



monet

Newsletter

Issue 2

Supported by EC Research Framework Programme 5 under the IST Programme

ISSN 1464-9276



With this issue:

Contents

Editorial

Conference Papers On Line

New MONET Director

IST 2002

CHEM: Advanced Decision Support System

Report on QR 2002

Profile of the Project Office

MONET Summer School

Update on Framework Programme 6

The MIR Database

monet Newsletter

Supported by EC Research Framework Programme 5 under the IST Programme



Automotive Supplement

Editorial
AutoSteve



Model-Based On-Board Diagnosis and Tools for the Developer of On-Board Systems
Whole Lifecycle Electrical Design Analysis

MONET is a European Network of Excellence representing Model Based Systems and Qualitative Reasoning (MBS & QR), two branches of Artificial Intelligence Technology. The main aim of the Network is to promote the transfer of these technologies into real life applications for use in Industry.

This supplement to the MONET Newsletter is focused on promoting the aims of the Automotive Task Group. We have brought together information on real world applications of MBS & QR in different sectors of the European Automotive Industry.

<http://monet.aber.ac.uk>

The MBS & QR Community

<http://monet.aber.ac.uk>

The MBS & QR Community



Editorial

Welcome to the second edition of the MONET Newsletter. Some of you may have noticed that the ISSN number has reappeared on this issue. Now that it has been reinstated, it should be a permanent feature.

This edition of the MONET Newsletter has a lot packed into it – including the first in our series of Task Group Supplements. We intend to produce a series of these supplements with each one featuring a specific Task Group, they will detail what the Task Group has achieved and what it has planned for the future.

This issue also includes articles on some of the conferences this year as well as a round up from Sylvie Cauvin on the CHEM Project.

The next issue will be coming out in the new year, so if you have any articles you would like us to publish, please send them in to the MONET office. Deadline for the next issue will be 13/1/03.

Since the last issue we have been busy here in the MONET office. We attended QR2002 and have been redesigning and rebuilding the MONET website – if you haven't already visited the new site, have a look. The address is on the bottom of each page of the newsletter.

If you have any comments on the website or the newsletter, please get in touch.

Conference Papers On Line

DX02

The Thirteenth International Workshop on the Principles of Diagnostics (DX'02) took place this year high in the Austrian Alps in the town of Semmering. The Workshop was a meeting of minds from the International Diagnostic Community and saw Students, Professors and Professionals alike presenting and engaging in the resultant discussions. The wealth of presentations were intermixed with poster sessions and social activities which afforded all participants plenty of time to interact and discuss the topics of the day.

The International DX Workshop Proceedings are available on the MONET Website at: http://monet.aber.ac.uk:8080/monet/members/dx02_proceedings.htm

MBS & QR at ITS 2002

The workshop discussed the use of Model Based Systems and Qualitative Reasoning (MBS & QR) for Intelligent Tutoring Systems. The importance of MBS & QR for tutoring and training systems has been identified by many researchers in the area of Artificial Intelligence in Education. These researchers agreed on the necessity for rich, articulate and well indexed simulations to facilitate a communicative interaction between learners and educational software. MBS & QR appears to be appropriate for the implementation of the major functions of intelligent training, help and teaching environments. This workshop further discussed and established the role and use of MBS & QR for instructional systems. The workshop participants were asked to submit research, review, or position papers on issues related to this theme.

The Papers presented are shown in full on the MONET Website and can be accessed through the Education and Training Task Group Pages or by entering the following link:

http://monet.aber.ac.uk:8080/monet/members/its_02.html

New MONET Director



Dr George Coghill recently moved from Aberystwyth to Aberdeen, leaving the position of Director of the MONET Project available. Dr Neal Snooke is the new incumbent of the position.

Neal is the eldest of six children and was born and brought up on the Isle of Wight. He chose Aberystwyth for his university education as it was one of the few universities which offered a course in Microelectronics and Computing. He was also

looking for a location by the sea, due to his sailing interests, which narrowed his choices somewhat.

