



# ECSQARU 2005

## **PROGRAM**

Barcelona, Spain

July 6 - 8, 2005





# Program Overview

Wednesday 6th		Thursday 7th		Friday 8th	
from 8.00	Registration				
8.45-9.00	Opening				
9.00-10.00	Invited Talk I Serafín Moral <i>Aula Magna</i>	Invited Talk II Jerôme Lang <i>Aula Magna</i>	Invited Talk III Rudolf Kruse <i>Aula Magna</i>		
10.00-10.10	Mini break	Mini break	Mini break		
10.10-11.00	Bayesian Networks I <i>Aula Magna</i>	Argumentation Systems I <i>Room 011-013</i>	Belief Functions <i>Aula Magna</i>	Clustering <i>Room 011-013</i>	Planning <i>Aula Magna</i>
11.00-11.25	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
11.25-13.05	Bayesian Networks II <i>Aula Magna</i>	Argumentation Systems II <i>Room 011-013</i>	Uncertainty Measures <i>Aula Magna</i>	Probabilistic Reasoning <i>Room 011-013</i>	Special Session Industrial Appl. <i>Aula Magna</i>
13.05-14.30	Lunch	Lunch	Lunch	Lunch	Lunch
14.30-14.45	Fuzzy Models <i>Aula Magna</i>	Inconsistency Handling <i>Room 011-013</i>	Causality & Independence <i>Aula Magna</i>	Uncertainty Logics I <i>Room 011-013</i>	Learning Bay-Networks <i>Aula Magna</i>
14.45-16.50	Coffee Break	Coffee Break	Mini Break (15.45-15.55)	Uncertainty Logics II <i>Room 011-013</i>	Decision & Preferences <i>Room 011-013</i>
16.50-17.10	Probabilistic Classifiers <i>Aula Magna</i>	Many-valued Logics <i>Room 011-013</i>	Belief Revision <i>Aula Magna</i>	Graphical Models <i>Aula Magna</i>	Coffee Break
17.10-18.50	Welcome Reception	Welcome Reception	Barcelona City Walk	Uncertainty Reasoning <i>Room 011-013</i>	
19.00-20.00					
20.00-21.00					
21.00-23.00			Conference Dinner		

Wednesday, July 6th Morning

**Session W0 (09.00 - 10.00): Invited talk**

**Chair:** F. Esteva – **Room:** Aula Magna

- 09.00 *Imprecise Probability in Graphical Models: Achievements and Challenges* (S. Moral)

**Session W1A (10.10 - 11.00): Bayesian Networks I**

**Chair:** F. Jensen – **Room:** Aula Magna

- 10.10 *Alert Systems for production Plants: A Methodology Based on Conflict Analysis* (T. Nielsen, F. Jensen)
- 10.35 *Hydrologic Models for Emergency Decision Support Using Bayesian Networks* (M. Molina, R. Fuentetaja, L. Garrote)

**Session W1B (10.10 - 11.00): Argumentation Systems I**

**Chair:** L. Amgoud – **Room:** 011-013

- 10.10 *Argument-based Expansion Operators in Possibilistic Defeasible Logic Programming* (C. Chesñevar, G. Simari, L. Godo, T. Alsinet)
- 10.35 *On the acceptability of arguments in bipolar argumentation frameworks* (M. Lagasquie-Schiex, C. Cayrol)

**Session W2A (11.25 - 13.05): Bayesian Networks II**

**Chair:** T. Nielsen – **Room:** Aula Magna

- 11.25 *Nonlinear Deterministic Relationships in Bayesian Networks* (B. Cobb, P. Shenoy)
- 11.50 *Penniless propagation with Mixtures of Truncated Exponentials* (R. Rumi, A. Salmerón)
- 12.15 *Approximate factorisation of probability trees* (I. Martínez, S. Moral, C. Rodríguez, A. Salmerón)
- 12.40 *Abductive inference in Bayesian networks: finding a partition of the explanation space* (J. Flores, J. Gamez, S. Moral)

