



AAAI News

Minutes

Executive Council Meeting

March 25, 1993, Stanford University

Present: Danny Bobrow, Johan de Kleer, Bob Engelmores, Ed Feigenbaum, Richard Fikes, Mark Fox, Peter Friedland, Barbara Grosz, Mike Hamilton, Pat Hayes, Jim Hendler, Phil Klahr, John McCarthy, Norm Nielsen, Nils Nilsson, Paul Rosenbloom, Lynn Andrea Stein, Carol Hamilton

Washington, DC Forum

Pat Hayes brought the meeting to order at 1:15 PM with a short review of the plans for a special program geared for government agencies in Washington, DC. At the program committee meeting for the national conference in February, a committee was formed to investigate the best method for putting on such a program.

Peter Friedland reported the findings of this committee. He announced that the development of an effective educational program would take a minimum of six months to a year, and any plans for staging something in Washington in July should be abandoned. In addition, July is a poor time of year to capture the targeted audience due to vacations. Peter indicated that the final program would probably be much smaller and shorter than originally anticipated to accommodate the extremely busy schedules of attendees. Instead, it was decided that another more focused meeting should be held during the national conference. This meeting should include members of the Washington Forum Committee and representatives from the government who might have helpful suggestions about the development of this program. Together, this group should put together a vision statement, intended

to give a concise view of the field in relation to the nation's science and technology policy. This meeting will be held during lunch, and will be scheduled between two government-related panels. Pat Hayes agreed to organize the meeting.

Secretary/Treasurer Appointment

Pat Hayes introduced Norm Nielsen of SRI International, who will serve as AAAI's new Secretary/Treasurer. Nielsen, who has been a member of the finance committee for four years, replaces Bruce Buchanan, who served as Secretary/Treasurer for the last seven years. On behalf of all the members of AAAI, Pat Hayes thanked Bruce for his conscientious service. An informal dinner was held in February to acknowledge Bruce's contribution, since he could not be present for the Executive Council meeting.

Standing Committee Reports

Finance Committee: Norm Nielsen presented the Finance Report, noting that the most drastic change from 1992 is in Exhibits revenue, which has plummeted as a result of the industry redirection to other areas. This is also reflected in magazine advertising revenue. In addition, there has been a decline in membership over the past two years. The current financial policy calls for a growth of the operating reserve by at least inflation each year. The new financial scenario may not allow for such growth. It was suggested that the financial policy be reviewed again at the July meeting to decide if new guidelines should be implemented. A decision on a proposed membership dues increase was delayed until that time.

Conference Committee: Richard Fikes, Program Cochair for AAAI-93, reported that the conference organization was well underway. The preliminary program was complete. A

few new procedures were added this year. First of all, the program cochairs for 1994 were chosen last fall so that they could participate in the paper distribution process and program committee meeting. In addition, paper self-selection was expanded to include access to abstracts, and Fikes reported that the software to support the self-selection process and for scheduling the program committee meeting is now fully operational. It is hoped that the AAAI staff can take over the management of the self-selection process in 1994.

Fikes noted that Ramesh Patil, Associate Chair for AAAI-93, spent countless hours preparing and monitoring this process, and thanked him for this tremendous effort. The video program was also expanded this year to include a formal review and inclusion of video abstracts in the conference proceedings.

Fikes also announced that the call for innovative papers resulted in about fifty percent of the accepted papers being considered by their reviewers as being "work in progress." Finally, he expressed support for proposals made by members of the program committee to expand the role of area chairs on both the assignment of reviewers to papers in their area and the decision process for problematic papers in their area.

The Robot Competition will be held again, and Pat Hayes announced that the Robotic Industries Association is interested in lending their name and some publicity to the event. It was agreed that the RIA will be listed as "in cooperation with" on conference materials.

IAAI-93: Phil Klahr, Program Chair for IAAI-93, reported that this conference faces challenges this year and in future years. A significant drop in paper submissions suggests that applying academic procedures and requirements for submission to this conference is not working. Instead,

INDEPENDENT AUDITOR'S REPORT

We have audited the balance sheet of American Association For Artificial Intelligence as of December 31, 1992, and the related statements of income, fund balance and changes in financial position for the year then ended. These financial statements are the responsibility of the Association's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of American Association For Artificial Intelligence as of December 31, 1992, and the results of operations and changes in financial position for the year then ended, in conformity with generally accepted accounting principles.

