# Proposal to Host AIPS 2002


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## 1 Introduction

This is a proposal to host the next *AI Planning and Scheduling Conference* (AIPS) during the spring of 2002 in Europe with the choice of two possible locations, Toulouse or Trento, both of which are equally appealing and appropriate for hosting this conference. We have made preliminary inquiries and done some provisional planning in order to proceed immediately with the organization of AIPS at both of these locations, should this bid be successful.

Furthermore, taking up on the successful co-hosting at Breckenridge, this proposal also offers to collocate AIPS'2002 with the next *Knowledge Representation and Reasoning Conference* (KR'2002), which is normally scheduled to be in Europe. The proposers have been in touch with the KR'2002 Conference Chair, Fausto Giunchiglia, for co-hosting at either of these locations and to coordinate their organization.

The proposal is organized as follows:

- The main part, independent of the location, presents an overview of the team, the proposed policy for the organization of the conference, its format, the co-location with KR and additional events foreseen namely workshops, tutorials and the planning competition.
- Two different sub-sections describe the alternative venues offered along with the location-dependant arrangements and budget (including local sponsors and specific costs). The conference and accommodation facilities, transportation access, and main venue features are briefly summarized here; they are further developed in brochures specific to Toulouse and Trento and attached as annexes.

## 2 Joint Proposal

### *2.1 Team*

The conference will be co-chaired by the three proposers:

- Malik Ghallab, LAAS-CNRS, France
- Joachim Hertzberg, GMD, Germany, and
- Paolo Traverso, IRST, Italy

Brief CVs of the proposers follow in the annex.

The proposing team further consists of the following colleagues, who will be part of the Program committee and will have these more specific responsibilities:

Associate Program Chairs and Coordination with KR:
- Susanne Biundo, University of Ulm, Germany
- Sam Steel, University of Essex, UK

Organization of the workshops:
- Fahiem Bacchus, University of Toronto, Canada (t.b.c.)
- Kanna Rajan, NASA Ames, USA

Organization of tutorials:
- Amedeo Cesta, CNR, Italy
- Héctor Geffner, Universidad Simon Bolivar, Venezuela

Planning and scheduling competition:
- Maria Fox, University of Durham, UK
- Derek Long, University of Durham, UK

Publicity and international sponsoring:
- Brian Drabble, University of Oregon, USA
- Austin Tate, AIAI, Edinburgh University, UK

The Program Committee will comprise, in addition to the above , about 30 more researchers well known within the Planning and Scheduling community. Particular attention will be paid to cover all areas of interest in Planning and Scheduling. A provisional list of potential invitees to the Program Committee will be provided upon request to the AIPS Council. The discussion about all major decisions, including the selection of invited speakers, will be open to the Program Committee members.

The organizing committee will depend upon the chosen location. Sections 3.1 for Toulouse and 3.2 for Trento provide information about its possible composition.

### *2.2 Conference format*

The scientific organization of the conference will be very much in the spirit of previous conferences. The topics of the conference will cover all aspects of planning and scheduling. Of particular interest will be papers that address real-world problems, bridge the gap between theory and practice, and those that effectively combine planning and scheduling with other areas of Computer Science. Contributions extending the state of the art and the rational foundations for critical issues such as Interactive or Mixed-Initiative Planning, Dynamic planning, and Uncertainty or Incompleteness in Planning will be particularly encouraged.

The format of the conference will be along a 3 days, single track, technical program, highlighted by 3 invited talks and possibly a banquet dinner address. This technical program will be preceded by 2 days of workshops, tutorials and the planning competition.

