



CONSELHO DE
REITORES DAS
UNIVERSIDADES
PORTUGUESAS

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ACÇÕES INTEGRADAS - 2006

Ficha de Candidatura

Luso – Alemã

Luso – Britânica

Luso – Espanhola

Luso - Francesa

Título do Projecto: Knowledge Representation with Negative Information (KRENI) _____

Especialidade / Ramo: Informática _____

Universidade: Universidade Nova de Lisboa _____

Faculdade/Instituto: Faculdade de Ciências e Tecnologia _____

Departamento: Departamento de Informática _____

Morada: Quinta da Torre, 2929-516 Caparica _____

Responsável pelo projecto: Professor Luís Moniz Pereira _____

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Telefone: 21 294 8536 _____

Fax: 21 294 8541 _____

E-mail: lmp@di.fct.unl.pt _____

Nomes dos elementos da equipa:

Professor Catedrático Luís Moniz Pereira

Professor Associado José Júlio Alferes

Responsável pelo projecto: Professor Luís Moniz Pereira _____

Outras Instituições Participantes: _____



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Universidade: Universidade Politécnica de Madrid (UPM) _____

Faculdade/Instituto: FACULTAD DE INFORMÁTICA

Departamento: LENGUAJES Y SISTEMAS INFORMÁTICOS E INGENIERÍA DEL SOFTWARE

Morada: CAMPUS DE MONTEGANCEDO Código Postal: 28660, BOADILLA DEL MONTE, MADRID

Responsável pelo projecto: Professor JUAN JOSÉ MORENO NAVARRO

Telefone: +34913367458

Fax: +34913366595

E-mail: jjmoreno@fi.upm.es

Nomes dos elementos da equipa:

Professor Catedrático JUAN JOSÉ MORENO NAVARRO

Professora Auxiliar SUSANA MUÑOZ HERNÁNDEZ

Responsável pelo projecto: Professor JUAN JOSÉ MORENO NAVARRO _____

Outras Instituições Participantes: _____

Candidaturas anteriores:

Com êxito

Sem êxito

2003	2004	2005

O Coordenador da Equipa Portuguesa

Nome: Professor Luís Moniz Pereira _____

Data: _12_ / _5_ / _05_

(assinatura)



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ACÇÕES INTEGRADAS - 2006

Ficha de Projecto

Título do Projecto: Knowledge Representation with Negative Information (KRENI) _____



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Apresentação do projecto:

In the current society knowledge representation is the key of the posterior handling of the information. Logic languages have demonstrated to be a powerful and intuitive tool for representing knowledge and moreover for simulating human beings' reasoning.

One of the main problems of these languages use to be the representation of negative information because it is so intuitive for the human mind as the positive one but it presents many problems at theoretical level (formalization) and also at practical level (implementation).

The study of the negative information, its formalization and the way of representation of this information is one of the biggest issues to resolve in Logic Programming and it is the subject of this project.

The two institutions and departments have been involved before in European networks and have exchanged researchers before.

Presently, both institutions are partners in one of the first ERASMUS MUNDUS supported "European Master in Computational Logic", and have the strategic scientific and political aim to increment their exchange of students and researchers, in order to attract joint non-European students, namely from Latin America.

One of the previous areas of scientific cooperation was that in the present proposal. In particular, Doctor Susana Muñoz Hernandez visited Lisbon in the final preparation of her PhD thesis, and Professor José Júlio Alferes was her external examiner at UPM.

Thus this is a likely area for increasing scientific cooperation, with a view to combine the complementary expertise on both sides, produce joint publications, and induce research students to take up this topic, and choose Lisboa and Madrid as the two partner universities they will enrol in their master programme.

This will be achieved by mutual visits and seminars organized at the two cities.



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Objectivos científicos:

The goal of this project is to enrich the quality of the research in both groups by collaborating. Therefore, each group could provide its specialization in the subject.

On the one hand the UNL group has a long experience working with negative information, defining semantics and definitively working in theoretical frameworks and on the other hand the UPM group is leader in the implementation of negation techniques in Logic Programming.

Investigação a realizar pela parte portuguesa:

We intend to establish a sequence of regular meetings to give seminars and talks in both universities. These seminars will be given by UPM members in UNL and UNL members in UPM to improve the mutual knowledge about the work of both research groups.

The goal of these meetings is to start a joint line of research to take advantage of the strong points of every group and advance in a more effective way in our research. This will lead to joint publications.

We will also share students from the European Master in Computational Logic of which we are both partners. Each student will have a supervisor in each university and will spend one year studying at each university.