After receiving his Honours degree in Microelectronics and Computing in 1990, he went to work for Hewlett Packard as a technical enquiries specialist. Whilst there he wrote a software package to improve sales lead tracking and sales follow up systems within the company. The consultancy that took over the running of this software subsequently employed Neal part-time during the period that he was working towards his PhD in Wavelet based image compression, back in Aberystwyth.

Since completing his PhD in 1994, Neal has worked at the Computer Science Department of the University of Wales, Aberystwyth, going from research associate on the AutoSteve project (see the article in the Automotive Supplement of this Newsletter) to lecturer specializing in network technologies and Telematics.

His research interests include model based and qualitative reasoning in the area of automated design analysis tools for electrical, electronic, network-based, and embedded systems.

Neal's external interests include traction kiting, for which he has designed and built both his own kite buggy and several kites, including a several experimental prototypes ranging from 2 to 8 metres square. He is also interested in radio-controlled aircraft and helicopters, which he has of course designed and built too. His main interest, however, is his Westfield car, which he also built himself, including programming the fuel injection system and is the reason he is moving house to provide it with a garage!

IST 2002



The main purpose of IST 2002 is to help build the European Research Area for the Information Society within the European Union's Sixth Framework Programme for Research and Development (FP6), which is to be launched at the end of 2002.

Held at the Bella Center, Copenhagen on 4-6 November, IST 2002 has a broad scope which includes everyone with a strategic interest in Information Society research, whether at European, National or Regional level – or even entirely within the private sector.

The general theme is 'Partnerships' – your partnerships. The aim is to help Europe's researchers and industrialists build networks for collaborative IST research, at a time when the IST priority within the EU's 6th Framework Programme for research and technological development is getting underway.

The web address is as follows:

<http://2002.istevent.cec.eu.int>



CHEM: Advanced Decision Support System for Chemical /Petrochemical Manufacturing processes

Sylvie Cauvin

IFP, 1-4 avenue de Bois Préau, 92852 Rueil Malmaison Cédex, France

email: Sylvie.Cauvin@ifp.fr

Advances in sensor technology, distributed control systems and computer technology are dramatically increasing the amount of data that can be collected on the operation of industrial plants. However, the sheer volume of these inputs makes it extremely difficult for human operators to react appropriately. The aim of the FP5 CHEM¹ project is to develop decision support system software that will integrate the use of specialised process control 'toolboxes' to provide usable on-line information for efficient, problem-free management of refining, chemical and petrochemical processes. The Decision Support System (DSS) to be developed will allow synergistic combination of advanced tools developed by the partners of the project, who bring complementary expertise in various aspects of process supervision.

This three-year GROWTH project began in April 2001, with an eight-nation consortium including both EU and applicant country partners and led by the Institut Français du Pétrole. Participants include five industrial companies and five academic institutions, with four industrial assistant contractors. The scope of CHEM is further extended by its incorporation into the international IMS (Intelligent Manufacturing Systems) programme.

The development of advanced methods and software tools based on statistical, system theoretic, and artificial intelligence methods for signal processing, process monitoring, fault detection and isolation, diagnosis, and reactive production scheduling is carried out. Twenty two toolboxes will be delivered in the project. Details about each of them can be found on Chem Web server: www.chem-dss.org and a short bibliography is listed at the end of this paper.

Nevertheless, the interesting point is to allow sets of toolboxes to work together on industrial plants. For reaching this aim, a methodology is elaborated to define how the different toolboxes that are developed can be used individually and together. In the future, this will help to build new supervision applications easily on different processes. The aim is to reach a high level of genericity. For defining this methodology, a whole activity diagram has been elaborated. An information model and a methodological guide are under development.

Moreover, the communication between toolboxes must be easy. Work has been carried out on how these advanced tools will be integrated into the DSS in a modular fashion. XML, Message Oriented Middleware, Corba, Java are being employed jointly with G2 from Gensym (www.gensym.com), a commercial proven platform for developing complex industrial applications. G2 is combining its real-time and communication features with the previous standard technologies to provide a unique integration platform for the large number of heterogeneous toolboxes in the project. It demonstrates the advantages of these standards in industrial environments. The DSS is developed such as to be able to interface with commercial plant databases and process control software.

