OUTLINE TECHNICAL PROGRAMME
21st ICAS Congress, 13-18 September, 1998, Melbourne, Australia

MONDAY 14 SEPTEMBER	From 8:00	REGISTRATION						
	8:30 - 9:00	OPENING CEREMONY						
	9:00 - 10:00	ICAS DANIEL AND FLORENCE GUGGENHEIM MEMORIAL LECTURE: FUTURE DIRECTIONS IN AERONAUTICAL COMPOSITES						
	10:00 - 10:30	BREAK – Poster Session and Technical Exhibition						
	10:30 - 12:30	**Session 1.1** Simulation and Flight Testing	**Session 2.1** Aerodynamic Optimisation, High Speed	**Session 3.1** Advanced Experimental Techniques	**Session 4.1** Structural Dynamic Testing	**Session 5.1** Structural Monitoring and Fatigue Testing	**Session 6.1** Cost Management	**Session 7.1** Aircraft Operations (Student Session)
	12:30 - 14:00	LUNCH – Exhibition						
	14:00 - 15:30	**Session 1.2** Supersonic and Hypersonic Vehicles	**Session 2.2** Special Topics in CFD	**Session 3.2** Vortex Flows	**Session 4.2** Special Structural Design Problems	**Session 5.2** Structural Integrity, Corrosion and Fatigue	**Session 6.2** Flight Management ATC I	**Session 7.2** Configuration and Design Integration (Student Session)
	15:30 - 16:00	BREAK – Poster Session and Technical Exhibition						
	16:00 - 18:00	**Session 1.3** Hypersonic Flight	**Session 2.3** Aerodynamic Optimisation, Transports	**Session 3.3** Surface Measurement Techniques	**Session 4.3** Structural Analysis and Numerical Simulation	**Session 5.3** Structural Repair and Joints	**Session 6.3** Pilot Performance	**Session 7.3** Aerodynamics I (Student Session)
TUESDAY 15 SEPTEMBER	8:30 - 9:30	GENERAL LECTURE I: AIRFRAME SYSTEMS TECHNOLOGIES FOR THE 21st CENTURY						
	9:30 - 10:00	BREAK – Poster Session and Technical Exhibition						
	10:00 - 12:30	**Session 1.4** Flight Dynamics I	**Session 2.4** Unsteady Aerodynamics	**Session 3.4** Flow Control	**Session 4.4** Composite Manufacturing, Repair and Testing	**Session 5.4** Turbo Machinery Technology	**Session 6.4** Design Methods	**Session 7.4** Aerodynamics II (Student Session)
	12:30 - 14:00	LUNCH – Exhibition						
	14:00 - 15:30	**Session 1.5** Flight Control of Large Flexible Aircraft	**Session 2.5** Rotorcraft Aerodynamics	**Session 3.5** Jet Flows	**Session 4.5** Full Scale Structural Testing	**Session 5.5** Power Controls	**Session 6.5** Flight Management ATC II	**Session 7.5** Flight Dynamics and Design (Student Session)
	15:30 - 16:00	BREAK – Poster Session and Technical Exhibition						
	16:00 - 18:00	**Session 1.6** Robust Control Design	**Session 2.6** Unsteady CFD	**Session 3.6** High Speed Aerodynamic Configurations	**Session 4.6** Aerodynamic Loads	**Session 5.6** Propulsion Integration	**Session 6.6** Reliability, Maintenance	**Session 7.6** Aerodynamics III (Student Session)
WEDNESDAY 16 SEPTEMBER	8:30 - 9:30	GENERAL LECTURE II: STATUS AND TRENDS IN COMMERCIAL TRANSPORT AIRCRAFT						
	9:30 - 10:00	BREAK – Poster Session and Technical Exhibition						
	10:00 - 12:30	**Session 1.7** Flight Dynamics II	**Session 2.7** Three Dimensional CFD Approaches	**Session 3.7** Uninhabited Air Vehicles	**Session 4.7** Structural Design and Optimisation	**Session 5.7** Fatigue and Damage Tolerance	**Session 6.7** Flight Safety I	**Session 7.7** Materials and Structures (Student Session)
	12:30 - 14:00	LUNCH – Exhibition						
	14:00 - 15:30	**Session 1.8** Terrain Avoidance	**Session 2.8** Boundary Layers	**Session 3.8** Experimental Configuration Studies	**Session 4.8** Composite Design and Analysis	**Session 5.8** Combustion and Control	**Session 6.8** Engineering Design	
	15:30 - 16:00	BREAK – Poster Session and Technical Exhibition						
	16:00 - 18:00	**Session 1.9** Safety and Cockpit Design	**Session 2.9** Aerodynamic Optimisation, Minimum Drag	**Session 3.9** Dynamic Wind Tunnel Measurements	**Session 4.9** Structural Modelling and Simulation	**Session 5.9** Durability and Damage Tolerance of Composites		
THURSDAY 17 SEPTEMBER	8:30 - 9:30	GENERAL LECTURE III: EUROFIGHTER TECHNOLOGY FOR THE 21st CENTURY						
	9:30 - 10:00	BREAK – Poster Session and Technical Exhibition						
	10:00 - 12:30	**Session 1.10** Flight Performance, Control and Identification	**Session 2.10** Off-Body Flow Fields	**Session 3.10** Separated Flows	**Session 4.10** Future Transport Aircraft	**Session 5.10** Propeller Design and Interactions		**Session 7.10** McCARTHY Award Selection (Student Session)
	12:30 - 14:00	LUNCH – Exhibition						
	14:00 - 15:30	**Session 1.11** Flight Safety II	**Session 2.11** Aircraft and Airship Performance	**Session 3.11** Wind Tunnel Developments	**Session 4.11** Smart Structures	**Session 5.11** Environmental Effects		
	15:30 - 16:00	BREAK – Poster Session and Technical Exhibition						
	16:00 - 17:00	VON KARMAN LECTURE: DEVELOPMENT OF THE GLOBAL EXPRESS, A SUCCESS OF INTERNATIONAL PARTNERSHIP						
	17:00 - 17:30	CLOSING CEREMONY						
FRIDAY 18 SEPTEMBER	9:00 - 17:00	TECHNICAL TOUR						