**Session W2B (11.25 - 13.05): Argumentation Systems II**

**Chair:** C. Chesñevar – **Room:** 011-013

- 11.25 *Symmetric Argumentation Frameworks* (S. Coste-Marquis, C. Devred, P. Marquis)
- 11.50 *Evaluating argumentation semantics with respect to skepticism adequacy* (M. Giacomin, P. Baroni)
- 12.15 *Logic of Dementia Guidelines in a Probabilistic Argumentation Framework* (H. Lindgren, P. Eklund)
- 12.40 *Gradual valuation for bipolar argumentation frameworks* (M. Lagasquie-Schiex, C. Cayrol)

**Session W3A (14.45 - 16.50): Fuzzy Models**

**Chair:** P. Bosc – **Room:** Aula Magna

- 14.45 *Bilattice-Based Squares and Triangles* (O. Arieli, C. Cornelis, G. Deschrijver, E. Kerre)
- 15.10 *A new algorithm to compute low T-Transitive approximation of a fuzzy relation preserving symmetry* (L. Garmendia, A. Salvador)
- 15.35 *Computing a transitive opening of a reflexive and symmetric fuzzy relation* (L. Garmendia, A. Salvador)
- 16.00 *Generating fuzzy models from deep knowledge: robustness and interpretability issues* (L. Ironi, R. Guglielmann)
- 16.25 *Analysis of the TaSe-II TSK-type Fuzzy System for function approximation* (Luis Javier Herrera Maldonado, Héctor Pomares, Ignacio Rojas, Alberto Guillén-Perales, Mohammed Awad)

**Session W3B (14.45 - 16.50): Inconsistency Handling**

**Chair:** S. Benferhat – **Room:** 011-013

- 14.45 *Measuring Inconsistency in Requirements Specifications* (K. Mu, Z. Jin, R. Lu, W. Liu)
- 15.10 *A modal logic for reasoning with contradictory beliefs which takes into account the Number and the Reliability of Sources* (L. Cholvy)
- 15.35 *A possibilistic inconsistency handling in Answer Set Programming* (P. Nicolas, L. Garcia, I. Stephan)
- 16.00 *Remedying Inconsistent Sets of Premises* (P. Besnard)
- 16.25 *Measuring the quality of uncertain information using possibilistic logic* (A. Hunter, W. Liu)

**Session W4A (17.10 - 18.50): Probabilistic Classifiers**

**Chair:** J. Huete – **Room:** Aula Magna

- 17.10 *Hybrid Bayesian Estimation Trees Based on Label Semantics* (Z. Qin, J. Lawry)
- 17.35 *Selective Gaussian Naive Bayes Model for Diffuse Large-B-Cell Lymphoma Classification* (A. Masegosa, A. Cano, J. Castellano, S. Moral)
- 18.00 *Towards a Definition of Evaluation Criteria for Probabilistic Classifiers* (S. Benferhat, N. Ben Amor, z. Eouedi)
- 18.25 *Methods to Determine the Branching Attribute in Bayesian Multi-nets Classifiers* (A. Cano, J. Castellano, A. Masegosa, S. Moral)

**Session W4B (17.10 - 18.50): Many valued logics**

**Chair:** E. Orłowska – **Room:** 011-013

- 17.10 *Non-deterministic Semantics for Paraconsistent C-systems* (A. Avron)
- 17.35 *Brun Normal Forms for Co-Atomic Lukasiewicz Logics* (S. Aguzzoli, O. D'Antona, V. Marra)
- 18.00 *Poset Representation for Godel and Nilpotent Minimum Logics* (S. Aguzzoli, B. Gerla, C. Manara)
- 18.25 *Multi-valued Model Checking in Dense-Time* (A. Fernández Vilas, J. Pazos Arias, A. Barragáns Martínez, M. López Nores, R. Díaz Redondo, A. Gil Solla, J. García Duque, M. Ramos Cabrer)