The proposed policy for this technical program is to have a single type of paper in the proceedings, solely selected on the basis of scientific quality. We wish to avoid the second class of papers, usually reserved for poster presentations that have a reduced space in the proceedings and cannot be referenced as AIPS *papers*. At the same time we would like to keep some flexibility should the number of high quality papers meriting full acceptance require it, without resorting to multiple parallel tracks. Consequently, all accepted papers will

be treated equally in the proceedings. However, depending on the nature of their technical content, accepted papers will be proposed under 3 forms of presentation at the conference:

- Long (30 minutes) regular presentations, for the majority of the papers
- Short (5 minutes) formal introduction to the work plus a computer demonstration for contributions that are well illustrated by a developed system
- Short (5 minutes) formal introduction to the work plus a poster presentation for contributions that develop a sharp focused result or technique that can easily be presented as a poster.

This policy will be explicitly stated in the call for papers. It will be made clear that the 3 forms of presentation are not a distinction of merit or of significance of the work. The proceedings will not distinguish nor mention the presentation formats of the accepted papers. The referees will be asked about the most appropriate form of presentation when they recommend acceptance of a paper. In practice the organization will strive to offer a fair amount of attention to all forms of presentations, and to provide facilities in order to make demos and posters enjoyable interactions for authors and their audiences. Formal sessions will be organized by topics; they will mix long and short presentations.

The workshop program will be along the lines of previous AIPSs': with a limited number of workshops (three to five) with a selected focus, providing an informal setting for active discussions. Attendance to workshops will be by invitation only. We would like to propose tutorials for the first time at AIPS. We'll encourage tutorials on issues of interest to researchers as well as to practitioners in the field, e.g. on programming planning and scheduling domains with hands-on experience. We will provide the needed support and facilities for these kinds of tutorials, including computer facilities and technical support. Participation to each tutorial will be limited to a reasonable number of early registrants.

The planning competition will continue the highly successful tradition of previous AIPS conferences. There will be a wide range of tracks in which different kinds of planners can compete, for example planning with time and resources, planning under uncertainty and mixed initiative planning. The goal of the competition will be to help close the gap between planners as pure research tools and as being applied to real world problems.

As stated earlier, we are proposing to co-locate next AIPS with KR'2002. Either Trento or Toulouse can provide the necessary facilities to co-locate the two conferences. They will be managed independently, but with a single organizing committee. Once the technical programs have been decided by the two program committees, coordination will take place between them in order to promote a scientific synergy in their respective audiences. Joint sessions and/or joint invited talks will be considered. AIPS tutorials will be organized so as to benefit interested KR participants.

### *2.3 Budget*

One important constraint is that the conference break even financially. Given that constraint, our goal is to raise enough sponsoring funds at the local and international levels, and to get the best local conditions in order to offer the lowest possible registration fees, particularly for students. We will try to follow the AAAI registration model where a single fee applies to all events at AIPS: the technical program, workshops, tutorials, competition and social events. Also a reduced joint registration to AIPS + KR will be proposed.

Student scholarships paying for registration and part of travel or accommodation expenses will be sought, in particular from the European Commission and from other international

agencies. Part of the funding will be used to endow a prize for the best contribution coming from a young researcher.

In addition to the local support, we intend to request funding from several companies in Europe and elsewhere. Part of this industrial sponsorship will be used towards awards for the planning and scheduling competition. The European Commission has a specific program for funding technical events, the High-Level Scientific Conferences program, to which we will apply, with the full support from PLANET, the European Network of Excellence in AI Planning. PLANET is also expected to sponsor the event in the context of the planning competition or for an invited keynote speaker.

A first estimate of the budget of AIPS'2002 (based on final budgets of recent conferences organized by LAAS and IRST) is in the order of 55 Ke for the 3 days technical program:

- conference facilities: 10 Ke
- publicity, communication and equipment: 5 Ke
- lunches and coffee breaks: 15 Ke
- social events: 10 Ke
- proceedings: 4 Ke
- invited speakers: 6 Ke
- miscellaneous: 5 Ke

We'll be planning a break-even point at 150 registrants with a total funding of 20 Keuro[1] (see sections 3.1.5 and 3.2.5). with a contingency for a break-even point at 100 participants with less sponsoring.

Taking into account the expected funding, this leaves 35 Ke to be covered by registration fees. Hence registration will be in the order of 240 euros per person for 150 registrants. We intend to offer discounted registration for students.