Monday, 14 September

8:30 - 9:00
Opening Ceremony and Welcoming Addresses
Captain John Faulkner, President, Australian Division, RAeS
Representative of Government
John E. Green, President of ICAS

9:00 - 10:00
ICAS Daniel and Florence Guggenheim Memorial Lecture
Chairman: John E. Green, President of ICAS

ICAS-98-0.1
Future Directions in Aeronautical Composites
Dr. G. Long, CRC-ACS, Australia

Monday 10:30 - 12:30

Session 1.1
Simulation and Flight Testing

Chairman:
T. B. D.

ICAS-98-1.1.1
Performance Flight Testing of an F-111C Aircraft
Brian G., Woodyatt B., Bramley K., Snowden A.
Aeronautical and Maritime Research Lab., Australia
Morris C., Russel T.
RAAF, Australia

ICAS-98-1.1.2
A Distributed Approach to the Design of a Real-time Engineering Flight Simulator
Allerton D. J.
Cranfield University, United Kingdom

ICAS -98-1.1.3
Flight Testing of ALFLEX Guidance, Navigation and Control System
Miyazawa Y., Nagayasu M.
National Aerospace Laboratory, Japan
Nakayasu H.
National Space Development Agency, Japan

ICAS-98-1.1.4
Development, Qualification and Flight Testing of a Winggrid on a Jet-Powered Testbed
La Roche U.,
La Roche Consulting, Switzerland
Meyer-Piening H.R.
Stengele I.
ETHZ, Switzerland
Bircher T.,
BITANX, Switzerland

Session 2.1
Aerodynamic Optimisation, High Speed

Chairman:
R.Bengelink
Boeing, USA

ICAS-98-2.1.1
Reduction of Wave and Lift-Dependent Drag for Supersonic Transport Aircraft
Lovell D. A.
Defence Evaluation and Research Agency, United Kingdom

ICAS-98-2.1.2
ONERA Activities on Supersonic Transport Aircraft Aerodynamics
Thibert J.J., Duveau Ph., Crenon B., Lémée P., Thépot R.
ONERA, France

ICAS-98-2.1.3
Manual Aerodynamic Optimization of Oblique Flying Wing
Sobieczky H., Hannemann M.
DLR, Germany
Li P., Seebass R.
University of Colorado, U.S.A.

