

ROBOTICS RESEARCH GROUP DOCUMENTS

A. UT ROBOTICS PROGRAM

- A01** Overview of the Robotics Research Program
- A02** Listing of Major Research Reports
- A03** Overall Strategy/Adv. Robotics Development
- A05** Robotics Laboratories Equipment Description
- A09** Roster of Technical Contacts
- A10** Research Group Structure
- A14** Brief Overview of the Robotics Research Program 5-96
- A15** RRG Course Program for Manufacturing

B. PROPOSALS

- B00** Deploy Robot/Haz.Waste/Nat'l. Prog. (ROA)
- B01** Mod. Manip. Robot Sys. for ERM
- B02** ARM, Inc. Dev. Proposals (Vol. I, II and III)
- B03** DOARM:D&D 05/98
- B04** Overall Strategy For Nuclear Facilities Clean-Up/UT Austin
- B05** FY 97 Tech Plan for NASA
- B06** FY 98 Tech. Proposal for NASA
- B07** Tech.Task Plans for Robotics Technology Development Program (DOE)
- B08** USSR-US Joint Research Venture in Robotics for Micro-Surgery
- B10** USSR-US Joint Res. Venture for Actuators
- B11** Proposal to DOE on Intelligent Actuators in Manufacturing and Energy Systems
- B12** Texas Proposal-Int.Mod. Control System
- B13** Precision Machines in Manufacturing (Long)
- B14** Precision Machines in Manufacturing (Executive Summary)
- B15** Univ. Consortium - Dev. for USARC
- B16** DARPA Proposal
- B17** Intelligent Controller Technology
- B21** ISTAR-NASA Prop.-Devt. of Operational Software...Space...
- B23** National Demonstrator (NASA-DARPA)
- B24** ATP Proposal with Browne and Abraham "Operational Software"
- B25** USARC COE "Remote Space Operations" (Long)
- B26** USARC COE "Remote Space Operations" (Short)
- B27** Alpha Manipulator
- B28** ARPA Project Summary
- B31** Long Reach Arm for Waste Site Clean-Up Operations
- B33** Electronic Controllers
- B34** 500 Page DOE Document R&D Program
- B35** START (Large)

- B36** START (Small)
- B37** NAVY ACTUATOR DEVELOPMENT PROPSAL - ORIGINAL (9/94)
- B38** NAVY Actuator Development Proposal-Updated'95
- B42** Proposal Actuator Dev. for Energy Sys. App.
- B43** ATP Rylander "Actuator Development for Intelligent Machines"
- B44** ACTUATOR DEVELOPMENT (SAAFELD, ONR, 5/95)
- B48** Applied Materials Proposal
- B49** Reconfigurable Open Arch. Urban Robot Sys. Demo (Walls & Nichols)

C. RESUMES

- C01** One-Page Resume-Tesar
- C02** Full Resume-Tesar
- C03** Ten Page Resume-Tesar
- C04** One-Page Resume-Dan Cox
- C05** One-Page Resume-Kapoor

D. PAPERS

- D02** Existing Robot Machining Implementations (Wander-Tesar)
- D03** Modular Architecture for Robot Systems (Manufacturing Review)
- D04** Next Generation of Technology for Robotics
- D05** Space Station Robotics Assessment
- D06** Thirty-Year Forecast: The Super Robot
- D07** 20-Year Forecast for Mars and Lunar Missions
- D08** ISIC'97(Turkey):Intell.Automation
- D09** Science: Mission Oriented Research for Light Machinery
- D10** ASME Paper 1: The Tragic Need
- D11** ASME Paper 2: A Proposed Nat'l Program
- D12** Accuracy/Loading Analysis for ALPHA
- D13** WHY Paper: What is Behind the Weak Tech.Base in the U.S.?
- D15** Thomas-Tesar: Dynamic Modeling of Serial Manipulator Arms
- D16** Hernandez-Tesar: Deflection Prediction for Serial Manipulators
- D17** Sklar-Tesar: Dynamic Analysis...Parallel Modules
- D18** Benedict-Tesar Papers: Pt. 1-Geometry; Pt. 2-Dynamics
- D19** Freeman-Tesar Papers: Pt. 1-Methodology;Pt.2-Applications
- D20** Yuan-Chou-Tesar Papers: Optimal Actuator Sizing...Stiffness...
- D22** Chaldek Paper: Short Version
- D23** Chaldek Paper: Long Version
- D24** Adv.Dev./Space Robotics/Fault Tolerance
- D27** Wander-Tesar: Pipelined Computation...
- D29** U.S. Patent #4,505,166; Control in the Small
- D30** Tesar-Sreevijayan-Price: Four Level Fault Tolerance
- D37** Aalund-Wander-Tesar: Multi-Channel Robotic Controller
- D38** Testimony-Senate Bill S.1351, DOE Science Tech. Partnership
- D39** Sreevijayan-Tesar: Design of Fault Tolerance Robotic Man. System

- D40** Yi-Tesar: On the Optimal Design - Redundantly Actuated 4-Legged 6DOF
- D41** Cox-Tesar: Dynamic Model of 3 DOF Parallel Robotic Shoulder Module
- D44** Butler Table of Contents
- D45** Overview/Dig.Intell. Servo Con.(Puls, Geisinger, Aalund, Tesar)
- D54** Nissan Paper
- D55** Hooper-Kapoor: Advanced Digital Control
- D58** Proposal sent to RIA Conference and to Ford
- D60** Slovakia Paper "Advanced Digital Control"