This provisional budget does not take into account the two days of workshops, tutorials and planning competition. In order to keep the registration fees at the proposed level, one option is to rely on facilities and equipment provided locally either in Toulouse or Trento.

### *2.4 Proceedings*

Our proposal is to have preprints made available for the conference and to publish the proceedings shortly after the conference. The additional cost of such arrangement is minor; preprints of good quality (see for example ECP'95 or ECP'97) may even be printed for free at the local organizing institution. The main advantages are the following:

- One avoids publishing delays, which tighten the submission and evaluation calendar. A publisher requires several weeks for preparing and shipping the proceedings in time for the conference. This constraint propagates back to a submission deadline very early in the fall (for a conference in spring) and to short evaluation and paper revision periods. In addition, as at the last conference, submission deadlines coincide with those of AAAI for authors submitting to both. In comparison, preprints can be prepared locally within a week. Papers in final form do not need to be received much longer in advance.
- Authors could be offered a short period after the conference (3 to 4 weeks) to edit their paper if they wish to, in order to make minor revisions or clarifications reflecting the feedback they might have received at the conference .

[1] Note: 1 euro is about 0.95 US dollar

Given the very low cost for producing CD-ROM's, we will offer preprints in printed as well as in this convenient electronic format. We intend to negotiate with the main publishers in the field for a good deal in the publication of the edited proceedings and their shipping to every registrant to the conference. Both the preprints and the proceedings will be included in the registration fees.

### *2.5 Miscellaneous*

This proposal reflects a consistent and global view of the AIPS'2002 event, as perceived by the proposers. Needless to say, we are open to suggestions for improvement.

## 3 Conference location

### *3.1 AIPS'2002 in Toulouse*

#### 3.1.1 Team

This proposal is fully supported by FERIA, a recently created federation of the main EE&CS laboratories in Toulouse:

- LAAS - CNRS (http://www.laas.fr/)
- IRIT, University Paul Sabatier (http://www.irit.fr/), and
- CERT-ONERA (http://www.cert.fr/)

These 3 laboratories have large AI departments: the Robotics and AI group at LAAS, the AI and Cognitive Systems at IRIT, the DCSD and DTIM departments at CERT. We have the support of the following scientists: D.Dubois, H.Prade and M.Cayrol at IRIT; G.Verfaillie, P. Fabiani at CERT; R.Alami, F.Ingrand and M.Ghallab at LAAS.

The local organizing committee, will consist of about 6 researchers from these 3 AI departments, in addition to two representatives from neighboring labs that are active in planning namely INRA (F. Garcia and co-workers), and ENIT (T. Vidal and co-workers).

This committee will be supported by the staff at LAAS responsible for organizing technical events. Overall there is substantial experience at FERIA for organizing such events: a total of about 20 conferences, national or international, are organized each year by the 3 laboratories (see list of events past or forthcoming in their web pages). A typical recent example is the World Congress on Formal Methods on September 99 (http://www.cert.fr/fm99/index.html) which had over 700 participants. Specifically in Planning, the proposing team had the experience of the local arrangements of the European Conference on Planning (ECP'97) in September 97.Finally, the organization will rely on a local non-profit technical society ADERMIP, for handling all the financial and accounting tasks namely registrations, funding, payment of bills, etc. This service will cost about 8% of the conference budget.

#### 3.1.2 Conference facilities

We propose to organize AIPS at the "Centre de Congrès Pierre-Baudis", a recently constructed convention center located downtown in the heart of Toulouse (http://www.centre-congres-toulouse.fr/). This center has a dozen meeting rooms that can accommodate from 30 to 1200 participants. It also offers large exhibit areas and all the technical audio and video facilities necessary for conferences. It is surrounded by a lush green park, several hotels (over 300 rooms within one or two blocks) and many restaurants. The cost for this facility for 200 persons is in the order of about 3 Ke a day.