ICAS-98-2.1.4
Experimental and Numerical Investigations on Waveriders in Different Flight Regimes
Hummel D., Blaschke R.C.
Technical University of Braunschweig, Germany
Eggers Th., Strohmeyer D.
DLR, Braunschweig, Germany

Session 3.1
Advanced Experimental Techniques

Chairman:
Y. Sedin
SAAB, Sweden

ICAS-98-3.1.1
3D Boundary-Layer on Rotating Wings: Experiments and Calculations
Deparis M., Nsi Mba, Berton E., Favier D., Maresca Ch.
CNRS-IRPHE, France

ICAS-98-3.1.2
DPIV Analysis of Wall Turbulent Shear Flows
Gottero M., Onorato M.
Turin Polytechnical University, Italy

ICAS-98-3.1.3
Nonlinear Evolution of a Three-Dimensional Wavetrain in a Flat Plate Boundary Layer
De Medeiros M.A.F.
University of Minas Genaes, Brazil

ICAS-98-3.1.4
Instantaneous PLIF Measurement of Species Mole-Fraction in a Varying Temperature Supersonic Flow
Fox J.S., Danehy P.M., Houwing A.F.P.
Australian National University, Australia

Session 4.1
Structural Dynamic Testing

Chairman:
M. Karpel
Technion, Israel

ICAS-98-4.1.1
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows
Farokhi S., Mirsafian S., Sherwood T.
Aerotech Engineering and Research Corp., U.S.A.
Ewing M.
University of Kansas, U.S.A.

ICAS-98-4.1.2
Nonlinear Characteristics of Transonic Flutter for a High Aspect Ratio Wing
Matsushita H., Saitoh K.,
National Aerospace Laboratory, Japan
Granasy P.
G. E. Lighting Europe, Hungary

ICAS-98-4.1.3
Simulation of Helicopter Flight Dynamics After Tail Rotor Loss or Main Rotor Blade Failure
Mello O.A.F,. C.T.A., Brazil

ICAS-98-4.1.4
The Dynamic Modes and Natural Frequencies of Overhead Stowages in Transport Aircraft
Sodzi P.
GKN, Westland, United Kingdom

Session 5.1
Structural Monitoring and Fatigue Testing

Chairman:
S. Kamil
IPTN, Indonesia

ICAS-98-5.1.1
Full-Scale Fuselage Panel Tests
Vercammen R.W.A., Ottens H.H.
National Aerospace Laboratory NLR, The Netherlands

ICAS-98-5.1.2
Swiss F/A-18 Fatigue Tracking System
Oesch S., Guillaume M.
SF Swiss Aircraft, Emmen, Switzerland

ICAS-98-5.1.3
A Unified Approach to Fatigue Usage Monitoring of Fighter Aircraft Based on F/A-18 Experience
Molent L.
Aeronautical and Maritime Research Lab., Australia

ICAS-98-5.1.4
Finite Element Modeling and Experimental Study of a Gas Turbine Engine Blade under Biaxial Loading
Xie M., Balan M., Frey N.
AdTech Systems Research Inc., U.S.A.
Brown J., Terborg G.
Air Force Research Lab., U.S.A.

Session 6.1
Cost Management

Chairman:
M. Holl
VZLU, Czech Republic

ICAS-98-6.1.1
On the Adverse Consequences of Cost-Performance Metrics Usurping the Role of Goals they were Supposed to Support
Hart-Smith L.J.
Douglas Product Division, Boeing, U.S.A.

ICAS-98-6.1.2
Life Cycle Cost Estimation Tool for Conceptual Design
Chiesa S., Guerra G.
Turin Polytechnical University, Italy

ICAS-98-6.1.3
A Stochastic Design Approach for Aircraft Affordability
Mavris D.N., DeLaurentis D.
Georgia Institute of Technology, U.S.A.

ICAS-98-6.1.4
Safety and Reliability Prediction Methods for Aircraft Preliminary Design
Fielding J.P.
Cranfield University, United Kingdom

Session 7.1*
Aircraft Operations (Student Session)

Chairman:
J. Page
University N.S.W., Australia

ICAS-98-7.1.1
Investigation into the Formation of Waves on Thin Layers of De-/Anti-icing Fluids on Wings
Boelens O.J., Sijp J. C.
University of Twente, The Netherlands

ICAS-98-7.1.2
Conceptual Design of a Vertical Situation Indicator
Mornand X.
University of Southampton, United Kingdom

ICAS-98-7.1.3
Reliability Evaluation of Aerospace Components
Jeremic S., Bengin A.
University of Belgrade, F.R. of Yugoslavia

ICAS-98-7.1.4
An Adaptative Neurocontroller for a Non-Linear Helicopter Model
Battipede M.
Turin Polytechnical Univ., Italy

* : Referenced and Positioned as Session 7.9 in the Proceedings

Monday 14:00 - 15:30

Session 1.2
Supersonic and Hypersonic Vehicles

Chairman:
L. J. Williams
NASA, U.S.A.