Thursday, July 7th Morning

**Session T0 (09.00 - 10.00): Invited talk**

**Chair:** D. Dubois – **Room:** Aula Magna

- 9.00 *Some representation and computational issues in social choice* (J. Lang)

**Session T1A (10.10 - 11.00): Belief Functions**

**Chair:** K. Mellouli – **Room:** Aula Magna

- 10.10 *Probabilistic Transformations of Belief Functions* (M. Daniel)  
10.35 *Contextual discounting of belief functions* (M. David, Q. Benjamin, T. Denoeux)

**Session T1B (10.10 - 11.00): Clustering**

**Chair:** S. Sandri – **Room:** 011-013

- 10.10 *Default clustering from sparse data sets* (J. Velcin, J. Ganascia)  
10.35 *New Clustering Technique for Inicialization of Centres in TSK Clustering-Based Fuzzy Systems* (L. Herrera Maldonado, H. Pomares, I. Rojas, A. Guillén-Perales)

**Session T2A (11.25 - 13.05): Uncertainty measures**

**Chair:** H. Fargier – **Room:** Aula Magna

- 11.25 *A Notion of Comparative Probabilistic Entropy based on the Possibilistic Specificity Ordering* (E. Huellermeier, D. Dubois)  
11.50 *Comparative conditional possibilities* (B. Vantaggi, G. Coletti)  
12.15 *Consonant random sets: structure and properties* (E. Miranda)  
12.40 *Second-Level Possibilistic Measures Induced by Random Variables* (I. Kramosil)

**Session T2B (11.25 - 13.05): Probabilistic Reasoning**

**Chair:** P. Shenoy – **Room:** 011-013

- 11.25 *Coherent Restrictions of Vague Conditional Lower-Upper Probability Extensions* (A. Capotorti, M. Zagoraiou)  
11.50 *Type Uncertainty in Ontologically-Grounded Qualitative Probabilistic Matching* (D. Poole, C. Smyth)  
12.15 *Some theoretical properties of conditional probability assessments* (A. Gilio, V. Biazzo)  
12.40 *Unifying Logical and Probabilistic Reasoning* (R. Haenni)

Thursday, July 7th Afternoon

**Session T3A (14.30 - 15.45): Causality and Independence**

**Chair:** D. Poole – **Room:** Aula Magna

- 14.30 *Racing for Conditional Independence Inference* (R. Bouckaert, M. Studeny)
- 14.55 *Causality, Simpson's Paradox, and Context-Specific Independence* (M. Sanscartier, E. Neufeld)
- 15.20 *A Qualitative Characterisation of Causal Independence Models using Boolean Polynomials* (M. van Gerven, P. Lucas, T. van der Weide)

**Session T3B (14.30 - 15.45): Uncertainty logics I**

**Chair:** W. Liu – **Room:** 011-013

- 14.30 *Possibilistic inductive logic programming* (M. Serrurier, H. Prade)
- 14.55 *Query Answering in Normal Logic Programs under Uncertainty* (U. Straccia)
- 15.20 *Probabilistic Description Logic Programs* (T. Lukasiewicz)

**Session T4A (15.55 - 17.10): Belief Revision**

**Chair:** L. Cholvy – **Room:** Aula Magna

- 15.55 *Revising geoinformation : the results of REV!GIS* (S. Benferhat, J. Benaïm, R. Jeansoulin, M. Khelfallah, S. Lagrue, O. Papini, N. Wilson, E. Würbel)
- 16.20 *Multiple Semi-Revision in Possibilistic Logic* (G. Qi, W. Liu, D. Bell)
- 16.45 *Mediation using m-states* (T. Meyer, P. Pozos Parra, L. Perrussel)