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Investigação a realizar pelo parceiro:

We intend to establish a sequence of regular meetings to give seminars and talks in both universities. These seminars will be given by UPM members in UNL and UNL members in UPM to improve the mutual knowledge about the work of both research groups.

The goal of these meetings is to start a joint line of research to take advantage of the strong points of every group and advance in a more effective way in our research. This will lead to joint publications.

We will also share students from the European Master in Computational Logic of which we are both partners. Each student will have a supervisor in each university and will spend one year studying at each university.

Outras colaborações anteriores com a presente equipa, incluindo trabalhos nesta área:

The two institutions and departments have been involved before in European networks and have exchanged researchers before, namely in the Computational Logic Network of Excellence.

Presently, both institutions are partners in one of the first ERASMUS MUNDUS supported “European Master in Computational Logic”.

One of the previous areas of scientific cooperation was that in the present proposal. In particular, Doctor Susana Muñoz Hernandez visited Lisbon in the final preparation of her PhD thesis, and Professor José Júlio Alferes was her external examiner at UPM.



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Calendarização	Nº de visitas da parte portuguesa	2x2 each year
	Duração das visitas	2x1 week
	Nº de visitas por parte do parceiro	2x2 each year

Outros meios financeiros assegurados para o projecto:

The non-European student exchanges will be supported be supported by Erasmus-Mundus.

Data: _12_/_5_/_05_

(assinatura)



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CURRICULUM VITAE

Responsável do projecto

Participante no projecto

Nome: Luís Moniz Pereira _____

Data de Nascimento: 20/12/1947 **Último Nome:** PEREIRA _____

Morada: Departamento de Informática, FCT/UNL, Quinta da Torre, 2829-156 Caparica, Portugal _____

Telefone: 21 294 8536 **Fax:** 21 294 8541 **Email:** lmp@di.fct.unl.pt _____

Categoria na Instituição: Professor Catedrático _____ **Desde:** 1/9/1985

Formação Académica:

Professor of Computer Science since 1985, at Departamento de Informática, Universidade Nova de Lisboa.

“Agregação” in Artificial Intelligence, UNL, Lisbon, 1980.

PhD in Cybernetics, Brunel University, London, 1974.

Diplomed Electronics Engineer, Instituto Superior Técnico, Lisbon, 1971.

Formação Científica:

- Director of the Artificial Intelligence Centre (CENTRIA) at UNL

- Elected Fellow of the European Coordinating Committee for Artificial Intelligence.

- Coordinator of the distributed European Computational Logic MSc at UNL, supported by Erasmus Mundus.

- Coordinator of the Applied AI MSc at UNL.

- UNL coordinator of current international projects: FP6 REVERSE – Reasoning on the Semantic Web; FP5

Co-coordinator of “Education and Training” area of the IST NOE in Computational Logic, CoLogNet, and UNL

coordinator of Asian-Link project.

- For publications, and other activities consult: <http://> URL: <http://centria.di.fct.unl.pt/~lmp/>



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Publicações (títulos mais relevantes, relacionados com o projecto):

J. J. Alferes, L. M. Pereira, T. Swift, Abduction in Well-Founded Semantics and Generalized Stable Models via Tabled Dual Programs, *Theory and Practice of Logic Programming*, 4(4):383-428, July 2004.

J. J. Alferes, L. M. Pereira, T. C. Przymusiński, 'Classical' Negation in Nonmonotonic Reasoning and Logic Programming, *J. Automated Reasoning*, (20):107-142, 1998.

J. Alcântara, C. V. Damásio, L. M. Pereira, An Encompassing Framework for Paraconsistent Logic Programs, *Journal of Applied Logic*, 3(1): 67-95, 2005.

J. J. Alferes and L. M. Pereira, Reasoning with Logic Programming, LNAI 1111, pp.326, Springer-Verlag, Berlin, 1996.

Data: 12/5/2005



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Publicações (títulos mais relevantes, relacionados com o projecto):

J. J. Alferes, L. M. Pereira, T. Swift, Abduction in Well-Founded Semantics and Generalized Stable Models via Tabled Dual Programs, *Theory and Practice of Logic Programming*, 4(4):383-428, July 2004.

J. J. Alferes, L. M. Pereira, H. Przymusinska and T. C. Przymusinski, LUPS - a language for updating logic programs. In *Artificial Intelligence* 138(1&2), June 2002.

J. J. Alferes, J. A. Leite, L. M. Pereira, H. Przymusinska and T. C. Przymusinski, Dynamic Updates of Non-Monotonic Knowledge Bases, *The Journal of Logic Programming* 45(1-3): 43-70, September/October 2000.