ICAS-98-1.2.1
The Sensitivity of SCT Designs to Airfield Noise Requirements: an Investigation Using Multivariate Optimisation
Nicholls P. K.
British Aerospace Airbus, United Kingdom
Lee C.A.
Defence Evaluation & Research Agency, United Kingdom

ICAS-98-1.2.2
Design and Verification Philosophies for High Performance Aerospace Vehicle Structures under Combined Mechanical and Thermal Loading
Berkes U.L.
European Space Agency, The Netherlands

ICAS-98-1.2.3
Mars Entry Vehicle Aerodynamic Flight Measurements
Blanchard R.C., Wilmoth R.G., Moss J. N.
NASA Langley Research Center, U.S.A.

Session 2.2
Special Topics in CFD

Chairman:
A. Jameson
Stanford University, U.S.A.

ICAS-98-2.2.1
An Inverse Design Procedure for Airfoils Using Artificial Neural Networks
Hazarika N.
Aston University, United Kingdom
Tuncer J. H.,
Middle East Techn. Univ., Turkey
Lowe D.
Aston Univ., U.K.

ICAS-98-2.2.2
Efficiency Improvement of CFD Codes Using Analytical Far-Field Boundary Conditions
Dr. Verhoff A.
Boeing, U.S.A.

ICAS-98-2.2.3
Adaptive Mesh Refinement on the Solution of Two-Dimensional Viscous Aerospace Problems
Korzenowski H., Maciel E.S.G.
CTA/ITA/IEAA, Brazil
Azevedo J.L.F.
CTA/IAE/ASE-N, Brazil

Session 3.2
Vortex Flows

Chairman:
B. R. Williams
DERA, U. K.

ICAS-98-3.2.1
Flow Physics of Leading-Edge Vortex-Breakdown
Huang X.Z., Hanff E.S.
National Research Council of Canada, Canada

ICAS-98-3.2.2
Vorticity Measurements in the Near-Field of a Wing Tip Vortex
Lombardi G., Talamelli A.
University of Pisa, Italy
Sjöberg J.
KTH, Sweden

ICAS-98-3.2.3
A Study of Vortex Breakdown on Pitching Delta Wings Using High Resolution Pressure Measurements
Jupp M.L., Coton F.N., Green R.B.,
Galbraith R.A. Mc D.
University of Glasgow, United Kingdom

Session 4.2
Special Structural Design Problems

Chairman:
H.R. Meyer-Piening
ETH Zurich, Switzerland

ICAS-98-4.2.1
Crash Behaviour of Helicopter Fuel Tank Structures
Anghileri M.
Milan Polytechnical University, Italy

ICAS-98-4.2.2
The Evolution under Stress of the Superalloy/ Protective Coating Interface
Sanz A.
CRD, Italy
Bernadou J.P.
Supaero, France
Llanes L., Anglada M.
UPC/ETSII, Spain

ICAS-98-4.2.3
Airframe Configuration Design Using Constraint Propagation Technique Case Wing Structure
Kuntjoro W.
Institute of Technology, Bandung, Indonesia

Session 5.2
Structural Integrity, Corrosion and Fatigue

Chairman:
W.H. Schofield
Aeronautical and Maritime Research Lab., Australia

ICAS-98-5.2.1
The Influence of Corrosion on Aircraft Structural Integrity
Sharp P.K., Clark G., Cole G.K.
Aeronautical and Maritime Research Lab., Australia

ICAS-98-5.2.2
The Influence of Corrosion on the Fatigue and Fracture Behaviour of 7050-T76 Aluminium Alloy Specimens Containing Cold Expanded Holes
Glinos N., Wagstaff P.G.
Kingston University, United Kingdom
Cook R.
DERA, United Kingdom

ICAS-98-5.2.3
Prediction of Fatigue Crack Growth from Bolt Holes in a Titanium Disc
Zhuang W.Z., Stocks G.J., Wang C.H.
D.S.T.O., Australia

Session 6.2
Flight Management ATC I

Chairman:
J. Faulkner
RAeS, Australia

ICAS-98-6.2.1
A Soft Dynamic Programming Approach for On-Line Aircraft 4D-Trajectory Optimization
Hagelauer P.
Aerospatiale, France

ICAS-98-6.2.2
Cockpit Systems Requirements in a Future ATM Environment
De Muynck R.J., Hoekstra J.M., Ruigrok R.C.J., van Gimst R.F.W.G.
National Aerospace Laboratory NLR, The Netherlands

ICAS-98-6.2.3
Routing Algorithms for Real-time Mission Management
Allerton D.J., Gia M.C.
Cranfield University, United Kingdom

Session 7.2 *
Configuration and Design Integration (Student Session)