— Goss & Tarabay, Certified Public Accountants
February 22, 1993

AAAI Balance Sheet

December 31, 1992

Assets

Current Assets:

| | |
|---|---------------|
| Cash – Checking and on hand | \$ 16,497 |
| Cash – Brokerage and money market savings | 426,023 |
| Investments (Note 3) | 6,501,713 |
| Accounts Receivable - Trade | 28,832 |
| Inventory | 187,815 |
| Prepaid Expenses & Advances | 10,097 |
| Prepaid Expenses - Future Events | <u>72,516</u> |

Total Current Assets 7,243,493

Furniture, Fixtures & Equipment, Net (Note I-C) 22,295

Deposits 5,080

\$ 7,270,868

=====

Liabilities and Fund Balance

Current Liabilities:

| | |
|---------------------------------------|----------------|
| Accounts Payable and Accrued Expenses | \$ 9,505 |
| Unearned Membership Fees (Note 4) | <u>275,556</u> |

Total Current Liabilities 285,061

Fund Balance 6,985,807

\$ 7,270,868

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The accompanying notes are an integral part of this statement

committee members should be encouraged, or even required, to solicit papers on a given number of applications. Klahr achieved great success using this method this year. Mark Fox also suggested that advertisements announcing an awards competition would be more effective than a traditional call for papers.

Klahr also reported that the conference has been expanded to include invited talks and tutorials, and has been marketed to portions of the business community as "Intelligent Systems at Work." It has not been decided if the conference will take on this new name officially in 1994. Mark Fox announced that Carnegie

Group had offered to sponsor a special IAAI award this year. After some discussion, it was decided that this sponsorship might be directed toward a specific invited talk, rather than take the form of an award. Carnegie Group has offered to donate \$1,000 for this purpose.

Publications Committee: Publications Chair Mark Fox introduced Mike Hamilton who submitted the reports for the AAAI Press and *AI Magazine*, since the editors could not be at the meeting. The AAAI Press has two edited collections in production, and will publish proceedings from both AAAI-93 and IAAI-93. In addition, three more proposals have been accepted for publication.

The Technical Report series has been launched, in both hardcopy and electronic format. AAAI has entered into a trial arrangement with Public Disc to distribute the electronic versions. AAAI hopes to distribute as many papers and articles from AAAI-sponsored events and publications as possible. In its initial stages, the Technical Report Series is concentrating on the papers submitted to the AAAI Symposium Series and the AAAI Workshops.

Operating costs for the *AI Magazine* have remained stable during the past six months, although advertising revenue has decreased slightly. Additional savings are anticipated by the introduction of the use of nine-digit zip codes and barcodes. The need for high-quality material acceptable for publication remains high. The editors hope to include representative papers from the IAAI-93 conference in future issues of the magazine.

Scholarship Committee. Carol Hamilton reported that a total of \$25,000 has been awarded for the Symposium Series travel scholarships. In addition, the 1993 NCAI student scholarship program has been launched through letters to all individuals who submitted papers to the conference, and through an announcement in the *AI Magazine*. \$30,000 was also awarded from the Women and Minority Grants program to the following organizations: American Indian Science & Engineer-

ing Society, Girls, Inc., the Math Science Network, and Prime, Inc. Each of these organizations was also offered an opportunity to send two students to AAAI-93.

Workshop Grants Committee: Carol Hamilton also reported that \$45,340 has been awarded in workshop grants for the period of July 1992 through March 1993. In addition, an \$8,000 grant was awarded to the 1993 Connectionist Models Summer School at the University of Colorado, and \$15,000 to the 1993 Linguistic Institute at Ohio State University.

Symposium Committee: Jim Hendler announced that he will be stepping down as Chair of the Symposium Committee at the end of 1993, and will be replaced by Lynn Andrea Stein, who is the current cochair. Hendler also mentioned that a representative from the Executive Council will be needed to replace Paul Cohen as Associate Symposium Chair. A volunteer will be solicited at the summer meeting. Hendler reported that the Spring Symposium had gone very well, although attendance was down somewhat from previous years. He and Stein both expressed concern about the need for more and better symposium proposals in order to sustain the current two events in the spring and fall. They asked for input from various areas of the AI community that need symposia. The Spring Symposium Series will shift from Tuesday-Thursday to Monday-Wednesday next year in response to many requests to have the event closer to a weekend. The Executive Council meeting will shift to the Sunday preceding the symposium. Should the Fall Symposium be discontinued in the future, the spring series may begin to move around the country

Fellows Committee: Danny Bobrow announced that the Fellows Selection Committee was in the final round of electing the 1993 Fellows. The list of elected fellows will be available in May. He also mentioned that the issue of whether to institute an Industrial Fellows category should probably be revisited in the future, or simply expand the criteria to include this type of candidate.

