AAAI News

The AAAI News Column covers membership and conference statistics, reports on workshops, financial data, Council activities, and other ongoing activities pursued by the society Please send suggestions and feedback by electronic mail to AAAI-Office@Sumex-Aim Stanford.edu or by US Mail to the AAAI office.

—*William J Clancey & Claudia Mazzetti*

Spring Symposium Series

In March AAAI sponsored the first Spring Symposium Series, intended to promote technical discussion of specialty topics in small-group meetings. As the following reports testify, the Series was a tremendous success Plans are underway for the next Series, to be held at Stanford University again next March. Suggestions should be sent to Hector Levesque or Claudia Mazzetti. The following are edited reports provided by the five symposium leaders.

The Explanation-Based Learning (EBL) Symposium. *Organizer:* Gerald De-Jong. *Submissions:* 61. *Presentations.* 35 abstracts were selected for presentation. *Attendance* 120.

Format· Nine sessions, each with four topic-related presentations followed by an invited discussant's evaluation and open audience discussion. The tenth session was a panel on the future of EBL.

Topics Emphasized: The incomplete domain theory problem, hybrid approaches, augmenting explanations prior to generalization, the intractable domain theory problem, operationality of concepts, the process of constructing explanations, and formalisms for EBL

Surprises There is more good work being done in EBL than anyone suspected. No one understands "operationality." EBL is still gaining momentum.

Outcome There will probably be follow-up EBL meetings. One suggestion was to hold an EBL conference every other year, alternating with the Machine Learning Conference.

The Artificial Intelligence In Medicine (AIM) Symposium. *Organizer* Ramesh S. Patil. *Submissions.* Approximately 70 abstracts were submitted of which 60 were accepted for publication. *Presentations* 24 abstracts were selected for presentation. *Attendance* 137

Throughout the history of AIM workshops since 1975, attendance has been primarily through invitations. This was the first time a formal symposium with a general call for participation was held. It attracted many new participants and made the community aware of the breadth of activities in this field. Furthermore, a stand-alone symposium also facilitated interaction among participants and many new contacts were made.

Format. The opening session consisted of one-minute introductions of the participants. The remainder included four paper sessions (six 15-minute presentations), two invited talks ("Scenario-Based Reasoning in Medicine" by Harry Pople with Peter Szolovits responding, and "Uncertainty about Uncertain Reasoning" by Edward Shortliffe with Max Henrion responding), and three panel discussions ("Evaluation of State of Art of Medical Artificial Intelligence," "Impediments to Successes of AIM Systems," "Unified Medical Languages and Systems—initiative of the National Library of Medicine").

Topics Emphasized. Knowledge representation and uncertainty reasoning, diagnostic reasoning and therapy planning, plan execution (patient management), causal reasoning, qualitative reasoning and simulation, tutoring systems, explanation, and natural language processing, signal and image processing.

Surprises. The first surprise was the composition of the participants in the symposium. A broad cross section of the community attended, representing many institutions. The second surprise was that approximately half the participants were either physicians or medical students! This demonstrates an evolution in the field.

Technically, there were several surprising outcomes.

First, was the number of researchers working on uncertainty reasoning. There appears to be a strong movement within AIM toward use of "influence diagrams" and Bayesian nets to integrate decision making under uncertainty with AI techniques.

Second, natural language processing is beginning to emerge as an important subarea in the domain of medicine. This takes the form of either automatic processing of medical records, or systems for assisting in medical information retrieval.

Finally, the reduction in the number of researchers working on newer and more advanced models for medical diagnosis. The emphasis on diagnostic systems has been toward building narrow working systems using known diagnostic formalisms rather than addressing fundamental research issues Another major thrust is in developing knowledge representation frameworks that will support collaborative multicenter efforts in developing a large common core of medical knowledge.

Outcome. It was felt that the AIM community must work harder at technology transfer to promote visible, routinely used, and commercially successful AIM systems. It is now clear that formal techniques for reasoning under uncertainty and heuristic knowledge-based techniques are beginning to be integrated.

It was strongly felt that the symposium should be repeated at least every other year, and that the spring symposium series provided an almost ideal environment. This symposium was very useful and seems to have rejuvenated the community significantly.

The Computer Game Playing Symposium. *Organizer·* Hans Berliner. *Submissions·* 35. *Presentations* 20. *Attendance·* 38.

Format· Four paper sessions—Search, Game Playing Theory, Learning in a Game Environment, Actual Game Playing Programs; and one panel session—Whither Game Playing.