Chairman:
K. C. Wong
University of Sydney, Australia

ICAS-98-7.2.1
From the HALE Gnopter to the Ornithopter or How to Take Advantage of Aircraft Flexibility
Pendaries C.
ONERA, France

ICAS-98-7.2.2
Methodology for Conceptual Design and Optimisation of Transport Aircraft
Isikveren A.T.
American Airlines, USA

ICAS-98-7.2.3
Multidisciplinary Design Analysis and Optimisation of Aerospace Vehicles : Incorporation of Manufactoring Information
Gantois K.
Cranfield University, United Kingdom

* : Referenced and Positioned as Session 7.8 in the Proceedings

Monday 16:00 - 18:00

Session 1.3
Hypersonic Flight

Chairman:
D. Culpepper
NASA Langley, U.S.A.

ICAS-98-1.3.1
Optimal Three-Dimensional Range Cruise of a Dual-Fuel Hypersonic Vehicle
Sachs G., Mayrhofer M.
Technical University of Munich, Germany
Dinkelmann M.
DASA, Germany

ICAS-98-1.3.2
Predicted Deep-Stall Flight Characteristics of Two Hypersonic Flight Vehicles
Mendenhall M.R., Hegedus M.C.
Nielsen Engineering and Research, U.S.A.
Budd G.D., Frackowiak A.J.
NASA Dryden, USA

ICAS-98-1.3.3
Optimization of Space System Launching with Limitations on Fall Zones for Spent-Components
Filatyev A.S., Yanova O.V.
TsAGI, Russia

ICAS-98-1.3.4
A Passive Aerodynamic Stabilization System of Satellites for Low Earth Orbit: an Analytical Approach
Sarychev V.A.
Keldysh Institute, Russia
Paglione P., Camelier I.A.
University of Beira Interior, Portugal

Session 2.3
Aerodynamic Optimisation, Transports

Chairman:
T. B. D.

ICAS-98-2.3.1
Aerodynamic Design Optimisation Applied to Civil Transports with Underwing Mounted Engines
Hackett K.C.
DERA, United Kingdom
Rees P.H., Chu J.K.
BAe Airbus Ltd, United Kingdom

ICAS-98-2.3.2
Viscous Drag Optimization for a Transport Aircraft Mission Adaptive Wing
Martins A.L., Catalano F.M.
University of Sao Paulo, Brazil

ICAS-98-2.3.3
Use of CFD for Design Validation of a Transonic Civil Transport
Ok H., Kim I., Choi S., Sung B.
Korea Aerospace Research Institute, Korea

ICAS-98-2.3.4
A Simple Wing Optimisation Code Including Propeller Effects
Veldhuis L.L.M., Heyma P.M.
Delft University of Technology, The Netherlands

Session 3.3
Surface Measurement Techniques

Chairman:
A. B. Haines
ARA, United Kingdom

ICAS-98-3.3.1
Luminescent Paint Technology for Temperature and Pressure Measurements in a Cryogenic Wind Tunnel
Asai K.
National Aerospace Laboratory, Japan
Sullivan P.
School of Aeronautics and Astronautics, Purdue University, U.S.A.

ICAS-98-3.3.2
Quantitative and Qualitative Aspects of the Shear-Sensitive Liquid Crystal Coating Method
Reda D.C., Wilder M.C.
NASA Ames Research Center, U.S.A.

ICAS-98-3.3.3
In-Flight Shock Detection Using Hot Film Sensors and Constant Voltage Anemometer System
Mangalam S., Sarma G.R.
Tao Systems, U.S.A.
Moes T.M.
NASA, U.S.A.

ICAS-98-3.3.4
Capabilities of Surface Measurement Techniques and their Impact on Modern Wing-Design and Assessment
Nitsche W., Haselbach F., Bose S., Suttan J.
Technical University of Berlin, Germany

Session 4.3
Structural Analysis and Numerical Simulation

Chairman:
Prof. V. Giavotto
Milan Polytechnical University, Italy

ICAS-98-4.3.1
Numerical Simulation of Fluid-Structure Interaction in Aircraft Fuel Tanks Subjected to Hydrodynamic Ram Penetration
Santini P., Palmieri D., Marchetti M.
University of Rome "La Sapienza", Italy

ICAS-98-4.3.2
Structural Damage Detection Using Best Achievable "Modal" Eigenvectors
Ricci S.
Milan Polytechnical University, Italy

ICAS-98-4.3.3
Comprehensive Time Analysis in Aeroelastic Simulations
Eussen B.J.G., Hounjet M.H.L.
N.A.L., The Netherlands
Soijer M.W.
D.U.T., The Netherlands

ICAS-98-4.3.4
Through-Thickness Stresses in Aircraft Bonded Joints
Bartholomeusz R.A., Baker A.A., Chester R.J., Searl A.
Aeronautical and Maritime Research Lab., Australia

Session 5.3
Structural Repair and Joints

Chairman:
T. B. D.

