	iv
Organizing Committees	vi
INVITED PAPER	
Stable versus Layered Logic Program Semantics Luis Moniz, Alexandre Miguel Pinto	3
REGULAR PAPERS	
Extension-Based Argumentation Semantics via Logic Programming Semantics with Negation as Failure Juan Carlos Nieves, Ignasi Gomez-Sebastia	31
Functional First Order Definability of LRT_p J. Raymundo Marcial-Romero, J. A. Hernández	46
Modelling Autonomic Dataspace using Answer Sets Gabriela Montiel-Moreno, José Luis Zechinelli-Martini, Genoveva Vargas-Solar	61
An Introduction to Intention Revision: Issues and Problems José Martín Castro-Manzano	76
Implementing the p-stable Semantics Angel Marín George and Claudia Zepeda	90
A Complete Algorithm to Solve the Graph-Coloring Problem Huberto Ayanegui, Alberto Chavez-Aragon	107
Efficient Computation of the Degree of Belief for a Subclass of Two Conjunctive Forms Guillermo De Ita, Carlos Guillén, Ali Khanafer	118
Selecting the Best Cluster of a Collection of Technical Reports Ma. Auxilio Medina, J. Alfredo Sánchez, Silvia Titla, Rebeca Rodríguez, Pedro Vargas	130
P-stable as an Extension of WFS José Luis Carballido, Claudia Zepeda	142
Computing the Stratified Minimal Models Semantics Mauricio Osorio, Angel Marin-George, Juan Carlos Nieves	157
Structured Motifs Recognition in DNA Sequences Yuridia P. Mejía, Ivan Olmos, Jesús A. González	172
A Lower-Bound for Answer Set Solver Computation Stefania Costantini, Alessandro Provetti	183
POSTERS	
Modelling Data Segmentation for Image Retrieval Systems Leticia Flores-Pulido, Oleg Starostenko, Gustavo Rodríguez-Gómez, Vicente Alarcón-Aquino	201
Applying Fuzzy Sets Intersection in the Sizing of Voltage Followers G. Flores-Becerra, E. Tlelo-Cuautle, S. Polanco-Martagón	209
Can Paraconsistency Replace Non-Monotonicity? Luis Estrada-González, Claudia Olmedo-García	217

Foreword

This volume contains the papers that were presented at the Fifth Latin American Workshop on Non-Monotonic Reasoning (LANMR'09). As last year, this time we have extended our interest to include more general topics related to Computer Sciences, we use the LA part of LANMR to stand both for Languages/Logic + Algorithms, as well as for "Latin America". LANMR'09 was held in the Universidad Autónoma de Tlaxcala in Apizaco, Tlaxcala, Mexico on November 5-6, 2009.

The Fifth edition of the workshop was organized by the Benemérita Universidad Autónoma de Puebla, the Universidad de las Américas, Puebla, Universidad Autónoma Metropolitana, and the Universidad Autónoma de Tlaxcala.

The aim of the workshop was to bring together active researchers in formal areas of Computer Science (CS) such as Logic, Formal languages, Algorithms, and Non- Monotonic Reasoning. Particular topics of interest were: knowledge representation, belief revision, reasoning about actions, planning, logic programming, causality, and other related topics.

In Latin America there are several research groups interested in these areas. The number of papers and workshops submitted to different congresses related to Computer Sciences such as IBERAMIA, ENC and MICAI provides evidence of such interest. So, LANMR workshop is designed to promote cooperation among practitioners and researchers across disciplines who are interested in the formal areas of Computer Sciences. The aims of the workshop were:

- to present innovative theoretical work and original applications of the formal areas of Computer Sciences,
- to exchange ideas and to facilitate interaction between researchers of the formal areas of Computer Sciences,
- to discuss significant recent achievements in the theory and automation based on the formal areas of Computer Sciences,
- to present critical short and long term goals for the formal areas of Computer Sciences,
- to provide a forum for students to present their current research in the formal areas of Computer Sciences, and receive feedback from other students and researchers.

We would like to thank all authors who submitted papers as well as all the referees for their expertise and time they put into carefully reviewing the papers.