E. BRIEFINGS

- E01** Robotics in Remanufacturing (Kelly AFB)
- E02** Overview (From 250-Page DOE Presentation Outline)
- E03** Achievements (From 250-Page DOE Presentation Outline)
- E04** Robotics Presentation to the Democratic Caucus (Large Version)
- E05** IEEE Tutorial
- E06** IEEE Tutorial (Executive Summary)
- E07** Research Tasks (From 250-Page DOE Presentation Outline)
- E08** Facilities (From 250-Page DOE Presentation Outline)
- E09** Equipment (From 250-Page DOE Presentation Outline)
- E10** International Interactions (From 250-Page DOE Presentation Outline)
- E11** Status of U.S. Manufacturing (From 250-Page DOE Presentation Outline)
- E13** Software Program Description (From 250-Page DOE Presentation Outline)
- E14** Simulation Program Description (From 250-Page DOE Presentation Outline)
- E15** DOE Program (From 250-Page DOE Presentation Outline)
- E16** NASA Program (From 250-Page DOE Presentation Outline)--Environment for Space
- E17** ALPHA Manipulator (From 250-Page DOE Presentation Outline)
- E18** Actuator Modules (From 250-Page DOE Presentation Outline)
- E19** Electronic Controllers (From 250-Page DOE Presentation Outline)
- E20** Steve Holland Paper
- E21** Presentation to D.Rossi USN: "Actuator Development" Tesar-Long
- E22** Presentation to D.Rossi USN: Actuator Development" Rome-Short
- E24** Advanced Development for Space Robotics/ Fault Tolerance
- E27** Material made up for Semi-SEMATECH as briefing
- E28** Aerospace Mfg. (AIA Jan. 1998)

F. White Papers

- F01** Accelerated Development Leading to Rapid Deployment 5/97
- F02** Advanced Actuator Concepts to Drive Space Systems 5/97
- F03** Automation for Plutonium Processing 05/98
- F04** Enhanced Robot - Astronaut Task Performance for Space Operations 2/97
- F05** The University Research Program in Robotics
- F06** Integration Project/Automotive Plants/
- F07** Material made up for Semi-SEMATECH as paper
- F08** Executive Summary of Intelligent Automation (Oak Ridge, UTenn/UTexas)

- F09** Intelligent Manufacturing Systems (10/96)
- F10** Intelligent Actuators in Space
- F11** Intelligent Actuators in Manufacturing
- F12** Intell.Actuators/In-Depth Test/Eval/4 tst beds 05/98
- F13** Description of Graphical Simulations
- F14** Road Map for Teleoperator Control Systems
- F15** Robotics in Micro-Surgery
- F16** Proposal: Regional Univ.Grant Program NASA "WVA-Robonaut Operation" 3/97
- F17** Status of U.S. Manufacturing
- F18** Status of U.S. Manufacturing Tech. (Brazil Paper)
- F19** Brazil Paper 1995 Advanced Intelligent Machines
- F20** Energy Spec. App. for Actuator Dev.
- F21** The Impact of Fed. Funds on Research Instit. & Mftg. in Texas
- F22** Critique of Manual Controller
- F23** Rome Paper Sub-a: Applications for Advanced Electronic Actuator Tech.
- F24** Rome Paper Sub-b: Program Framework
- F25** Rome Paper Sub-c: Issue Papers
- F26** Rome Paper Sub-d: Navy Applications
- F27** ITESM "Assessment Program"
- F28** ITESM "Course Program"
- F29** Program Framework for Energy Spec. App. for Actuator Dev.
- F30** Int. Actuators for the Next Generation Surface Combatant (CVX)
- F31** Merits of Modular Robot Tech-Key Environmental Remediation Tasks 4/97
- F32** Low Cost Robot Technology
- F33** Brief Description-Programmable Cells (Airframe) (McDonnell Douglas Paper)
- F34** Assessment for Airframe Assembly 6/97
- F35** Reconfig.InterfaceNSF/CONACYT/Krawchik
- F36** Where is Robotics Going?
- F37** Intelligent Actuators for Reconfigurable Machine Systems (6/97 overall prog.plan)
- F38** Architecture/Intell/Elec.Acts . 05/98
- F39** Facility Dismantlement (TCFD) 05/98
- F40** Intelligent Actuator-C.Turner-0798

G. REPORTS TO SPONSORS

- G01** ALPHA/ARPA Report "Elbow Module"
- G02** Aalund: AHEAD "A Survey of the Hazard. Envir."
- G04** DOE Final Report (4/95)
- G05** Europe Trip Report 1995
- G06** A Modular Fault-Tolerant Brake Design(Hau Pham)
- G07** Short DOE Summary(1/96)
- G08** Japan Trip Report April, 1996
- G09** USSR Trip Report(11/88)
- G10** Cost Analysis, Tech & Sim (Airframes) McDD NEUTRAL 7-97
- G11** Actuator Module Report(Iaconis)"An Advanced Robot..."

- G12** Cray Report "Computational Requirements..."
- G13** Butler Short Report
- G14** Airframe Assembly Simulation 6-97 (Scenario)