ICAS-98-5.3.1
Bond Durability Performance - The Australian Silane Surface Treatment
Arnott D.R., Rider A.N., Olson Jacques C.L., Lambrianidis L.T., Wilson A.R., Pearce P.J., Chester R.J., Baker A.A., Morris C.E.M., Aeronautical & Maritime Research Lab., Australia
Davis M.J., Swan G.
RAAF, Australia

ICAS-98-5.3.2
Optimization of a Composite Bonded Repair to Cracked Panels Subjected to Acoustic Excitation
Callinan R.J., Galea S.G., Aeronautical & Maritime Research Lab., Australia
Sanderson S.
Chiu W. K., DSTO, Australia

ICAS-98-5.3.3
Load Transfer Mechanism in Bolted Double Lap Joints
Shankar K., Li J.
University of New South Wales, Australia

ICAS-98-5.3.4
An Improved Fatigue Approach for Designing Aircraft Joints
Duprat D., Journet B., Ithurralde C.
Aerospatiale, France

Session 6.3
Pilot Performance

Chairman:
G. Hunt
Massey University, New Zealand

ICAS-98-6.3.1
HMD Off-boresight Symbology for Fixed-Wings Aircraft: an Experimental Approach
Leger A., Leppert F., Cursolle J.P.
Sextant Avionique, France
Meehan J., Gibbs P.
Sextant Avionique, Australia

ICAS-98-6.3.2
Nonlinear Pilot in the Loop Performance Using a Modified Crossover Model
Innocenti M., Petretti A., Vellutini M.
University of Pisa, Italy

ICAS-98-6.3.3
Application of a Flight Simulator for Selection of Pilot Candidates
Skibniewski F., Klukowski K., Mazurek K., Kossowski J.
Polish Air Force Institute of Aviation Medecine, Poland

ICAS-98-6.3.4
Human Factors Aspects of Remotely Piloted Aircraft
Anderson S.B.
NASA Ames Research Center, U.S.A.

Session 7.3
Aerodynamics I (Student Session)

Chairman:
R.A. Danaher
RMIT, Australia

ICAS-98-7.3.1
A Simple Analytical Model for Parametric Studies of Hypersonic Waveriders
Starkey R.P.
AIAA, U.S.A.

ICAS-98-7.3.2
Flow Visualisation of a Thrust Vectoring STOL Fighter Configuration
Munro C.
RMIT, Australia

ICAS-98-7.3.3
A Flow Visualisation Study of the Dynamic Stalling of Two Wing Planforms
Moir S.
University of Glasgow, United Kingdom

Tuesday, 15 September

8:30 - 9:30
General Lecture I

Chairman: Richard H. Petersen
ICAS Past President, U.S.A.

ICAS-98-0.2
Airframe Systems Technologies for the 21st Century
D.R. Tenney
NASA Langley Research Center, U.S.A.

Tuesday 10:00 - 12:30

Session 1.4
Flight Dynamics I

Chairman:
S.B. Jenie
ITB, Indonesia

ICAS-98-1.4.1
Effect of Main Rotor Configuration and Propulsion System Dynamics on Helicopter Handling Qualities
Guglieri G., Quagliotti F.B.
Turin Polytechnical University, Italy

ICAS-98-1.4.2
Effect of LEX Surfaces on Lateral-Directional Dynamic Stability of Combat Aircraft
Ericsson L.E.,
U.S.A.
Beyers M.E.
Institute for Aerospace Research, Canada

ICAS-98-1.4.3
Unconventional Flight Analysis
Rohács J.
Technical University of Budapest, Hungary

ICAS-98-1.4.4
Analysis of Transient Dynamic Behaviour of a Fire Fighting Aircraft after the Water Bomb Dropping
Goraj Z., Sznajder J.
Institute of Aviation, Poland
Warsaw University, Poland

ICAS-98-1.4.5
A Mathematical Model of Affine Nonlinear System for Helicopter Flight Dynamics
Yang C., Hong G.
Beijing University of Aeronautics and Astronautics, China

Session 2.4
Unsteady Aerodynamics

Chairman:
R. Galbraith
University of Glasgow, United Kingdom

ICAS-98-2.4.1
Numerical Simulation of the Unsteady Aerodynamic Response of a Complete Aircraft
Hoeijmakers H.W.M., Hulshoff S.J.
Twente University, The Netherlands

