

Conference on Genetic Programming (GP-97)

The Second International Conference in Genetic Programming (GP-97), like the first, was held on the beautiful Stanford University campus in California under the chairmanship of John Koza. More than 350 people from all over the world gathered together for four days to see presentations, posters, tutorials and trade presentations on a range of topics. In addition to GP and related topics in Genetic Algorithms (GAs) and classifier systems, the up and coming fields of evolvable hardware (EHW) and biocomputing (also called DNA computing) were also represented.

Each day kicked off with a keynote presentation by invited speakers renowned in their field, such as David Fogel. These were followed by plenary sessions including papers in each of the conference topics. The afternoons were given to parallel paper presentation sessions specialising on particular topics.

Of the 20 tutorials on offer, perhaps the stand out was Russ Altman's *Molecular Biology for Computer Scientists*. This highly interactive whistle stop tour of DNA, RNA, amino acids, proteins, genes, etc. earned him the title of "Jedi Master of handling hecklers" and left his audience enthused with the biology from which GP draws its inspiration.

Registration included use of Stanford campus facilities. Of these the library (with its internet PCs), book shop (giving a 10% discount to conference registrants), gyms, swimming pools, art gallery and Rodin garden proved popular, while the bars and restaurants of the student union and adjacent downtown Palo Alto served as locations for animated discussions and exchange of ideas (many of them related to GP!).

The two ends of the PhD process were both represented at the conference. The day before GP-97 started a workshop for current PhD was held and the final plenary session finished with a panel discussion by holders of PhDs in GP.

The international aspect of GP-97 was reflected by the decisions to hold the inaugural meeting of the GP research group of the European union, EvoGP, at the conference and the first editors' meeting for the follow up to *Advances in Genetic Programming 1 and 2* during the conference.

While technical papers included those concentrated on schema, fitness, extracting data from huge volumes of data or medical measurements, perhaps the most entertaining presentation showed robots learning to move by swinging hand-over-hand like a gibbon (Hasegawa and Fukuda).

The third annual GP conference (GP-98) will be held at the University of Wisconsin in Madison, USA 22–25 July 1998 (just before AAAI-98 which will also be in Madison) and the first European workshop on GP will be held in Paris in the Spring. They will find GP-97 a tough act to follow!

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ANNUAL METALWORKING AND MANUFACTURING EXHIBITION AND CONFERENCE... WESTEC'97

The WESTEC exhibition, held on March 24–27, 1997, at the Los Angeles Convention Center attracted 683

exhibitors and nearly 30,000 manufacturing professionals, the biggest ever event. A wide selection of manufacturing equipment and technologies was displayed in an area of over 250,000 square feet, including machine tools of every description, plastics and integrated design and manufacturing... Over 1000 international equipment lines were exhibited by leading international machine tool builders, and the technology categories included machining, milling, grinding and deburring, cutting tools, drilling and tapping, CAD/CAM, EDM, machine control finishing, laser systems, etc... .

An expanded conference running alongside the exhibition explored advances in machining, plastics, finishing, plant layout and cost estimating. In particular, emergent plastics manufacturing was addressed by discussing process automation, design etc... . The next event will take place in late March, 1998, at the same venue. Relevant information may be obtained by contacting the SME Customer Service Department (Tel. +1 313 733-4763; fax +1 313 271-2861).

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THE EIGHTH INTERNATIONAL CONFERENCE ON ADVANCED ROBOTICS, ICAR'97

This note briefly summarizes the successful ICAR'97 Conference at Hyatt Regency in Monterey, CA on July 7–9 1997.

The Conference had over 170 registered attendees from 32 countries, and the adjoining 4 workshops on July 6 counted over 50 registered attendees. One third of the attendees were from North America (US and Canada), one third from Europe and the Mid-East, one third from the Far East, including India; there were six attendees from Central and South America, and one from New Zealand.

The 1052-page Conference Proceedings contains 151 papers from 29 countries. Out of this, 142 papers were presented at the Conference in 3 parallel sessions on Monday and Tuesday, and 4 parallel sessions on Wednesday. Well-received original plenary lectures were given by Dr. R. Satava on Monday morning ("Robotics as Information technology"), and by Dr. S. Charles ("Dexterity Enhancement for Surgical and Industrial Applications"). On Wednesday morning Mr. B. Carlisle gave a plenary lecture ("On Creating a Humanoid"). The Tuesday plenary sessions were dedicated to remote control demonstrations connecting the Conference site in Monterey, CA, to telerobotic sites in Milan, Italy, Paris, France, and Tsukuba City, Japan, and also to Planet Mars through selected Web pages in the ongoing NASA/JPL mars Pathfinder/Sojourner program. This last connection was simultaneously transmitted on ISDN lines also to an Italian TV station in Milan, and to a Hungarian TV station in Budapest.

The Conference also housed seven exhibits with interesting and lively demonstrations. The last plenary session on Wednesday afternoon was dedicated to a discussion on "International Cooperation" given by representatives from 7 countries and chaired by Prof. Y. Umetani of Japan. The Conference was concluded with a banquet dinner at the world famous Monterey Bay Aquarium, where Mr D. Orange of

MBARI highlighted the "Robotic Challenges in the Deep Ocean for the 21st Century" with an inspiring illustrated talk.

Following the Conference on Thursday about 90 Conference attendees visited robotic sites at Stanford University.

The next ICAR, ICAR'99, will be held in Tokyo, Japan, in October 1999, with Prof. Y. Umetani as General Chair, and Dr. K. Tanie as Program Chair.

Proceedings of ICAR'97 are available from IEEE Service Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 09955-1331, USA, under IEEE Catalog no. 97TH8308. The

Proceedings are also available on Microfiche from IEEE.

For more on ICAR'97 visit our Web site at <http://icar97.jpl.nasa.gov>

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