Statements of Income and Changes in Financial Position for the Year Ended December 31, 1992

| | | |
|--|------------------|------------------|
| <i>Gross Profit (Loss), By Activity:</i> | | |
| AI Magazine Revenue (Note 4) | \$ 73,415 | |
| AI Magazine Expenses | <u>(212,049)</u> | \$(138,634) |
| Memberships Revenue (Note 4) | 446,031 | |
| Memberships Expenses | <u>(139,746)</u> | 306,285 |
| AAAI Press Revenue | 99,499 | |
| AAAI Press Cost of Sales | (94,711) | |
| AAAI Press Operating Expenses | <u>(5,641)</u> | (853) |
| Spring Symposium '92 Revenue | 72,940 | |
| Symposium Expenses | <u>(51,972)</u> | 20,968 |
| Fall Symposium '92 Revenue | 40,485 | |
| Symposium Expenses | <u>(36,013)</u> | 4,472 |
| Conference on Innovative Applications '92 | 84,620 | |
| Conference Expenses | <u>(101,576)</u> | (16,956) |
| AAAI '92 Technical Program Revenue | 464,521 | |
| Technical Program Expenses | <u>(389,314)</u> | 75,207 |
| AAAI '92 Tutorials Revenue | 245,746 | |
| Tutorials Expenses | <u>(158,463)</u> | 87,283 |
| AAAI '92 Exhibits Revenue | 273,000 | |
| Exhibits Expenses | <u>(261,907)</u> | 11,093 |
| Royalty Income | | 1,771 |
| Interest & Dividend Income | | 271,219 |
| Gain on Sale of Securities | | 193,626 |
| Management Fees | | (56,974) |
| Grants & Scholarships Expended (Schedule 6) | | (201,517) |
| Prior Years Confs., Tutls. & Symps Received (Paid) in 1992 | | (10,374) |
| Other | | 235 |
| | | ===== |
| <i>Gross Profit, Combined</i> | | 546,851 |
| Operating Expenses (Schedule 7) | | <u>(371,409)</u> |
| <i>Net Income</i> | | 175,442 |
| Fund Balance - January 1, 1992 | | <u>6,810,365</u> |
| Fund Balance - December 31, 1992 | | \$ 6,985,807 |
| | | ===== |
| Financial Resources were Provided by: | | |
| Net Income | | \$ 175,442 |
| Add: Expenses not using working capital: | | |
| Depreciation | | <u>37,036</u> |
| Working Capital provided by operations | | 212,478 |
| Other sources: | | |
| Decrease in deposits | | <u>5,500</u> |
| <i>Total Sources</i> | | 217,978 |
| Financial Resources Were Used For: | | |
| Increase in Furniture, Fixtures & Equip, net | | <u>(10,073)</u> |
| Increase in Working capital | | \$ 207,905 |
| | | ===== |
| Analysis of Changes in Working Capital: | | |
| Increase (Decrease) in Current Assets: | | |
| Cash & investments | | \$ 217,815 |
| Accounts receivable | | (32,498) |
| Inventory | | (11,102) |
| Prepaid expenses & advances | | 462 |
| (Increase) Decrease in Current Liabilities: | | |
| Accounts payable & accrued expenses | | (8,221) |
| Unearned exhibit revenue | | 50,000 |
| Unearned membership fees | | <u>(8,551)</u> |
| Increase in Working Capital | | \$ 207,905 |
| | | ===== |
| <i>The accompanying notes are an integral part of this statement</i> | | |

Notes to Financial Statements

Note 1: Summary of Significant Accounting Policies

A. Method of Accounting:

The financial statements are presented on the accrual basis of accounting.