ICAS-98-2.4.2
Accuracy of Unsteady Transonic Flow Computations
Grönland T.-A., Eliasson P., Nordström J.
The Aeronautical Research Institute, Sweden

ICAS-98-2.4.3
Self-Excited Oscillations of Supersonic Opposing Jet Flow
Fujita M.
Mitsubishi Research Institute, Inc., Japan
Karashima K.
Nishinippon Institute of Technology, Japan

ICAS-98-2.4.4
An Unsteady Transonic Hybrid Integral Equation - Finite Volume Scheme for Trajectory Simulation of Stores with Time-step Adaptation
Bhattacharya A.K., Mohan S.R.
Aeronautical Development Agency, India
Kanagarajan,
National Aerospace Lab., India

ICAS-98-2.4.5
Aerodynamic Characteristics of Axisymmetric and Three-Dimensional Bodies at Transonic Speeds
Fonarev A.S., Naida M.A.
Central Aerohydrodynamic Inst., Russia

Session 3.4
Flow Control

Chairman:
B. Brännström
Defence Material Administration, Sweden

ICAS-98-3.4.1 (Invited paper)
The Airbus A320 Hybrid Laminar Flow Fin Programme
Henke R.
Daimler Benz Aerospace AG, Germany

ICAS-98-3.4.2
Experimental Investigation on the Application of Hybrid Laminar Flow Control to Large-Scale Swept Wing Models at Subsonic Speeds
Bokser V.D., Babuev V.Ph., Kiselev A.Ph., Mikeladze V.G., Shapovalov G.K.
Central Aerohydrodynamic Institute, Russia

ICAS-98-3.4.3
The Mechanism of Active Boundary Layer Control using Vortex Generator Jets
Hasegawa H., Matsuuchi K., Yamakami J.
University of Tsukuba, Japan

ICAS-98-3.4.4
Oblique Grooves Avoiding Laminar Flow Separation on Bodies in Positive Pressure Gradients
La Roche U., Palffy S.
F.M. Lab HTL Brugg-Windisch, Switzerland

ICAS-98-3.4.5
Considerations in Applying Military Aircraft Forebody Flow Control Methodology to Commercial Aircraft
Beyers M. E.
Institute for Aerospace Research, Canada
Ericsson L.E.,
U.S.A.

Session 4.4
Composite Manufacturing, Repair and Testing

Chairman:
W. Wallace
NRCC, Canada

ICAS-98-4.4.1
Buckling Tests of Carbon-Epoxy Laminated Cylindrical Shells under Axial Compression and Torsion
Bisagni C.
Milan Polytechnical University, Italy

ICAS-98-4.4.2
Experimental Behavior of Graphite-Epoxy Panels with Cut-Outs under Biaxial Tension, Compression and Shear Loads
Romeo G., Frulla G.
Turin Polytechnical University, Italy

ICAS-98-4.4.3
The Effect of Matrix Moisture Content on the Repair of Carbon Fibre Reinforced Epoxy
Bond D., Swan G.
RAAF, Australia
Bader M., Smith P.
University of Surrey, United Kingdom

ICAS-98-4.4.4
Some Investigations on Wood-Composite Structures for Very Light Aircraft (VLA)
Jancelewicz B., Dr. Czarnocki P.,
Dr. Rodzewicz M., Salbut L.
Warsaw University of Technology, Poland

ICAS-98-4.4.5
Manufacturing and Testing of Graphite-Epoxy Wing Box and Fuselage Structures for a Solarpowered UAV-HAVE
Romeo G.
Turin Polytechnical University, Italy

Session 5.4
Turbo Machinery Technology

Chairman:
M.G. Philpot
DERA, United Kingdom

ICAS-98-5.4.1
Heat Transfer Measurements in a Rotating Channel
Astarita T., Gardone G., Carlomagno G.M.
University of Naples, Italy

ICAS-98-5.4.2
Development of Endwall Flow and Tip-Clearance Vortex in an Axial Pump Stage
Hah C.
NASA Lewis Research Center, U.S.A.
Loellbach J.
ICOMP/NASA Lewis Rearch Center, U.S.A.
Lee Y.
David Taylor Model Basin, U.S.A.

ICAS-98-5.4.3
On the Steady and Unsteady Effects of Blade Row Spacing in a Counter-Rotating Ducted Propfan
Wallscheid L.
DLR, Germany

ICAS-98-5.4.4
Turbomachinery Blade Design using the Navier-Stokes Equations
Eyi S.
Middle East Technical University, Turkey
Lee K.D.
University of Illinois, U.S.A.