An important aspect of the project concerns the industrial tests. The DSS environment will be tested at pilot plants and industrial sites, and it will be directly applicable to partner facilities to ensure rapid technology transfer. The industrial end-users provide different kinds of processes including a FCC (Fluid Catalytic Cracking), a paper making process, a gasification pilot plant, a steam generator, a benzole recovery plant and a CIM (computer integrated manufacturing) process. Several sets of toolboxes have been defined to work together on those processes.

In conclusion, the aim of the CHEM project is to develop and implement an advanced Decision Support System (DSS) for process monitoring, data analysis and interpretation, event detection and diagnosis, abnormal management operation support in industrial processes. It will be a synergistic integration of innovative software tools, which will improve the safety, product quality and operation reliability as well as reduce the economic losses due to faulty states, mainly in refining, chemical and petrochemical processes.

Partners:

IFP, France
Gerth, France
Computas, Norway
Corus, United Kingdom
Gensym, The Netherlands
Lund University of Technology, Sweden
Metso, Finland
Oy Keskuslaboratorio – Centrallaboratorium, Finland
Technical Research Centre of Finland, Finland
Thales Airborne Systems, France
Universitat Politècnica de Catalunya, Spain
Universitat de Girona, Spain
Universite des Sciences et Technologies de Lille, France
UPM-Kymmene, Finland
Warsaw University of Technology, Poland

Bibliography

- ® "Operator support for abnormal situations using existing safety and reliability knowledge". Perttu Heino, Pasi Valkokari, Erkki Kotikunnas, Sami Lamberg and Kati Rönkkö.
- ® "Grafchart for Procedural Operator Support Tasks" by Karl-Erik Årzén, Rasmus Olsson, and Johan Åkesson. IFAC World Congress, Barcelona, July 2002.
- ® "Qualitative representation of process trends for situation assessment based on cases". Joan Colomer, Joaquim Melendez, Fco. I. Gamero (UdG) IFAC World Congress, Barcelona, July 2002.
- ® Ruiz, D., Nougues, J.M., Cantón J., España A. and Puigjaner, L., "On line fault diagnosis system support for reactive scheduling in multipurpose batch chemical plants", *Computers and Chemical Engineering*, 25, pp 829-837 (2001).
- ® Ruiz, D., Benqilou, C., Nougues, J.M., Puigjaner, L., "Proposal To Speed Up the Implementation of an Abnormal Situation Management in the Chemical Process Industry", *Ind. Eng. Chem. Res.*, 41, pp. 817-824 (2002).
- ® Ould Bouamama B., Model builder for Thermo-fluid Systems Using a Bond Graph and Functional Modelling, Proceedings of 13th European Simulation Symposium, ESS01, pp. 822-826, October 18-20 2001, Marseille (France).
- ® B. Heim, S. Gentil, L. Travé-Massuyès, B. Braunschweig. Fault diagnosis of a chemical process using causal uncertain model. 15th European Conference on Artificial Intelligence, Prestigious Applications of Intelligent Systems (PAIS-2002), Lyon, July 24-26 2002.

¹ "Chem Project is funded by the European Community under the Competitive and Sustainable Growth programme of the Fifth RTD Framework Programme (1998-2002) under contract G1RD-CT-2001-00466."



Report on QR 2002

This years saw the 16th International Qualitative Reasoning Workshop (QR'02) take place from the 10th – 12th June, at the Capri Hotel, Sitges. Sitges is a small seaside town just south of Barcelona in the Catalan region of Spain. The hotel and conference facilities were excellent and the organisers of the conference had considered all the ingredients for a successful event. Below is a selection of reports and comments, mainly from students who were supported by bursaries from the MONET Project.

In this report the focus is on my personal research interest, the role of Qualitative Reasoning (QR) in explanation generation.

Explanation Generation & Qualitative Reasoning

At the workshop, many of the participants commented on the need for and perceived difficulties in communicating about models or simulation results with users, exemplified in particular by the invited talk by Bert Bredeweg, entitled 'Communicative Interaction and Qualitative Reasoning'. In his talk, the prospective users are learners in an educational setting, who may develop a model and simulate it interactively, coached by the system. Besides tools which help the communication from system to user, based on a 'correct model', he also indicated the need for tools which help students to build models themselves, and discussed techniques for interpreting student behaviour while modelling or answering questions asked by the system.