B Inventory:

Magazine, proceedings, conference books and Publications in process inventory is valued at the lower of cost or market value as of December 31, 1992

C Furniture, Fixtures and Equipment:

Furniture, fixtures and equipment are stated at cost, less accumulated depreciation depreciation is computed on the straight-line method over estimated useful lives of five to ten years Furniture, fixtures, and equipment consist of the following at December 31, 1992:

| | |
|--------------------------|--------------------|
| Cost | \$ 253,185 |
| Accumulated depreciation | <u>(230,890)</u> |
| Net | \$ 22,295 ===== |

D Income Taxes:

American Association for Artificial Intelligence is exempt from income taxes on its earnings from investments and its exempt function operations under Section 501 (c) (3) of the Internal Revenue Code and Section 23701 (d) of the California revenue and Taxation Code Federal and California taxes were paid during 1992 on earnings from sales of mailing lists and advertising

Note 2: Operations

The American Association for Artificial Intelligence (AAAI) was formed in 1979 as a scientific society, to encourage the basic knowledge of what constitutes intelligent thought and behavior and how it can be exhibited in computers This is accomplished by the AI Magazine, AI Journal, and other AI related publications, AAAI sponsored National Conference (NCAI), Conference on Innovative Applications For Artificial Intelligence (IAAI), NTU University Tutorials, Symposium Series, and the AAAI Workshop Program In addition, AAAI grants monies to outside institutions and individuals

Note 3: Investments as of December 31 1992

| | Original Cost | Market Value 12-31-92 | Net Unrealized- Gain (Loss) |
|--|------------------------------|------------------------------|-----------------------------------|
| Held by Bank Of Calif as Custodian (1): | | | |
| U.S. Treasury Notes: | | | |
| Due within one year | \$ 816,500 | \$ 815,248 | \$ (1,252) |
| One to five years | 303,984 | 295,314 | (8,670) |
| Seven to ten years | <u>1,111,438</u> | <u>1,157,969</u> | <u>46,531</u> |
| <i>Total U.S. Obligations</i> | <u>2,231,922</u> | <u>2,268,531</u> | <u>36,609</u> |
| Common Stocks | | | |
| <i>Total Held by Bank of Calif</i> | <u>5,299,419</u> | <u>6,080,049</u> | <u>780,630</u> |
| Held through Dean Witter Reynolds: | | | |
| Certificate of Deposit Due 5/93 | 90,000 | 90,000 | — |
| U.S. Treasury Notes: two to six years | 754,063 | 772,813 | 18,750 |
| Held through Prudential Securities: | | | |
| U.S. Government | | | |
| Guaranteed Mortgages | <u>358,230</u> | <u>384,941</u> | <u>26,711</u> |
| <i>Total Investments</i> | <u>\$ 6,501,712</u> ===== | <u>\$ 7,327,803</u> ===== | <u>\$ 826,091</u> ===== |

Nominating Committee: Danny Bobrow also reported that the Nominating Committee had chosen eight possible candidates and two alternates to run for councilor. These candidates were chosen from the nominations submitted by members this winter. Candidates were being contacted to determine their interest in running. Bobrow also announced that Randy Davis had agreed to run for President-Elect.

Old Business

Japanese AI Society: Jim Hendler reported that his negotiations with the Japanese AI Society were complete. AAAI and the Japanese AI Society have entered into a cooperative arrangement whereby they will trade advertising and mailing lists, and other information. This cooperation has no financial impact.

CRA Board Appointment: It was agreed that Pat Hayes will continue to serve as the AAAI representative on the Computing Research Association Board of Directors until he has completed a standard CRA Board term. At that time, he may renew his commitment to the board, or another AAAI representative will be chosen by the Executive Council.

New Business

Computer Museum: Pat Hayes announced that, although plans for a AAAI-sponsored large-scale exhibit have not materialized, it is still possible for an AI exhibit to be in Washington during the conference. Candy Sidner, AAAI liaison to the Computer Museum, can arrange for the transfer of one exhibit from the Computer Museum to the Smithsonian. Since this exhibit would remain in place for more than just one week, it would receive much greater exposure, and would be of little cost to AAAI. It was agreed that Sidner should pursue this option.

Allen Newell Award: Ed Feigenbaum submitted a proposal for AAAI co-sponsorship of the newly established Allen Newell Award of the ACM. The award is intended to stand as equal with and to complement the Turing Award of the ACM. Awarding this

honor through the ACM rather than through AAAI recognizes and symbolizes Newell's contributions beyond the bounds of artificial intelligence. The Executive Council approved an AAAI contribution of \$40,000 to be staggered over four years at \$10,000 each. A campaign for membership contributions to this fund will be launched later this year.

