Third Annual Workshop on Automation and Robotics

FINAL PROGRAM

Houston, Texas
NASA Johnson Space Center
Gilruth Recreation Center

July 25-27, 1989

Keynote Speaker:
James B. Odom
former Associate Administrator for Space Station/NASA

Invited Talks:
Knowledge-Based Systems: Research Challenges in Space
Dr. Randal Davis/MIT

Hypermedia: Bridging from Information to Knowledge
Dr. Chris Dede/University of Houston

Workshop Objectives:
- To establish communications between individuals and organizations involved in similar research and technology
- To bring together project/program managers in open exchange through presentation of technical papers and panel discussions
- To document in the proceedings a snap-shot of USAF/NASA efforts in automation and robotics

Sponsored By:
The National Aeronautics and Space Administration and The United States Air Force

Co-Sponsored By:
University of Houston-Clear Lake
Paper 4: NUMERICAL APPROACH OF COLLISION AVOIDANCE AND OPTIMAL CONTROL ON ROBOTIC MANIPULATORS
J. Wang, M. W. Kellogg, Houston

Paper 5: HUMAN FACTORS ENGINEERING AND ROBOTICS
NASA Co-Chairs: Dr. Steven R. Ellis, NASA/Ames Research Center
Dr. Thomas Malone, Carlow Associates, Inc.

Panel: J. Allen, D. Wilkenson, H. Kroehe, National Laboratories; A. Bejczy, NASA/Jet Propulsion Laboratory

Panel: J. Warm, W. Dember, J. Gluckman, J. Galinsky, D. Snyder, NASA/Johnson Space Center

Paper 1: VISUALIZATION AND CONTROL OF DYNAMICS 3D DATA
Dr. S. Ellis, NASA/Ames Research Center

Paper 2: REMOTE OPERATION OF AN ORBITAL MANEUVERING VEHICLE IN SIMULATED DOCKING MANEUVERS
A. Brody, Sterling Software, NASA/Ames Research Center

Paper 3: HUMAN-LIKE DESIGN FOR TELEROBOTICS: USEFUL METAPHOR OR RED HERRING?
Prof. L. Stark, University of California, Berkeley

Paper 4: ASSESSMENT OF CONTROL STABILITY FOR A DEXTEROUS TELEOPERATOR WITH TIME DELAY
J. McConnell, Grumman Space Systems

Paper 5: HUMAN FACTORS ISSUES IN TELEROBOTICS FOR SPACE STATION FREEDOM SERVICING
Dr. T. Malone, Carlow Associates, Inc.

Paper 6: THE EFFECTS OF SPACE STATION FREEDOM SERVICING ON SPACE STATION AUTOMATION AND ROBOTICS
H. Garrett, Jet Propulsion Laboratory

Paper 7: VERBAL AND NONVERBAL PROTOCOL ANALYSES FOR STUDIES IN CREW COMMUNICATIONS AND WORKLOAD
Dr. P. Sanderson, University of Illinois

Paper 8: USEFULNESS OF HEART MEASURES IN FLIGHT SIMULATION
R. Harris, Sr., J. Cornstock, Jr., NASA/Langley Research Center, G. Bonadies, Planning Research Corporation, Inc.
General Chair  
Robert H. Brown, NASA/JSC

Assistant General Chair  
Col. Paul C. Anderson, AFSTC

Technical Chair  
Robert T. Savely, NASA/JSC

Tutorial Chair  
Chris Culbert, NASA/JSC

Technical Area Developers

Robotics  
Jack Pennington,  
Langley Research Center  
Capt. Ron Julian, AAMRL/BBA

Intelligent Systems  
Gregg Swietek,  
NASA Hq.  
Dave Weeks,  
Marshall Space Flight Center  
Lt. Mike Wellman, AFWAL/TXI

Human Factors  
Michael Shaffer,  
*Ames Research Center  
Bob Bachert, AAMRL/TID

Environment  
Carolyn Purvis,  
Lewis Research Center  
Charley Pike, AFGL/PHK

Executive Chair  
Sandy Griffin, NASA/JSC

Administrative Co-Chairs  
Glenn Freedman, UH-Clear Lake  
Carla Armstrong, Barrios Technology, Inc.

Registration and Publicity  
Katherine Moser, UH-Clear Lake

Exhibit Chair  
Ellis Henry, NASA/JSC

A hospitality room will be set up in the Gilruth Center for the attendees to relax and socialize. A message center will be set up to leave messages for the attendees. Telephone number: (713) 483-0318

Tuesday 8:00 a.m. - 4:00 p.m.  
Wednesday 8:00 a.m. - 4:00 p.m.  
Thursday 8:00 a.m. - 12 noon

Accommodations

HOLIDAY INN - NASA (2)  
1300 NASA Road 1  
Houston, TX 77058  
(713) 333-9167  
Gov. Rate: $53.50  
Corp. Rate: $53.50

MOTEL 6 (1)  
1001 West NASA Road 1  
Webster, TX 77596  
(713) 332-4581  
Rate: $24.95  
$6.00 per extra person  
No Gov. Rate

NASA MOTEL (7)  
889 West Bay Area  
Webster, TX 77598  
(713) 338-1526  
Gov. Rate: $30.00  
Corp. Rate: $33.00

KINGS INN (5)  
1301 NASA Road 1  
Houston, TX 77058  
(713) 488-0220  
Gov. Rate: $55.00 single  
$55.00 double  
Corp. Rate: $59.00 single  
(ranges up to $71.00)

Rates subject to change

NASSAU BAY HILTON (3)  
3000 NASA Road 1  
Houston, TX 77058  
(713) 333-9300  
Gov. Rate: $79.00 single  
$89.00 double  
Corp. Rate: $89.00 single  
$99.00 double

SOUTH SHORE RESORT AND CONFERENCE CENTER (6)  
2500 S. Shore Blvd.  
League City, TX 77573  
(713) 334-1000  
Gov. Rate: $70.00  
$10.00 per extra person  
Corp. Rate: $80.00  
$10.00 per extra person

* Ames Research Center