An alternate location is the "Manufacture des Tabacs", which is part of the University of Toulouse. This is a historic building that was recently renovated. It is also located in the center of town (15' minutes (??) walking distance from Place du Capitol, 5' minutes (??) away from the *Centre Pierre-Baudis*), by the Canal de Brienne (see http://www.univ-tlse1.fr/reperes/indexfrm.html, specifically the page on the *Manufacture*). It has large teaching rooms that can accommodate up to 400. The cost for organizing the conference there would be very modest, potentially even free of cost if we get sponsorship from the University. Workshops, Tutorials and the Planning competition could also be organized at this venue.

### 3.1.3 Accommodation

Toulouse has about 160 comfortable hotels in the downtown area, which offer over 8000 reasonably priced (50 to 100 euros) rooms. It has excellent restaurants with a wide choice of food and prices (see http://mairie-toulouse.fr/).

### 3.1.4 Transportation access

Toulouse airport (15 minutes from downtown) is served by about 40 airlines that connect the city daily to almost all European capitals, with for example frequent flights to Frankfurt (3 daily round-trips), to London (7), or to Paris (over 25). The city is also connected by high-speed trains (TGV) to Paris.

Most downtown destinations are within walking distance. Metro and buses provide a convenient public transportation network within the city and to its suburbs; in particular for visiting the scientific campus where the FERIA labs are located.

### 3.1.5 National, Regional and Local Government and Industry Support

This proposal will have the support of FERIA and its laboratories, both in services (e.g. printing pre-prints and other conference material, providing staff) and in funding. Scientific events in Toulouse are usually funded by "Conseil régional", the "Conseil départemental" and the city council. FERIA being a CNRS organization, we will get funded from CNRS. At the national level, additional funding can be obtained from the French Ministry of Research. To that we will endeavor to add the European and international sponsorship mentioned in section 2.3.

A lower bound of the total funding we expect to be able to raise is in the order of 20 Keuro.

### 3.1.6 Venue attractiveness

Toulouse is the second largest academic city in France with students comprising one fourth of its population. This makes it a lively and active, with a rich cultural life, offering visitors many museums, opera and concert houses etc.

The enclosed brochure provides business and tourist information about Toulouse and it’s the local region. More details concerning conference facilities, transportation and accommodations in Toulouse can be found there and in http://mairie-toulouse.fr/.

## *3.2 AIPS'2002 in Trento*

### 3.2.1 Team

The proposal is fully supported by

- ITC/IRST (http://www.itc.it/ and http://www.itc.IRST/)
- the University of Trento (http://www.unitn.it/ )

ITC/IRST has three AI departments that are interested in Planning, Automated Reasoning Systems (http://sra.itc.it/), Interactive Sensory Systems and Cognitive and Communication Technologies. The University of Trento is active in Planning at the Department of Computer and Management Sciences (http://www.cs.unitn.it/). Scientists in Trento who are in support of this proposal are: Fausto Giunchiglia, John Mylopolous and Roberto Sebastiani at the University of Trento; Alessandro Cimatti, Oliviero Stock and Paolo Traverso at ITC/IRST.One of the goals of ITC/IRST is to promote cultural activities in Trentino (the province of Trento). ITC/IRST therefore, has an office fully dedicated to the organization of conferences, workshops and summer schools, and has the expertise for handling the local organization and all financial and accounting tasks. The local organizational committee, will consist of researchers from ITC/IRST, the University, and from the staff of the ITC/IRST office for the organization of conferences

ITC/IRST has a long experience in organizing International conferences, also of big-medium size. A typical recent example is the federated Logic Conference on July 99 -- FLOC99 (http://floc99.itc.it ) that had over 700 participants, 15 workshops, two tutorials, two keynote events, scheduled demo sessions, and a system competition of the same size of that held at AIPS 2000. An Internet room with about 30 Internet connections was provided during the main conference. As further examples, ITC/IRST has hosted the International Conference on Principles of Knowledge Representation and Reasoning in 1998 (KR98), and will host the European Workshop on Case Based Reasoning on September 2000 (EWCBR'2000).