Surprises. There were a number of good papers in the search session dealing with new ideas (several already proven to be worthwhile). The ground seems to be set for major advances in the area of selective searching.

Outcome· Everyone seemed pleased. There were visible signs of progress in game playing as demonstrated in the panel session

The Parallel Models Of Intelligence Symposium: How Can Slow Components Think So Fast? *Organizer* Danny Hillis. *Submissions* 39. *Presentations:* 26 *Attendence:* 140.

Format. Five sessions Allen Newell's keynote speech was the high point of the symposium.

Topics Emphasized Biological information processing, engineering parallel systems, serial versus parallel models of intelligence, associative memories, and connectionist networks

Surprises· Connectionist and classical AI types did not seem to think each other foolish.

Outcome Parallelism at some level is inevitable Question remains unanswered.

The Vision Symposium. *Organizer:* Marty Tenenbaum. *Submissions* 35. *Participants.* 75.

Format. Five sessions (only two hours of each 3 hour slot was scheduled).

Topics Emphasized· Early vision, organization, recognition, physical models and methods, and biological models and mechanisms

Surprises: The somewhat surprising result is that there has been a confluence of thinking—in each of these three areas, research has focused on metaphors and mathematics of dynamical systems (composed of large numbers of interacting elements). People have used this theory in the creation of physical models, in modeling neural processing, and in understanding the dynamics of massively

parallel computations What remains is to show how neural networks are able to solve physical problems that arise in vision.

Outcome There are three basic ways to learn about vision: we can study the visual world, in particular the physics that govern the way the world works and the way we observe it in images; natural vision systems (the only existence proof that general purpose high performance vision is possible); and the computational principles of vision—what computations vision is performing, what constraints and representations are used, what algorithms, and what architectures

Council Meeting Minutes

The following are preliminary minutes of the meeting of the AAAI Executive Council held at Stanford University on March 24, 1988. Present were Daniel G. Bobrow, Raj Reddy, Richard Duda, Howard Shrobe, Hector Levesque, Tom Mitchell, Bruce Buchanan, Hans Berliner, William J. Clancey, Barbara Hayes-Roth, Douglas Lenat, Kathy McKeown, and Claudia Mazzetti.

Reports
Financial Report Bruce Buchanan noted that our investments were reduced 10% by the October stock market crash. He suggested that we reduce the amount of money allocated to reviewing a conference paper.

Unfinished and New Business
Fellowship Committee Chair. The Council will continue trying to identify a chair for this committee.

1988 Spring Symposium Series. Hector Levesque reviewed the 1988 Spring Symposium Series. He reported that attendees were generally pleased and would like to see it continue next year. Levesque and the Council identified new 1989 topics; Levesque will contact potential chairs. For the individual symposium's program, it was recommended that there should be less time for speakers and increased time for discussion.

Computer Chess Proposal: A request for computer chess support was presented to the Council by Hans Berliner. The purpose of the proposal is to promote the acceptance of the use of the computers within chess

tournaments. By encouraging more computer-human competition, more precise measurements of machine intelligence can be established.

Motion passed (8 for, 1 against): An ad hoc committee composed of Richard Duda and Doug Lenat will establish a policy statement about the AAAI's role in encouraging the use of computers in chess tournaments. Contingent upon the release of this policy statement, the AAAI will allocate $10,000 to support the use of computers in chess tournaments.

Establishment of the Scholarship Committee The Council members unanimously voted for Barbara Hayes-Roth as the new Scholarship Chair. Currently the following funds are available for use by this Committee:
• Travel support to NCAI and Spring Symposium Series: $20,000. Travel support will be expanded to increase the number of scholarships. Procedures for this expansion was referred to the Committee.
•(New) Support for Women and Disadvantaged High School Students: $25,000

The other committee members, B. Grosz and B. Buchanan, have contacted two programs, Prime in Philadelphia, and Mills College, about their programs. $5,000 was granted to each group. The remainder of the monies will be available to support disadvantaged and women high school students by allocating money to specific higher educational institutions who would train and work with these students. The development of specific procedures were referred to the committee.

National Academy of Science Study of Artificial Intelligence. Feigenbaum suggested that the AAAI might assist with the development of a report that would provide to the public a broad, comprehensive study of the status of AI. The Council decided to postpone any decision until it received more information about the study.

Policy Review: A policy review of cooperation of other organizations' conferences was identified. The issue discussed was: Should the AAAI cooperate with public interest organizations and their conferences? The Council did not come to any concensus about revisions to this policy. It will be put onto the August agenda.