J. J. Alferes and L. M. Pereira, *Reasoning with Logic Programming*, LNAI 1111, pp.326, Springer-Verlag, Berlin, 1996.

J. J. Alferes. Semânticas de Programss em Lógica com Negação Implícita e Explícita e suas aplicações. In *Prémio Científico IBM de 1990 a 1996*, pp 167-195, Companhia IBM Portuguesa, 1997.

J. J. Alferes. *Semantics of Logic Programs with Explicit Negation*. Tese de doutoramento em Informática, Universidade Nova de Lisboa, 1993.

Mais publicações, podem ser consultadas a partir de <http://centria.di.fct.unl.pt/~jja/>

Data: 12/05/2005



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CURRICULUM VITAE

Responsável Espanhol do projecto

Participante Espanhol no projecto

Nome: Juan José Moreno Navarro _____

Data de Nascimento: ___/___/1961_____

Último Nome: NAVARRO_____

Morada: UPM, CAMPUS DE MONTEGANCEDO Código Postal: 28660, Boadilla Del Monte, Madrid

Telefone: +34913367458

Fax: + 34913366595

Email: jjmoreno@fi.upm.es_____

Categoria na Instituição: Professor Catedrático _____ Desde: ___/___/1997_____

Formação Académica: Professor Catedrático de Informática

Director de [SpaRCIM: Spanish Research Consortium for Informatics and Mathematics](#), miembro español de [ERCIM](#)

Gestor del Programa nacional en Tecnologías de la Información y las Comunicaciones del [Ministerio de Ciencia y Tecnología](#) 2000-2003

Representante Español en el Comité [IST](#) (prioridad 2) del [6º Programa Marco de la UE](#).

Relaciones Internacionales area Tecnologías para la Sociedad de la Información en el [Ministerio de Educación y Ciencia](#)

Miembro del Comité Asesor de [RedIRIS](#), la red científica española (2000-2003).

Miembro del [e-Infrastructure Reflection Group \(eIRG\)](#) como representnate español.

Formação Científica: ver http://lml.ls.fi.upm.es/~jjmoreno/jj_sp.html#Investigaci%F3n

Dirijo el grupo de investigación [BABEL](#) especializado en la Tecnología de Programación Formal y Declarativa del departamento de Lenguajes y Sistemas Informáticos e Ingeniería de Software de la Facultad de Informática de Madrid.

Mis principales areas de interés son:

Programación Declarativa: Programación Funcional y Lógica: Diseño de construcciones sintácticas, semántica, implementación.

Integración de la Programación Funcional y Lógica (lenguajes BABEL y [Curry](#)).

Lenguajes de Especificación, Métodos Formales en Ingeniería de Software.

Técnicas y Entornos de Desarrollo de Programas con Métodos Formales y Programación Declarativa: Compilación de lenguajes de especificación (el proyecto [SLAM](#)).



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Publicações (títulos mais relevantes, relacionados com o projecto):

Implementation Results in Classical Constructive Negation. Susana Muñoz Hernández y Juan José Moreno Navarro. International Conference on Logic Programming, ICLP 2004, LNCS. Springer-Verlag. Saint Maló, Francia, Septiembre 2004.

Soundness and Completeness of an "Efficient" Negation for Prolog. Susana Muñoz Hernández y Juan José Moreno Navarro. European Conference Logics in Artificial Intelligence, JELIA 2004 LNCS. Springer-Verlag. Lisboa, Portugal, Septiembre 2004.

Declarative Reflection in Slam and its Applications as a pattern language, Ángel Herranz, Juan José Moreno, Electronic Notes on Theoretical Computer Science (selected papers from WFLP'2002), 2003

Demand Analysis with Partial Predicates, A. Herranz, J. Mariño, J.J. Moreno Navarro, enviado para publicación en TPLP por invitación de los editores (Moreno Falaschi y M. Maher) de un número especial en Multiparadigm Languages and Constraint Programming.

Declarative reflection and Applications, Ángel Herranz, Juan José Moreno, enviado para publicación en TPLP por invitación de los editores (Moreno Falaschi y M. Maher) de un número especial en Multiparadigm Languages and Constraint Programming.

On the Practical Use of Negation in a Prolog Compiler, J.J. Moreno Navarro, S. Muñoz, Practical Applications of Declarative Languages, V. Santos, E. Potenlli (editores), PADL'00, Springer Verlag, LNCS 1753

Sequentiality Analysis in Functional-Logic Programs, J. Mariño, J.J. Moreno Navarro, Practical Applications of Declarative Languages. V. Santos, E. Potenlli (editores), PADL'00, Springer Verlag, LNCS 1753

Efficient Negation Using Abstract Interpretation, Juan José Moreno Navarro, Susana Muñoz, Manuel Hermenegildo, Logic Programming and Automated Reasoning, La Habana - Cuba, Diciembre 2001. Springer Verlag LNCS, LNAI 2250.