**Session T4B (15.55 - 17.10): Uncertainty logics II**

**Chair:** T. Lukasiewicz – **Room:** 011-013

- 15.55 *A logical treatment of possibilistic conditioning* (E. Marchioni)
- 16.20 *A zero-layer based fuzzy probabilistic logic for conditional probability* (T. Flaminio)
- 16.45 *A logic with coherent conditional probabilities* (N. Ikodinovic, Z. Ognjanovic)

Friday, July 8th Morning
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**Session F0 (09.00 - 10.00): Invited talk****Chair:** F. Klawonn – **Room:** Aula Magna

- 9.00 *Knowledge-Based Operations for Graphical Models in Planning* (R. Kruse)

**Session F1A (10.10 - 11.00): Planning****Chair:** J. Puyol – **Room:** Aula Magna

- 10.10 *Optimal Threshold Policies for Operation of a Dedicated-Platform with Imperfect State Information - A POMDP Framework* (A. Farrokh, V. Krishnamurthy)
- 10.35 *APPSSAT: Approximate Probabilistic Planning Using Stochastic Satisfiability* (S. Majercik)

**Session F1B (10.10 - 11.00): Classification****Chair:** T. Denoeux – **Room:** 011-013

- 10.10 *Qualitative inference in possibilistic option decision trees* (I. Jenhani, Z. Elouedi, N. Ben amor, K. Mellouli)
- 10.35 *Partially supervised learning by a credal EM approach* (P. Vannorenberghe, P. Smets)

**Session F2A (11.25 - 13.05): Industrial Applications  
(Invited session organized by R. Kruse)****Chair:** R. Kruse – **Room:** Aula Magna

- 11.25 *Knowledge-Based Operations for Graphical Models in Planning (II)* (J. Gebhardt, R. Kruse)
- 11.50 *Molecular Fragment Mining for Drug Discovery* (C. Borgelt, M. R. Berthold, D. E. Patterson)
- 12.15 *Learning Methods for Air Traffic Management* (F. Rehm, F. Klawonn)
- 12.40 *Automatic Selection of Data Analysis Methods* (D. D. Nauck, M. Spott, B. Azvine)

**Session F2B (11.25 - 13.05): Belief Merging****Chair:** H. Prade – **Room:** 011-013

- 11.25 *Combining multiple knowledge bases by negotiation: A possibilistic approach* (G. Qi, W. Liu, D. Bell)
- 11.50 *A Local Fusion Method of Temporal Information* (M. Khelfallah, B. Benhamou)
- 12.15 *Conciliation and consensus in iterated belief merging* (O. Gauwin, S. Konieczny, P. Marquis)
- 12.40 *An Argumentation Framework for Merging Conflicting Knowledge Bases: The Prioritized Case* (L. Amgoud, S. Kaci)



Friday, July 8th Afternoon

**Session F3A (14.45 - 16.50): Learning Bayesian Networks**

**Chair:** P. Lucas – **Room:** Aula Magna

- 14.45 *Foundation for the New Algorithm Learning Pseudo-independent Models* (J. Lee)
- 15.10 *Scalable, Efficient and Correct Learning of Markov Boundaries under the Faithfulness Assumption* (J. Pena, J. Bjorkegren, J. Tegner)
- 15.35 *Discriminative Learning of Bayesian Network Classifiers via the TM Algorithm* (G. Santafé, J. Lozano, P. Larrañaga)
- 16.00 *Constrained Score+(local)Search Methods for Learning Bayesian Networks* (J. Gamez, J. Puerta)
- 16.25 *On the use of restrictions for learning Bayesian networks* (L. De Campos, J. Castellano)

**Session F3B (14.45 - 16.50): Decision and Preferences**

**Chair:** T. Alsinet – **Room:** 011-013

- 14.45 *Expressing Preferences From Generic Rules and Examples* (D. Dubois, S. Kaci, H. Prade)
- 15.10 *Multicriteria decision making via fuzzy revealed preferences* (I. Georgescu)
- 15.35 *An argumentation-based approach to multiple criteria decision* (L. Amgoud, J. Bonnefon, H. Prade)
- 16.00 *Algorithms for a Nonmonotonic Logic of Preferences* (S. Kaci, L. van der Torre)
- 16.25 *On the qualitative comparison of sets of positive and negative affects* (D. Dubois, H. Fargier)