### 3.2.2 Conference facilities

We propose to organize AIPS at Centro Servizi Santa Chiara (the same conference site used by FLOC99), located in the heart of Trento in the historical part of the city The center is in the same area where most of the hotels are located, all within walking distance. The center is co-located with departments from the University of Trento, and is surrounded by a nice garden. It provides large (300-500-800 seats), medium (100-150 seats), and several small rooms (25-50 seats) with all the technical audio and video facilities necessary. It also provides large lobby area for registration, exhibitions, demos, and meeting rooms.

The costs vary from 1 Keuro a day for large to 500 Euro a day for medium rooms. ITC is in close proximity to Centro Servizi Santa Chiara (about 20 meters.). ITC has some conference rooms that would be available free of charge (a room with 100 seats, a room with 50 seats and other smaller rooms).

### 3.2.3 Accommodation

Trento provides more than a dozen good hotels, for a total of a thousand rooms, located at a walking distance from the conference site. Costs vary from about 40 to 100 Euro. The Youth Hostel is located at the local university. Several good Italian restaurants are also in the same area.

### 3.2.4 Transportation access

Trento is located in the North Italy Alpine Region, on the freeway and rail line that connects Verona to Innsbruck and Munich. International airports nearby are: Verona (45 minutes by train), Milan and Venice (from 2.5 to 3 hours by train). Milan has several daily flights direct to the USA and to the rest of the world. Verona (http://www.aeroportoverona.it/) has frequent direct flights to European capitals, e.g., London (5 daily flights), Paris (3), Frankfurt (3), Munich (3), Rome (7), and Barcelona (3).

The railway station, hotels, the conference site and the historical part of the city are all within walking distance. Some of the labs at ITC/IRST (in the hills surrounding the city) can be reached by public transportation (10 - 15 min.).

### 3.2.5 National, Regional and Local Government and Industry Support

Trentino is a summer and winter resort. Initiatives such as an international conference are welcome and strongly supported by the local community, private and public Institutions, such as the regional government (The Autonomous Province of Trentino), the City Council, the University of Trento, the industrial association, and major banks. To that will be added the potential for European and international sponsoring mentioned in section 2.3. As an example, the support provided by the local government for FLOC99 was around 45 Ke, with a total sponsorship of 90 Ke.

As a lower bound of the total funding we believe we will be able to raise is 25 Ke.

### 3.2.6 Venue attractiveness

Trento (http://www.apt.trento.it/ and http://www.unitn.it/trentino/) is a small (100.000 inhabitants) city located in the North-East of Italy, close to the center of Europe, and very close to other European Countries such as Germany, Austria and Slovenia (for instance, Munich is around 3.5 hours by car). Trento downtown has several historical monuments, museums, frescoed palaces from the medieval, romanic, gothic, and renaissance periods. Trentino spring seasons are enlivened by open air cinema, theater, and concerts. The city is dominated by the nearby Mountains of Bondone and Paganella (about 2.200 m high) (http://www.apt.trento.it/bondone.htm) with a lot of hiking trails with wonderful views. It is close to the Dolomites, one of the most interesting and scenic group of mountains of the Alps (http://www.unitn.it/trentino/trentino.html). The Dolomites offer skiing and sporting activities all year round. The city is close to several scenic lakes (Lago di Garda - 25 min by car, lakes of Caldonazzo and Levico - 10 min by car and several smaller lakes in the Alps). Trento is also close to other interesting cities, such as Venice, Verona, Bologna, Innsbruck (2 hours by train) and many other exciting smaller - medieval towns.

The enclosed brochure provides tourist information about Trento and Trentino. See also the FLOC99 web pages about tourism (http://floc99.itc.it/turism/trento.htm, http://floc99.itc.it/turism/trentino.htm, and http://floc99.itc.it/turism/excursion.htm).

# Annexes

### *Brochures describing the proposed locations*

This material is being sent by airmail.