This year the invited speakers provided means to explore ways in which their research may contribute to the identification and addressing of problems of common interest in the formal areas of Computer Sciences. We are grateful to the invited speakers: Leopoldo Bertossi, Juan Antonio Navarro Perez, and Cesar Bautista Ramos and also to the authors of the invited paper: Luís Moniz Pereira and Alexandre Miguel Pinto, for preparing such interesting talks and for taking the time and effort to attend the workshop. We also thank the "Cuerpo Académico de Sistemas Distribuidos de la Facultad de Ciencias de la Computación" and the "Cuerpo Académico de Topología y Sistemas Dinámicos de la Facultad de Ciencias Físico Matemáticas", both of them from the Benemérita Universidad Autónoma de Puebla, for their support. Finally, we greatly appreciate the local committee and staff of the Facultad de Ciencias Básicas, Ingeniería y Tecnología de la Universidad Autónoma de Tlaxcala for hosting and supporting our workshop.

Mauricio Osorio, Universidad de las Américas Puebla.

Claudia Zepeda, Benemérita Universidad Autónoma de Puebla.

Ivan Olmos, Benemérita Universidad Autónoma de Puebla.

Carolina Medina, Universidad Autónoma Metropolitana.

José Arrazola, Benemérita Universidad Autónoma de Puebla.

Organizing Committees

Steering Committee

Mauricio Osorio, Universidad de las Américas Puebla, Mexico.

Claudia Zepeda, Benemérita Universidad Autónoma de Puebla, Mexico.

Ivan Olmos, Benemérita Universidad Autónoma de Puebla, Mexico.

Carolina Medina, Universidad Autónoma Metropolitana, Mexico.

José Arrazola, Benemérita Universidad Autónoma de Puebla, Mexico.

Program Committee

Pedro Cabalar, Corunna University, Spain.

José Luis Carballido, Benemérita Universidad Autónoma de Puebla, Mexico.

Stefania Costantini, University of L'Aquila, Italy.

Alberto Chavéz, Universidad Autónoma de Tlaxcala, Mexico.

Jianer Chen, Texas A&M University, USA.

Guillermo De Ita, Benemérita Universidad Autónoma de Puebla, Mexico.

Giacomo Fiumara, Università degli Studi di Messina, Italy.

Andrea Formisano, Università di Perugia, Italy.

Raymundo Marcial, Universidad Autónoma del Estado de México, Mexico.

Maria Auxilio Medina, Universidad Politécnica de Puebla, Mexico.

Raul Monroy, Tecnológico de Monterrey Campus Estado de México, Mexico.

Guillermo Morales, Centro de Investigación y Estudios Avanzados del IPN, Mexico.

Juan Antonio Navarro, Max Planck Institute for Software Systems, Germany.

Juan Carlos Nieves, Universitat Politècnica de Catalunya, Spain.

Ricardo Pérez, Universidad Tecnológica de la Mixteca, Mexico.

Pilar Pozos, Universidad Juárez Autónoma de Tabasco, Mexico.

Alessandro Proveti, Università di Milano, Italy.

Magdalena Ortiz, Vienna University of Technology, Austria.

Additional Reviewers

Rogelio Davila, Universidad de Guadalajara, Mexico.

José Federico Ramírez Cruz, Universidad Autónoma de Tlaxcala, Mexico.

Wolfgang Faber, University of Calabria, Italy.

Yana Maximova Todorova, Texas Tech University, United States.

Roberto Confalonieri, Università degli Studi di Milano, Italy.

Luis Angel Montiel Moreno, Universidad de las Américas Puebla, Mexico.

Local committee

Marlon Luna Sánchez, Universidad Autónoma de Tlaxcala, México.

Carlos Santacruz Olmos, Universidad Autónoma de Tlaxcala, México.

José Alberto Chavez Aragón, Universidad Autónoma de Tlaxcala, México.

Juventino Montiel Hernández, Universidad Autónoma de Tlaxcala, México.

Orion Fausto Reyes Galaviz, Universidad Autónoma de Tlaxcala, México.