**Session F4A (17.10 - 18.50): Graphical Models**

**Chair:** M. Studeny – **Room:** Aula Magna

- 17.10 *A Decision-Based Approach for Recommending in Hierarchical Domains* (J. Huete, L. De Campos, J. Fernandez-Luna, M. Gomez)
- 17.35 *Probabilistic Graphical Models for the Diagnosis of Analog Electrical Circuits* (C. Borgelt, R. Kruse)
- 18.00 *Qualified Probabilistic Predictions using Graphical Models* (Z. Luo)

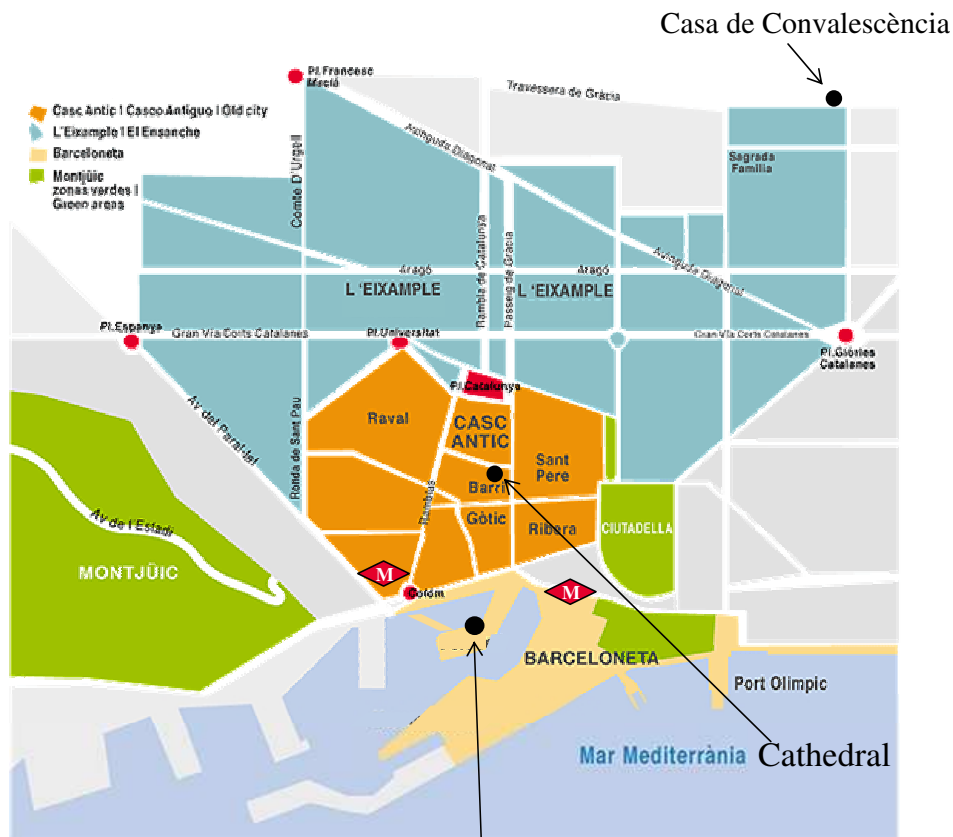
**Session F4B (17.10 - 18.50): Uncertainty Reasoning**

**Chair:** M. Giacomini – **Room:** 011-013

- 17.10 *About the processing of possibilistic and probabilistic queries* (O. Pivert, P. Bosc)
- 17.35 *Possibility theory for reasoning about uncertain soft constraints* (M. Pini, F. Rossi, B. Venable)
- 18.00 *Conditional Deduction Under Uncertainty* (A. Josang, S. Pope, M. Daniel)