The paper 'Application of Qualitative Process Theory to Qualitative Simulation and Analysis of Inorganic Chemical Reaction', by S.M.F.D. Syed Mustapha, Pang Jen-Sen and Sharifuddin Md. Zain, also presented an educational system, based on Forbus' QPT modelling framework. Since both the QPT framework and Bredeweg's GARP framework use articulate and compositional models of structure and behaviour, it seems useful to compare the results of these projects to investigate whether it's possible to generalize over the different techniques used, as well as the different subject domains.

Simplification, Aggregation, Abstraction

Because qualitative simulations can become very complex, simplifying them is often necessary. Three papers had this as a central theme: (1) 'Graph Theoretical Analysis of Qualitative Models in Sustainability Science' by Klaus Eisenack and Gerhard Petschel-Held, (2) 'Aggregation of Qualitative Simulations for Explanation' by Anders Bouwer and Bert Bredeweg, and (3) 'Abstracting Automotive System Models from Component-based Simulation with Multi Level Behaviour' by Neal Snooke and Jonathan Bell. The first two had much in common, in terms of the approach, and even some of the techniques used to simplify state-transition graphs. The third focused on a particular domain of electronic circuits (in cars) and was concerned about simplifying the model of the circuit by hiding insignificant changes based on the distinction between system and environment variables. All three showed how abstraction methods are related to visualization issues, by reducing complex to simplified graphs.

Textual explanation

Textual explanation was also addressed. Sven Kuehne and Ken Forbus presented a poster, entitled 'Qualitative physics as a component in natural language semantics: a preliminary report'. Their approach is to map qualitative modelling constructs onto (Berkeley FrameNet) frame semantics. This extends the range of phenomena that FrameNet covers to include domains traditionally studied in QR. Work in progress focuses on parsing a corpus of science textbooks to support automated generation of qualitative models.

Another poster presentation, 'Towards a framework for enhancing Qualitative Simulation with Explanation', by Mohamed El Habib Laraba and Zaidi Sahnoun, outlined the design goals of an explanatory module. It should be capable of justifying each transition, and explaining why an expected behaviour is not present in the simulation (the second seems a much harder problem!). Their framework includes explanatory strategies and principles, domain knowledge (used in the simulation, or further elaboration), dialogue history and knowledge about effective cooperation, control knowledge, and linguistic knowledge.

Making the right distinctions

Reflecting on the workshop as a whole, the range from *technically* to *conceptually* oriented QR was well-represented, as well as the range from *theoretical* to *practical* concerns. Luckily, this did not lead to a fragmented set of presentations, but rather to an interesting overview of issues (solutions as well as problems), of which many seem related. For example, explanation requires the construction of a model, but there are many variations possible for each of these two processes, depending on the kinds of data (numerical, textual, logical, noise, etc.), knowledge (rules, constraints, algorithms) and actors (QR experts, domain experts, users, learners) involved. The common theme among all these variations in QR may well be expressed by paraphrasing Peter Struss: 'it all comes down to making the right distinctions'.

Anders Bouwers, University of Amsterdam

My attendance at QRO2 has been a great experience. I'm surprised by the cordial atmosphere created by everybody. The people were very active with comments and ideas to improve or refine the work of others. I've seen a global vision of the different applications of QR and I've got new ideas for my research area – analysis of temporal series from dynamic systems.

*Francisco Javier Cuberos
Systems Administrator for
Radio y Televisión de Andalucía*



During the last QR Congress that took place in Sitges, I realised about several things that can make me be closer to the Qualitative Reasoning techniques in the future. The problem of dealing with noise in the episodes based techniques is not solved yet, but new useful approaches were proposed. At the same time, there are other methods based on QR that can be useful for analog electronic circuits, for example, abstracting the envelope of a function. So, from my point of view, the QR2002 congress was very useful in that sense.

Carles Pous, University of Girona

I am completely satisfied with this workshop. It is the first time that I have attended to a conference and QR'02 has been a great experience. The cordial atmosphere created by everybody surprises me. I am beginning my research in the analysis of data series and the application of these technologies in the generation of cultural itineraries, but my work is in a preliminary step.

