# Automated Reasoning Workshop 2004
## Programme

## Wednesday 31st March

08:30 Registration in New School of Music & ICSRiM building, Cavendish Road, University of Leeds

09:00 ARW/AISB Plenary talk by David Randell: *Reasoning about Perception, Space and Motion: a Cognitive Robotics Perspective*

10:00 **Coffee Break**

10:25 **ARW Welcome**

10:30 Technical Session 1: **NON-CLASSICAL SYSTEMS**

    10:30 *Implementation of a tableau theorem prover for modal logic*, Zhen Li

    10:40 *A principle for incorporating axioms into the first-order translation of modal formulae*, Renate A. Schmidt and Ullrich Hustadt

    10:50 *A Three-Valued Hoare Calculus*, Viviana Bono and Manfred Kerber

    11:00 *E-Checker: A prototype tool for investigating some properties of multivalent logic systems*, David Anderson and Peter W. Pearson

    11:10 *Abductive Logic Programming with CIFF*, Ulle Endriss, Paolo Mancarella, Fariba Sadri, Giacomo Terreni, and Francesca Toni

    11:20 **Short Poster introductions:**
    *Case studies for first-order temporal logic*, M. Carmen Fernandez Gago, M. Fisher, C. Dixon, B. Konev, U. Hustadt, and F. Wolter

    *Environmental knowledge representation*, Antony Galton and James Hood

    *Compilation of quasi-destructive unification of type feature structures* Liviu Ciortuz

    *Specifying and Verifying Security Protocols using Temporal Logics of Knowledge*, Clare Dixon, Mari-Carmen Fernandez Gago, Michael Fisher and Wiebe van der Hoek

    *Generating Effective Constraint Programs: an application of automated reasoning* Alan M. Frisch, Christopher Jefferson, Bernadette Martinez-Hernandez, Ian Miguel

11:40 **POSTER SESSION 1**

12:30 **Lunch**

13:30 **AISB AGM**

14:30 Technical Session 2: **SPATIAL and TEMPORAL REASONING**

    14:30 *Logical representation for route graphs*, Paolo Torrini

    14:40 *Deductive Verification of Infinite Systems: Broadcast Protocols*, Michael Fisher and Alexei Lisitsa, Fisher

    14:50 *A Clausal Resolution Method for Branching-Time Logic ECTL+*, Alexander Bolotov and Artie Basukoski

    15:00 *Monodic abstract state machines and temporal verification*, Alexei Lisitsa and Michael Fisher

15:10 **POSTER SESSION 2**

15:30 **Coffee Break**

15:55 Invited talk by Jacques Fleuriot: *Interactive Theorem Proving in Geometry: issues and applications*

19:30 **Workshop Dinner**, Darbar restaurant, 16–17 Kirkgate, Leeds (`http://www.darbar.co.uk`)

## Thursday 1st April

09:00 AISB Plenary talk by Ian Cross, *The social mind and the emergence of musicality: implications for modelling music*

10:00 **Coffee Break**

10:25 Invited talk by Franz Baader: *From Tableau to Automata for Description Logics*

11:30 Technical Session 3: **AUTOMATED REASONING TECHNIQUES**

    11:30 *Reasoning about types in a general purpose inference engine*, Allan Ramsay

    11:40 *Proof planning: Comparing $\Omega MEGA$, $\lambda Cl\!Am$ and* IsaPlanner, Lucas Dixon, Mateja Jamnik, and Martin Pollet

    11:50 *Mechanized Support for Retrenchment*, Simon Fraser and Richard Banach

12:00 **POSTER SESSION 3**

12:30 **Lunch** (and **ARW Committee Meeting**)

14:00 Technical Session 4: **LEARNING and KNOWLEDGE**

    14:00 *Automatic conjecture modification*, Alison Pease and Simon Colton

    14:10 *Looking for Logic in Vision*, Paulo Santos, Derek Magee and Anthony Cohn

    14:20 *Automatic Generation of Classification Theorems for Finite Algebras*, Simon Colton, Andreas Meier, Volker Sorge, Roy McCasland

    14:30 *A reasoning mechanism for corpus-based knowledge representation*, Shabnam Surjitsingh Ivkovic and Anne Banks Pidduck

14:40 **PANEL**: *Difficult Questions for Automated Reasoning*

15:30 **Coffee Break**

15:55 **Closing Session**