AI/AAAI Vision Statement: As a result of the Strategic Planning Committee meeting in January and growing pressure from members for AAAI to take a leadership role, Pat Hayes announced that he and others will be working on putting together a vision statement for AI and AAAI, which will reflect both the scientific and engineering foci of the field. Hayes also described a related proposal to collect a variety of views on the appropriate vision for AI, aiming at an article to be published in *AI Magazine*. The meeting was adjourned at 5:00 pm.

New AAAI Secretary/Treasurer

AAAI welcomes Norman R. Nielsen of SRI International as its new Secretary/Treasurer. Nielsen has served on the AAAI Finance Committee for the past four years. He succeeds Bruce Buchanan, who has served as Secretary/Treasurer since 1986. On behalf of all the members of AAAI, we thank Bruce for his long and dedicated service to the association, and look forward to his continued participation in other programs.

Public Disc

The new electronic distribution service, Public Disc, has been launched. Public Disc, in cooperation with AAAI, makes available selected papers and abstracts from AAAI symposia and workshops. Plans to include papers from the national conference and articles from *AI Magazine* are in progress. For information about this exciting new service, please contact info@publicdisc.com.

(1) Investments held by the Bank Of California as custodian are being managed by Harris, Sullivan & Smith, Inc, according to investment guidelines stressing income and growth, with capital preservation for approximately \$2 million of the account

Note 4: Memberships

Annual membership in the American Association For Artificial Intelligence is \$40 for individuals, \$20 for student members, and \$60 for academic/corporate library subscriptions. \$25 is added to the above for foreign members. Three, five year, and lifetime memberships are also available. All revenue from memberships is included in the AI Memberships gross profit center. Revenues from membership fees are earned ratably over the respective membership period.

Be a Contributor to Public Disc!

AAAI invites you to participate in Public Disc. If you have presented a paper at a AAAI symposium or workshop, and are interested in having your work more widely distributed, please contact techreports@aaai.org for details on how to submit your paper. We hope to hear from you!

Awards

AAAI congratulates Daniel Bobrow, Richard Burton, L. Peter Deutsch, Ronald M. Kaplan, Larry Masinter and Warren Teitelman, who have been awarded the 1993 ACM Software Systems Award for their pioneering work in programming environments that integrated source-language debuggers, fully compatible integrated interpreter / compiler, automatic change management, structure-based editing, logging facilities, interactive graphics, and analysis / profiling tools in the Interlisp system.

At IJCAI-93, Raymond Reiter will receive the IJCAI Award for Research Excellence. This award is given to a scientist who has carried out a program of research of consistently high quality yielding substantial results. At a special session, Reiter will deliver an address on the nature and significance of the results of his work.

Also at IJCAI-93, the IJCAI Distinguished Service Award will be given to Daniel Bobrow. This award was established in 1979 by the IJCAI Trustees to honor senior scientists in AI for contributions and service to the field during their careers.

If you have received a recent honor or award for your work in the

field of artificial intelligence, and are a member of AAAI, we would like to acknowledge your accomplishment here. Please send contributions to boasting@aaai.org.

AAAI's Washington Conferences Line-up

Taking a new approach to its annual conferences, the American Association for Artificial Intelligence has planned complementary meetings for July 11-15 in Washington, DC that are designed to have high appeal to both business and scientific communities.

The 11th Annual AAAI National Conference (AAAI-93) and the first Intelligent Systems at Work Today meeting both take place at the Washington Convention Center, each with distinctive programs. The 5th Innovative Applications of Artificial Intelligence Conference (IAAI-93) has been incorporated into the more comprehensive intelligent systems meeting in a major new initiative.