Sebast Aparic, University of Seville

This was my first experience of an academic conference and I came away from the event feeling that I had gained a valuable insight into the field of Qualitative Reasoning and Model Based Systems. It was also good to meet the people that I had been "talking" to via email.

Janet Thomas, MONET Project Administrator



Preliminary and arrival

Once we arrived in Sitges the previous day to the inaugural sessions, a cocktail reception was offered by the organizers which allowed all the participants to greet other participants and to meet with the new mates. This provided a relaxed and friendly atmosphere for the workshop which encouraged discussion and interchange by the participants in all the sessions. It's important to highlight that this was the general environment at all the activities in the workshop.

Sessions

Besides the two excellent plenary sessions presented by Dr. Bredeweg and Dr. Bratko that have been didactical of high quality, all sessions were very interesting and all papers were widely discussed. Several papers dealt with qualitative simulation by using different techniques and applied to different problems.

Another excellent session was the posters session. In this session, due to its characteristics, a very large discussion was established between the posters presenters and the rest of the participants. This is very important, because most of the posters presenters are people who are beginning their research, and the comments of the more experienced people are always welcome. It was very pleasing to witness the great interest shown by consolidated experts for the beginner's work.

The possibilities of scientific exchanges between the attendees were extended by the different entertainment activities, which included a guided visit to Sitges, a visit to a typical Catalan Cava plant and, of course, the excellent gala dinner, where everyone sample the delights of the quality of the Catalan food.

Important Treated Topics

As we have already said, several diverse and interesting topics were covered. It is very important but academic background is a very important characteristic of this workshop. There was a high level of discussions and debate, that is to say, the high quality of authors was interesting but the main thing was quality of the listeners. They gave several corrections, ideas and new research lines to authors, in a special way to beginner authors who are doing PhDs, and therefore need as much help as possible.

In QR 2002 were presented several works about different topics but personally there are four topics that are interesting for our research dynamic system, qualitative model, qualitative simulation and order of magnitude.

We are going to explain this because each one of these topics is important:

We are working on the dynamic system of Abdel-Hamid, which explains the behaviour of software development projects. It involves several activities, such as the assignment of effort, development, quality, tests, measuring progress of the project, to making, revising and modifying the initial estimation, recruiting, training of selected staff and transfer of human resources among projects. For these reasons, the presented papers in QR2002 that deal with dynamic systems are interesting for us.

Secondly, papers about qualitative models and qualitative simulations are interesting because in our approach, we model the dynamic system of Abdel-Hamid in a qualitative way because the quantitative knowledge that we have about system is little or nonexistent most of the time. In these cases a quantitative treatment of the system is not possible but a qualitative treatment is possible. Qualitative simulation is especially useful when we don't have an

excess or lack of quantitative information in order to simulate a dynamic system. Both aim to provide a technique to carry out designs, diagnosis, analysis and simulation where knowledge that we have of the system is little.

Qualitative reasoning tries to incorporate the observations coming from common sense or intuition. Furthermore, it incorporates the expert's knowledge, and it gives qualitative explanations of the behaviour of a system based on qualitative descriptions of the possible situations of the real world.

The qualitative results are sometimes a bit imprecise, but they offer a clear idea of the possible behaviour.

Lastly, we need define qualitative values that variables can take to deal with the system in a qualitative way. We will simply choose qualitative values and put them in order. We need to define the operators of the restrictions in a qualitative way because the values of the operands are also qualitative. The result of the qualitative operations depends on the intervals that we have defined and on the proportions of these intervals in connection with the other ones. For these reasons, we think that papers about the order of magnitude are going to be especially interesting for our research.

Organization

It is necessary to highlight the nice organization of the workshop because the town, Sitges, is attractive, session room was appropriate, the hotel was comfortable, the lunch and coffee break were delightful and the gala dinner was wonderful and the organizers were kind and they were always willing to solve any problem or doubt.