## Social Events

- **Welcome Reception** – Casa de Convalescència, Ground Floor Entrance – Wednesday 19.00 - 20.00
- **Barcelona City Walk** (Gothic Quarter) – Meeting point: stairs in front of the Cathedral of Barcelona – Metro: Yellow Line (L4), Station: Jaume I – Thursday 19.00 - 21.00
- **Conference Dinner** – Real Club Nautic de Barcelona – Thursday 21.00 - 23.00



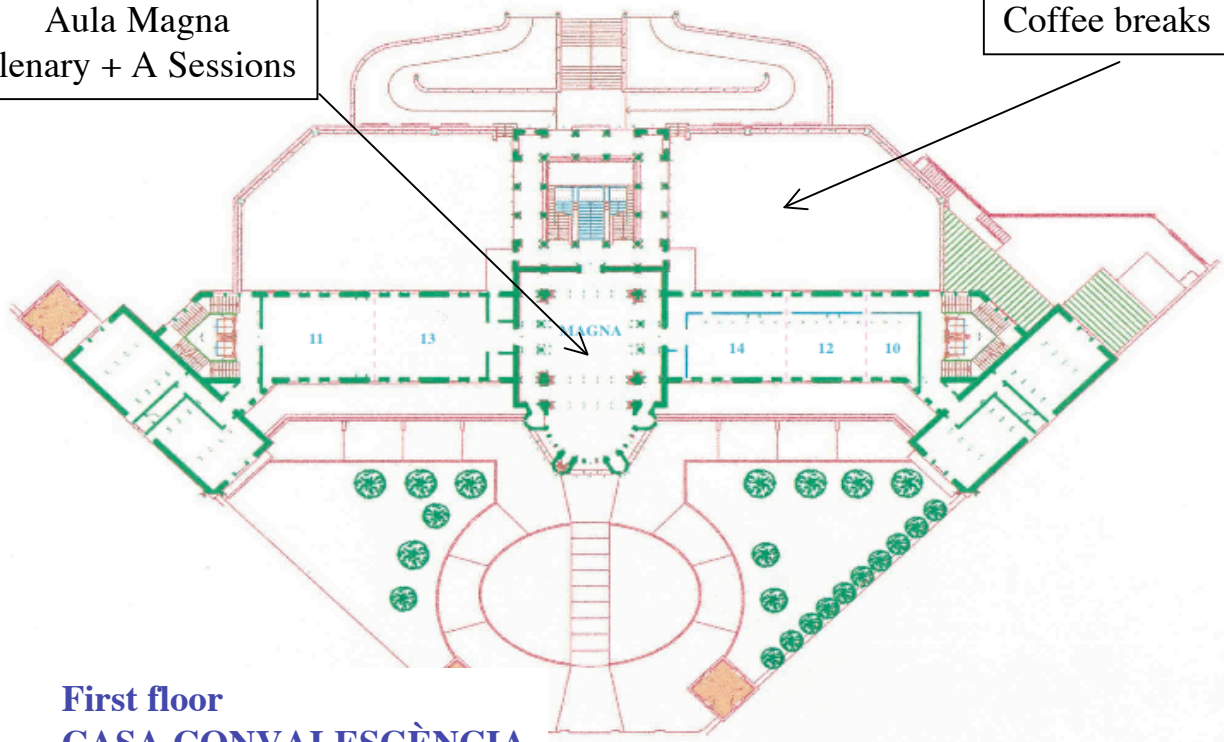
**Real Club Nàutic de Barcelona**  
**Moll d'Espanya s/n - 08039 Barcelona**  
**Tel. 93 221 65 21 - Fax 93 221 62 53**  
**Bus lines:** 19, 40 and Turistic Bus.  
**Metro stations:** Green line / L3 - Drassanes  
Yellow line / L4 - Barceloneta.

## Internet Access

Wireless Internet Access will be available in all Conference Rooms.