"The current impressive implementation and success of AI systems in organizations of all kinds makes this the perfect time to establish a new business-oriented conference side-by-side with our science-oriented AAAI-93 to move AI into the future," said Patrick Hayes, AAAI President. "We are increasingly concerned with cross-pollination of ideas, problems and solutions between the scientific and business communities. Building new importance into our Intelligent Systems meeting and staging it with AAAI-93 creates meaningful linkage that will make both conferences more

| | |
|---|---|
| | <h2 style="text-align: center;">International Conference on Conceptual Structures</h2> <h3 style="text-align: center;">Theory and Applications</h3> |
| August 4 - 7 1993 | Quebec City, Canada |
| <p><i>Sponsored by, Paramax, A Unisys Company (USA); NSERC & L'Université Laval (Canada); Butterworth Heinemann Ltd (UK); In cooperation with AAAI, ACM SIGART, CEFRIO, CRIM, GIRICO, CSSCI.</i></p> | |
| <p>Over the past 25 years, researchers have proposed several approaches for modelling knowledge in KBS, including several kinds of formalisms: semantic networks, frames, logics etc. In the early eighties, John F. Sowa introduced the Conceptual Graph (CG) theory which provides a knowledge representation framework consisting of a form of logic with a graph notation and integrating several features from semantic net and frame representations. Since that time, several research teams over the world have been working on the application and on the extension of CG theory in various domains ranging from natural language processing to database modelling and machine learning. This international conference follows a series of seven annual workshops and aims at providing an active forum for researchers and practitioners to exchange ideas about the theory and application of conceptual graphs.</p> | |
| <p>Invited speakers</p> <p>Heterogeneous logic: reasoning with diagrams and sentences <i>J. Barwise (USA)</i></p> <p>Representation, discourse, logic and truth: situating knowledge technology, <i>B. Gaines (Canada)</i></p> <p>Knowledge Interchange Format <i>M. Genesereth (USA)</i></p> <p>Relating diagrams to logic, <i>J. Sowa (USA)</i></p> | <p style="text-align: center;">REGISTRATION PROCEDURE</p> <p>If you are interested, please send us a note requesting the final program of ICCS'93 Conference, mentioning your name, complete address, phone, fax and Email . Your mail must be addressed at:</p> <p style="text-align: center;">Guy Mineau / Bernard Moulin ICCS'93 Conference, Laval University, Computer Science Department, Pavillon Pouliot Ste-Foy, Quebec, G1K 7P4 Canada Phone: 1-418-656 7979 fax : 1 - 418 - 656 2324 Email: Mineau@ift.ulaval.ca (re: ICCS'93)</p> |
| <p><i>Note that conference participation will be limited. Places will be allocated on a first-come first-served basis to the maximum number the facility can accomodate.</i></p> | |

productive for those attending."

Nobel Prize winner Herbert Simon will give the keynote address for both meetings on July 13. Simon, of Carnegie Mellon University, will focus on why understanding intelligence depends on experimentation, and why AI theory must necessarily be relatively qualitative although valid. Stanford's Edward Feigenbaum offers one other presentation common to both meetings, "Tiger in a Cage." Feigenbaum will address "the cage that holds back the AI tiger, . . . understanding the constraints on AI implementation in order to free the competitive AI tiger."

Tutorials

AAAI-93 offers 20 tutorials that cover subjects ranging from case-based reasoning and mobile robots to multi-strategy learning and probabilistic

diagnosis. Technical papers number 126 and are grouped into a series of 32 sessions: diagnostic reasoning; reasoning about physical systems; natural language sentence analysis and generation; search; plan generation; distributed problem solving; discourse analysis; automated reasoning; vision processing; statistically-based natural language processing; large-scale knowledge bases; real-time planning and simulation; nonmonotonic logic; representation and reasoning.

Robot Exhibition

The second annual Autonomous Mobile Robot Exhibition and Competition will also be staged during the conference. Contestants from more than a dozen university and corporate research laboratories will challenge each other to be most effective in a simulated office environment. Among

the organizations signed to participate is the University of Michigan championship team that won the 1992 AAAI robotics competition. Other entrants to date include: Brown University, Caltech Department of Mechanical Engineering, Carnegie Mellon University, Colorado School of Mines, Georgia Institute of Technology, KISS Institute, Lockheed AI Center, MacLeod Technologies, Inc., MIT, North Carolina State University, Stanford University, SRI International, and Yale University.

Attendees will also see demonstrations and exhibits of current experimental robotics research. In addition, a special robot-building workshop will take place. Teams of conference attendees will build working robots from kits containing sensors, motors, microprocessors, and LEGO. The teams' progress will be available for viewing in the robot exhibition area.