Antonio J. Suárez Fábrega and Pedro J. Abad Herrera, University of Huelva (Spain)

For me, a young researcher that just begins my work, the participation in the QRO2 has been a very enriching experience. My small contribution to this workshop has been a paper related with my work. From the first moment was a pride expose my work in this event about qualitative reasoning, they are not few the interesting references that I remember to have found and they have been exposed in this workshop. So, this is a good beginning to be part of the scientific community, and better if the exchange of knowledge is made between people that work in the same area.

My research area

I find the thematic of this congress the more appropriate in order to contribute with my work. My area of interest is centered in the application of qualitative information based on episodes for the evaluation of dynamic systems. Our paper presented at QRO2 entitled 'Pattern Recognition Based on Episodes and DTW. Application to Diagnosis of a Level Control System' by J. Colomer, J. A. Meléndez and F.I. Gamero, is centered about the importance of the pattern recognition in the identification of process conditions and abnormalities.

The qualitative representation facilitates the treatment of an enormous amount of data available to plant operators, at the same time that it approximates the signals to the human perception. A way to represent qualitatively the signals is through episodes. The numerical data conversion to qualitative data is an important area of research in itself. Other papers presented at the congress treats this topic, 'QSI - Qualitative Similarity Index' by F.J. Cuberos, J.A. Ortega, R.M. Gasca and M. Toro or 'Learning Qualitative Models in the presence of noise' by G.M. Coghill, S.M. Garrett and R.D. King.

On the other hand, it's typical that the plant operators monitor the state of the process looking for signs of normality or abnormality in the process signals. Effectively, the process conditions and abnormalities could be detected through the patterns of the measured process data. So, a correct representation and classification of these patterns allows users to identify certain classes of situations.

The representation by means of episodes of process signals applied to situation assessment is an important support in supervisory systems. Our contribution take in consideration the problem derived of the comparison of patterns and show an example of application.

The future work continues in this line, trying to create a general methodology that could be adapted to several processes and necessities for comparison of patterns based on episodes. The objective is to reason through the acquired knowledge and to evaluate the different situations of the process. In this sense, it seems that my work will continue being related to the thematic of the workshop.

Fco. Ignacio Gamero, University of Girona

QR 2003 will be held in Brazil and organised by the University of Brasilia. Paulo Salles will be Programme Chair and Bert Bredeweg will be Proceedings Chair.



Profile of the Project Office

The Co-ordination Node of the MONET Project has a specific role to play in the operation of the Network and specific tasks to perform, which are detailed below. The initial targets are all communication based and are designed to provide the Network with a sound structure on which to grow.

The first task was to update and revise the MONET website. The revision of the website was due for completion by the end of March, however, after initial investigation the required rebuilding work was found to be more complex than originally thought. The decision was therefore taken not to update the existing site but to completely re-build it. The new site went up as a link from the old site at the beginning of June for comments from our members. The site then went live on the 19th of July. We are still working to improve the website and shall be continuously updating it through the life time of the project.

The second task was to revise and update the MONET Information Resource (MIR). This is a web based resource and contains information pertaining to the fields of MBS & QR, mainly holding a repository of journal citations. Work began on collection of further resources for MIR at the beginning of the Project and is (and will remain) ongoing. So far we have collected over 500 new references and nearly 80 whole papers (in pdf format).

As MIR is web based, the project also took the opportunity to look into re-designing and rebuilding this resource at the same time as the website. The process has taken some time but the new database and querying structure have been built and are currently being tested, we hope to have this resource in place as soon as possible. Until then the old database is still in use on the new site. The MIR will be continually developed and expanded throughout the life time of the Project. Please feel free to submit any papers you would like stored on the MIR.

The third task is the production of periodical Newsletters. The first MONET Newsletter was due for publication at the end of June, but we felt that extra impetus would be beneficial and moved the date forward to the end of April. The Newsletter was prepared as an introduction to the Network, the Project and the Task Groups that form the working areas of the Project. The Newsletter was written by the Project Office and printed by the University of Wales, Aberystwyth's Design Studio. It was taken to the DX'02 Conference and distributed by post to the Members at the beginning of May. The MONET Project will be producing Newsletters on a regular basis throughout the lifetime of the Project.