Aula Magna  
Plenary + A Sessions

Coffee breaks



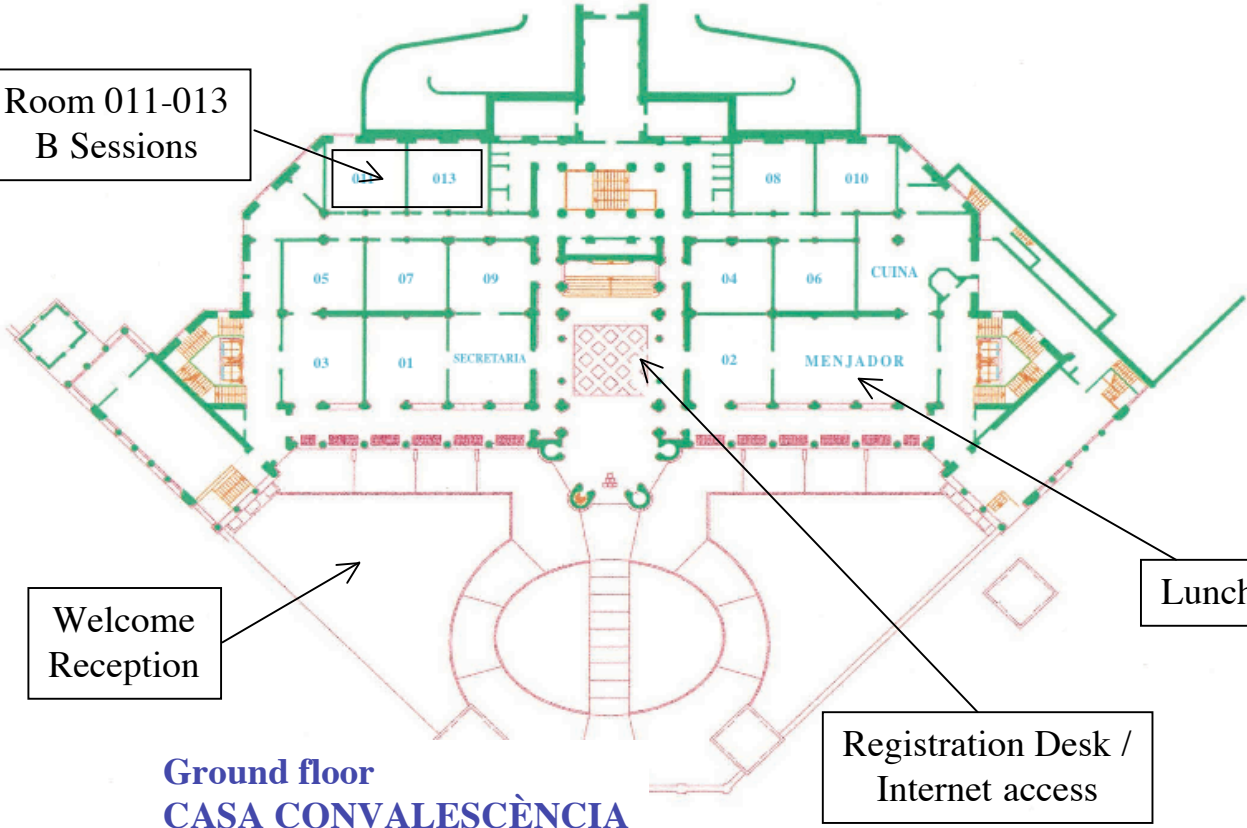
**First floor**  
**CASA CONVALESCÈNCIA**

Room 011-013  
B Sessions

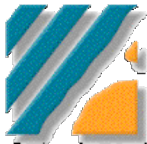
Welcome  
Reception

Lunch

Registration Desk /  
Internet access



**Ground floor**  
**CASA CONVALESCÈNCIA**



Institut d'Investigació en  
Intel·ligència Artificial



Consejo Superior de  
Investigaciones Científicas



Agència  
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musicstrands