### *CV of the proposers*

**Malik Ghallab** is Directeur de Recherche at the Centre National de la Recherche Scientifique, within the Robotics and AI research group at LAAS-CNRS, Toulouse. His main interests are at the intersection of robotics and AI, that is in the robust integration of perception, action and reasoning capabilities within autonomous robots. His activity is mainly focused on mobile robotics, within formal topics (perception, control, planning and decision making) and experimental projects. The latter include a multi-robot cooperation project for structured environments and an exploration robot project for unstructured environments. He contributed to topics such as object recognition, scene interpretation, heuristics search, pattern matching and unification algorithms, knowledge compiling for real-time synchronous systems, temporal planning and supervision systems. His work on this later topic has been focused for the last 10 years on the development of the IxTeT system for planning and chronicle recognition. IxTeT has been applied to robotics as well as to other domains, e.g. scheduling and process supervision.

Malik Ghallab served as co-chief editor for the Revue d'Intelligence Artificielle for many years. He is member of several editorial boards and Program Committees. He was the director of the French national AI program. He coordinated the 5 national research programs in information science. He is the chairman of ASTI, the French Technical society in Information sciences and technologies.

**Joachim Hertzberg** heads the Robot Control Architectures (ARC) group within GMD's Institute for Autonomous intelligent Systems (AiS). Past affiliations were with the International Computer Science Institute (ICSI), Berkeley, CA, and with the Universities of Bonn (Germany), Dortmund (Germany), and Auckland (New Zealand); he is permanently affiliated with the Computer Science Department of Bonn University as an external lecturer ("Privatdozent"). His areas of research are robot control architectures, robot navigation, action planning, temporal reasoning, logical reasoning about action and change, and constraint-based reasoning. His current research has dealt mostly with hybrid robot control architectures, in particular with the question of overlaying a behavior-based robot control regime (Dual Dynamics) with a plan-based control component for strategic, long-term behavior coordination. In terms of application of the research, he has been working since six years on a chain of projects in sewer robotics, i.e., the problem of developing autonomous mobile robots for inspection tasks in communal sewerage systems.

Joachim Hertzberg served as the speaker of the SIG Planen und Konfigurieren of the German Gesellschaft für Informatik, has organized and chaired the first European Workshop on Planning (EWSP-91, from 1997 on European Conference on Planning, ECP) and the first national German workshops on planning and configuration (PuK-87, and later ones). He was a PC member of several national and international conferences. He is a member of the

editorial committee for the area Planning and Scheduling of the Electronic Transactions on Artificial Intelligence (ETAI).

**Paolo Traverso** is the Head of the Automated Reasoning Systems Division at ITC/IRST. The Division consists of 30 people doing research in Planning, Case Based Reasoning, Formal Methods and Multi Agent Systems. The division is involved in several industrial projects, e.g., in the area of safety critical applications (railways and avionics sectors), environmental emergency planning for civil defense, e-commerce, distributed systems and industrial controllers. He has been the project leader of industrial and experimental projects, e.g., the development of Rail Traffic Management Systems, the design of tools for Automatic Train Protection, the synthesis of industrial controllers, the development of systems for planning and control in space environment. He has been lecturer at the University of Genoa (course of Artificial Intelligence) and at the University of Trento.

Paolo Traverso served as co-editor of special issues of the Int. Journal on Software Tools for Technology Transfer, co-editor of proceedings of international conferences on formal methods, and as a member of the editorial committee of the planning and scheduling area of the Electronic Transactions on Artificial Intelligence (ETAI). He was the co-chair of the FLOC99 workshop on Run Time Result Verification (RTRV99), and a member of the Steering Committee of the 1999 Federated Logic Conference (FLOC99). He was the organizer of the Conference on Computer Automated Deduction in 1999, the organizer of AAAI workshops on planning, and of the AIPS'2000 workshop on "Model Theoretic Approaches to Planning".

His main research interests are in planning for non-deterministic domains, conditional and iterative planning, planning under partial observability, planning for extended goals, reactive planning, and the integration of action, perception and reasoning.


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