Another task of the Co-ordination Node is to attend meetings and events on behalf of the Project. There have been several Project meetings and we have also attended DX'02 and QR'02, which are both reported on elsewhere within this issue.

The following is a breakdown of some of the other activities that the Co-ordinating Node has undertaken in the first half year of the Project.

The Project has set up a Project Office at the Co-ordinating Node where all MONET enquiries and correspondence can be dealt with. There are two permanent members of staff based at the MONET Project Office and three Project Directors at The University of Wales, Aberystwyth.

A proposal was submitted to the European Science Foundation (ESF) for funding to hold an Ecological QR Workshop in 2003. The Workshop will investigate the state of current technology in use and the QR alternatives and work to isolate areas of overlap and conflict in order to identify potential areas in which QR solutions can offer a serious alternative to present technologies. The ESF will announce their decision in November 2002.

George Coghill is the EUNITE Network contact within MONET and we also have a designated contact within EUNITE. It is hoped the two Networks will work together on some of the Medical / Biomedical issues facing the BioMedical Task Group

We have connected ourselves with ELSNET-STN Network of Excellence and logged our details with their speech and language research organisation. Hopefully some of the work of the Education and Training Task Group may benefit from their experience and visa-versa.

We have also established contact with the Wales Europe Centre (Liz Cassidy) and UKRO. Further to this we have attended meetings regarding FP6 Funding Proposals, which we circulated to our Task Groups to assist with EoI completion and on general issues of Network Co-ordination.

We also maintain an ongoing mailing list for parties (who request to be added) who have an interest in being kept up to date with any developments in the field of Qualitative Physics.

This is by no means an exhaustive list of our activities – we are always looking for new ways to raise the MONET Project's profile.

Newsletter Submissions

We would like submissions for the Newsletter. The Newsletter exists to share any items of information that MONET Members may find interesting or of use. These could be in the form of MBS & QR Articles and Reports or calls for Events and Conferences. All submissions will be considered.

Submission deadline for the next issue is 13th January 2003.



MONET Summer School

The MONET 2003 Summer School dates and location have now been finalised.

This prestigious event will be held at the Aldemar Cretan Village Conference Centre from 6th – 12th September 2003. The Cretan Village Complex is near the town of Hersonissos on the island of Crete.

The venue has extensive facilities and will provide a pleasant and relaxing environment for students and speakers alike. The programme has not yet been finalised at time of going to print, but should provide a good all round understanding and introduction to the technologies of Qualitative Reasoning and Model Based Systems.

To apply to attend the MONET Summer School, please email Janet Thomas at the Project office on jnt@aber.ac.uk



Update on Framework Programme 6

The latest European Union Framework Programme (FP6) is now well under way and as this is such an important source of funding for research, we thought our Members may benefit from a brief outline of what the programme is and where it is going. This information has been gathered from several sources and should be viewed as a guide only. Not much is yet certain as to how the Framework will evolve, but the details in this article should give the reader a better insight into how to become involved if you should wish to do so.

If you intend to put in a proposal for an Integrated Project (IP) or a Network of Excellence (NoE) then your planning process should be well underway, however this does not mean that there will not be room for smaller initiatives in FP6. Much of the strength of FP6 projects will be in their ability to integrate and deal with cross-disciplinary topics. In fact, it is very possible that the projects will be required to prove they are capable of this function as part of the proposal response process. It is within these areas that smaller projects / institutions will gain the greatest chance of participation, they could be asked to perform a specific task or undertake some specific research. There are even possibilities that their input could be solely with regard to aiding integration, this could be achieved through bridging the gap in projects between two research fields. It is possible that the areas of MBS and QR could be particularly useful in achieving this.

Whether you are working on an IP or NoE Proposal, waiting to respond directly to a Call, or merely looking for smaller avenues that could bring in research funding, it is important to understand a little about the Sixth Framework Programme and its direction. It is also worth remembering that the whole Framework Programme is changing and so it is important to re-check any FP5 information that you may be considering utilising for an FP6 project.