Intelligent Systems at Work

The Intelligent Systems at Work Today meeting features a separate series of tutorials on business uses of AI including techniques and tools for customer service, transportation, manufacturing, and business re-engineering systems. Invited speakers include Joe Carter of Andersen Consulting on whether to view "AI as wireless, telegraph, radio or TV" and Bob Kahn of National Research Initiatives who will highlight business opportunities for AI in the new national communications highways.

IAAI-93 will showcase sixteen winners of the annual contest for successful AI systems in the world of work. These winning systems are at work providing solutions to a wide range of business operating needs, according to IAAI Chair Phil Klahr and Co-chair Elizabeth Byrnes. For the first time, a majority of the winners come from the manufacturing area, each providing measurable productivity and quality management improvements.

The organizations honored showcase many of the most prestigious names in the business world: AT&T, Boeing, Compaq, Ford Motor, General Electric, IBM and Nynex. Government is represented by the U. S. Air Force, the Department of Energy, and NASA.

The sixteen IAAI winners represent a striking cross-section of large-scale organizations and tasks. They include computer and telecommunications, aerospace, automotive, paper/pulp mills — and government agencies. The functions that have been "AI-automated" range from enterprise-wide administrative workflow to finished goods inspection. They cover product and facilities design, customer service, quality management, work-in-progress and raw material procurement as well as production.

"The importance of these applications to critical organization tasks solidly confirms the movement of AI into core business operations," Klahr said. "The acceptance committee was particularly impressed with the integration of all these AI systems into the larger information management world."

This year's IAAI listing shows some interesting highlights. Compaq Computers is the first company to have a new winning application based on the success of a previous year's winner. Compaq built its new QuickSource as a result of its '92 "Smart" customer service problem-solving system. QuickSource, an integral part of its new networked printer line-up, actually puts the company's AI expert system technology directly in the hands of business users. This makes the user in effect his/her own help desk. This knowledge publishing, embedding intelligence, is unique in customer service, providing a next generation tool that empowers users.

IBM is the first organization to have three IAAI winners in a single year. All three have dramatically improved production efficiency and problem-solving capability in separate manufacturing areas. AT&T takes

Payback is one of the key criteria in selecting winners...

honors with twin winners. These also focus on manufacturing productivity, keyed to more intelligent configuration of sales proposals and design, "customer order loading", and production scheduling.

Among the more unusual applications, the Tennessee Department of Correction is solving the burden of dealing with 50,000 offenders in 20 correctional institutions with its TOMIS AI system that manages the entire correctional process from sentencing through incarceration to release. Andersen Consulting, which developed TOMIS, points out that even this non-business system has application for business in the way AI-automated intelligence is used to manage complex, volatile situations.

Payback is one of the key criteria in selecting winners, according to

Klahr and Byrnes. The AI winners vary widely in cost to implement, but all have short-term payback, with clearly documented savings in addition to other management benefits.

- The "Pitch Expert" kraft paper mill AI system, developed by Centre de Recherche Informatique de Montreal and Paper Research Institute of Canada, is being used in 55% of all Canadian production capacity, and savings are projected at \$18 million annually.
- IBM projects "several million dollars savings" from a single work-in-progress application for its DEPICT (Digitized Expert Pictures) AI system for computer chip manufacturing and equal savings for its DYCE (Diagnostic Yield Characterization Expert) for semiconductor production.
- The NYNEX OPERA (Outside Plant Engineering & Resource Administration) is estimated to deliver \$1-3 million annually in savings on facilities development.
- For DRA (IR), the U. S. Air Force's Deficiency Report Analysis Information Report, evaluation indicates savings of \$120,000 — and 1,900 person-hours—annually.
- NASA's PI-in-a-Box projects \$6,000 savings per astronaut science hour! Even more critical to corporate productivity goals, other not-easily quantified benefits are detailed in these IAAI case histories.
- Ford has reduced estimating/ analysis time in parts procurement by 50% with its CAPE system.
- Compaq has confirmed significant increases in customer satisfaction and decreases in customer support calls.
- AT&T has virtually eliminated order errors with its PROSE AI system.
 - Boeing, in addition to saving "tens of millions of dollars" per year, has substantially reduced design errors and material waste.
 - TOMIS has increased Tennessee's correctional system accuracy from 80% to 100% while saving 37,500 person-hours monthly — previous manual calculations took five hours per sentence.