Data: _12_/_5_/_05_



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CURRICULUM VITAE

Responsável Espanhol do projecto

Participante Espanhol no projecto

Nome: Susana Muñoz Hernández _____

Data de Nascimento: _23_/_12_/_1972_ **Último Nome:** HERNÁNDEZ _____

Morada: UPM, CAMPUS DE MONTEGANCEDO Código Postal: 28660, Boadilla Del Monte, Madrid

Telefone: +34913367458 **Fax:** + 34913366595 **Email:** susana@fi.upm.es _____

Categoria na Instituição: Professor Auxiliar _____ **Desde:** ___/___/___2003_____

Formação Académica: http://lml.ls.fi.upm.es/~susana/curriculum_En.html

PhD Thesis Defence at the Languages, Systems and Software Engineering Department (D.L.S.I.I.S.), Computer Science School (F.I.), Technical University of Madrid (U.P.M.) (Cum Laudem, July 2003).

Degree in Computer Science by the Computer Science School of the U.P.M. (1990-1996). Honour degree for the Master thesis (1997). (Percentil 12%).

Bachelor degree by the Felipe II High School of Madrid (1986-1990).

Formação Científica:

SOFIA CICYT Project TIC2000-1632: project "SOFIA: Software Fiable de Alta Calidad" about high quality software (2000-2002).

"Herramientas metodológicas e instrumentales para la enseñanza de la Programación" CICYT Project: about methodologic tools for the programming teaching (1999-2000).

ELLA CICYT Project TIC96-1012-C02-01: project "ELLA: Extensiones de los Lenguajes Lógicos para Aplicaciones Avanzadas y en red" about extensions of Logic Languages for advanced applications and network applications (1996-1999). UNION FENOSA INGENIERÍA: Design, development and implementation (in Visual FOX PRO) of RCMTool for the RCM analysis of hydroelectric, nuclear and thermal power stations (1998-2000).

ESPRIT COMPULOG: Initial implementation of a WWW interface for a static database (1998-1999).

MAPFRE Bank: One year and a half in the S.I.E.R.R.A. project for the evaluation of bank risks (in Visual FOX-PRO on ORACLE database) (1997-1998). Courses of C, C++, Object Oriented programming, COBOL, SQL, PL-SQL, etc.

U.P.M. grant: Colaboration in a WWW project for the L.S.I.I.S. department of the F.I. (1996).

D.L.S.I.I.S grant: Colaboration in DBASE III PLUS for the management and administration of the D.L.S.I.I.S. library of the F.I. (1995).



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Publicações (títulos mais relevantes, relacionados com o projecto):

Cooperative fuzzy agents using Constraint Logic Programming over Finite Domains (CLP(FD)). Susana Muñoz Hernández y Jose Manuel Gómez Pérez. International Conference on Cooperative Information Systems, CoopIS 2004, Agia Napa, Chipre, Outubro 2004.

Solving Collaborative Fuzzy Agents Problems with CLP(FD). Susana Muñoz Hernández y Jose Manuel Gómez Pérez, International Symposium on Practical Aspects of Declarative Languages, PADL 2005, LNCS. Springer-Verlag, Long Beach, California, USA. Enero 2005.

Fuzzy prolog: A new approach using soft constraints propagation. S. Guadarrama, S. Muñoz, C. Vaucheret. Fuzzy Sets and Systems, FSS, 144(1):127{150, 2004. ISSN 0165-0114.

S. Muñoz Hernández and J.M. Gómez Pérez. Solving collaborative fuzzy agents problems with clp(fd). In Manuel Hermenegildo and Daniel Cabeza, editors, International Symposium on Practical Aspects of Declarative Languages, PADL 2005, volume 3350 of LNCS, pages 187{202, Long Beach, CA (USA), 2005. Springer-Verlag.

Fuzzy Prolog: A new approach using soft constraints propagation, S. Guadarrama, S. Muñoz, C. Vaucheret, Fuzzy Sets and Systems, FSS, 202, GS-14 Constructive Intensional Negation: a practical implementation, S. Muñoz, J. Mariño, J. J. Moreno-Navarro, Electronic Notes on Theoretical Computer Science (selected papers from WFLP?2003), 2003

Towards a Fuzzy prolog using CLP(R)", Claudio Vaucheret, Sergio Guadarrama, Susana Muñoz Logic for Programming, Artificial Intelligence, and Reasoning, LPAR 2002, M. Baaz and A. Voronkov, LNAI 2514 Springer Verlag 2002.

Data: _12_/_5_/_05_