The process of FP6 began in earnest with the Call for Expressions of Interest; it would be from these ideas that the Commission would decide what projects would form the basis of FP6 and what the resulting Calls for Proposals would be. The Commission received, in total, over 15,000 Expressions of Interest, of which 8,000 were deemed to be valid. Out of these it is envisaged that there will probably be only one call per research programme per annum, so competition will be very tight. However the resulting Projects and Networks will be very large and so there will be space for many parties.

It is probably through being a party to an IP or NoE that many institutions will gain access to FP6. If this is your aim then the up and coming FP6 Workshops will be very important and so will the partner searching facilities provided by CORDIS (and other organisations). That said you will still have to justify your place in the project, albeit to the Co-ordinator and not to the Commission, but if you can justify this in terms of what the Commission is looking for then you will stand a much better chance

of being successful. By using this approach, you should also make your position stronger through giving the Co-ordinators more information with which to justify your inclusion to the Commission.

What follows is some general information that should assist in an application for FP6, some will be more relevant to a full Proposal and others will be more relevant to joining as a party to a proposal but the general ideas will hold true for both.

Framework 4 was aimed at the development of technology, whilst Framework 5 was designed to utilise the technology that was developed in FP4. FP6 will however be looking to go beyond this and extend the projects to build consortia with the ability and expertise to exploit these technologies. It is worth remembering this difference and focusing on 'technological exploitation' when thinking of how to justify your inclusion in the projects.

When filling out a full Proposal take time to look at existing research programmes and ensure you avoid duplication and you will also strengthen your position if you can compliment existing programmes. With any proposal the Commission will be judging your representation on the grounds of 'Good Science' and 'Relevance to Policy', by which they of course mean European Union Policy. These two factors will be given EQUAL waiting during the assessment of the Proposal so ensure that both are given equal waiting in your proposal.

Justify your proposal with reference to 'Drivers' of FP6; these are Political Priorities that the EU themselves have identified as significant. Inclusions of such factors as Enlargement, Competitiveness and Reform of the EU Institutions will add considerable weight to any proposal. Also the ability to show that your project / work would aid the implementation of existing Policies and Legislation would show the Commission that you fully understand how you will positively affect the identified Drivers. Such Policies and Legislation can be found in EU White Papers / EU Directives / Regulations or International Agreements to which the EU is a party (Kyoto Protocol on Climate Change or Lisbon Convention on Higher Education). For instance if you can link a proposal to a White Paper then you are in a very strong position indeed, because you are providing the Commission with research that it has itself identified as essential.

As a final point, it is wise to keep yourself versed with information and opinions from the European Union in general and more specifically the Commission. The CORDIS website (<http://www.cordis.lu/en/home.html>) is continuously updated and has mailing list which will actually send you relevant information. The OECD website (<http://www.oecd.org>) is the 'bible' for European policy makers and so this will be an invaluable source of information for a research proposal. Check out the futures report (<http://futures.jrc.es>) for areas of research that the policy makers themselves have identified as important to the future of European research.



The MIR Database

Coming soon to the MONET webpage

The Complete QR and MBS Repository, featuring:

- References
- Papers and Scientific Publications
- Conference Proceedings

The MIR Database will contain all the above and more.

If you would like to submit any items or make suggestions as to extra inclusions, please contact the MONET Office.

The MIR Database as it stands represents the initial step towards providing our Members with the first global online MBS & QR Resource. In time we hope that this site will house every paper & journal article that has been written on these subjects over the 20 to 30 years that the subject has been evolving.

Although aware that this is an ambitious undertaking we feel it is a target worth striving towards within the life time of this present phase of the MONET Project.

To assist us in our endeavour, we would appreciate any papers that you can send to us for housing on the web. You could send these in any format (pdf's, ps, word), web links, or even paper copies and we shall load them onto the MIR web database. Alternatively you may simply inform us of all or any papers that we may house on the site if we can source them ourselves. With the co-operation of our Members we can make the MIR database a genuine one-stop-shop for MBS & QR references.

MONET Project Office

Department of Computer Science
The University of Wales, Aberystwyth
Aberystwyth
Ceredigion
Wales SY23 3DB

Tel: +44 (0)1970 628521

Fax: +44 (0)1970 628536

Email: monet@aber.ac.uk

Webpage: <http://monet.aber.ac.uk>