ICAS-98-5.4.5
Experimental Investigation of Axial Compressor Cascade Performance under the Influence of Low Intensity Turbulence
Mukhraiya J. K., Ahmed N.A.
University of New South Wales, Australia

Session 6.4
Design Methods

Chairman:
R. Liebeck
Boeing, U.S.A.

ICAS-98-6.4.1
A Proposition in Design Education with a Potential in Commercial Venture in Small Aircraft Manufacture
Kundu A.K., Raghunathan S.
University of Belfast, United Kingdom

ICAS-98-6.4.2
Multidisciplinary Design and Optimisation of a Large Scale Civil Aircraft Wing
Prof. Morris A.J., Gantois K.
Cranfield University, United Kingdom

ICAS-98-6.4.3
Development of an Integrated Conceptual Aircraft Design and Aircraft Noise Model for Civil Transport Aircraft
Caves R.E., Rhodes D.P., Jenkinson L.R.
UK Civil Aviation Authority, United Kingdom

ICAS-98-6.4.4
Flying Objects - An Object-Oriented Toolbox for Multidisciplinary Design and Evaluation of Aircraft
Schneegans A., Kranz O.
PACE GmbH, Berlin, Germany

ICAS-98-6.4.5
Computational Algorithms for the Configuration Design
Gupta S.C.
Ministry of Defence, Bangalore, India

Session 7.4
Aerodynamics II (Student Session)

Chairman:
P.H. Hoffmann
RMIT, Australia

ICAS-98-7.4.1
Improved Approximate Factorisation Algorithm for the Steady Subsonic and Transonic Flow Over an Aircraft Wing
Ly E.
Royal Melbourne Institute of Technology, Australia

ICAS-98-7.4.2
Conical Euler Equations' Solution Based on the Unstructured Grid and its Application to a Vortical Flow over a Highly Swept Delta Wing
Yao P.H., Morishita E.
University of Tokyo, Japan

ICAS-98-7.4.3
A New Procedure for Simulating Rotor/Stator Interaction in Turbomachinery
Wu X.H., Chen M.Z.
Beijing University of Aeronautics, P.R. of China

ICAS-98-7.4.4
Nonreflecting Boundary Conditions for Nonlinear Euler Calculations Using an Implicit Approach
Tchernycheva O.
Royal Institute of Technology, Sweden

ICAS-98-7.4.5
Three Dimensional Rotor Flow Calculation
Bengin A., Jeremic S.
University of Belgrade, F.R. of Yugoslavia

Session 1.5
Flight Control of Large Flexible Aircraft

Chairman:
R. Mattsson
SAAB, Sweden

ICAS-98-1.5.1
Design of Flight Control System for a Highly Flexible Aircraft Using Convex Synthesis
Dardenne I.
ONERA, France
Ferreres G.
Supaero, France

ICAS-98-1.5.2
Flexible Structure Control by Modal Multi-Model Approach: Applied to Flexible Aircraft
Chiappa C., Le Gorrec Y., Doll C.
SUPAERO, France
Magni J.-F.
ONERA, France
Kubica F.
Aerospatiale, France

ICAS-98-1.5.3
New Flight Control Laws for Large Capacity Aircraft Experimentation on Airbus A340
Kubica F.
Aerospatiale, France

Session 2.5
Rotorcraft Aerodynamics

Chairman:
R. Strawn
US Army, U.S.A.

ICAS-98-2.5.1
Simulation of Fluid-Structure Interaction at the Helicopter Rotor
Hierholz K.-H., Wagner S.
University of Stuttgart, Germany

ICAS-98-2.5.2
Unsteady Parallel Airfoil Design for Rotary Wing Applications
De Castro Santos L.C.
University of Sao Paulo, Brazil

ICAS-98-2.5.3
Optimal Main Helicopter Rotor Projection Model Obtained by Viscous Effects and Unsteady Lift Simulation
Mitrovic C.
Faculty of Mechanical Engineering, Yugoslavia

Session 3.5
Jet Flows

Chairman:
R.R. Cosner
Boeing, U.S.A.

ICAS-98-3.5.1
Reattachment of an Inclined Wall Jet
Lai J.C.S., Lu D.
University of New South Wales, Australia

ICAS-98-3.5.2
Mixing Due to a Supersonic Main Stream and Co-Flowing Supersonic Parallel Jet
Tarnopolsky A.Z., Gai S.L.
University of New South Wales, Australia

ICAS-98-3.5.3
Vectoring Jets Influence of Under-Wing Stores Release Trajectories with and without Side-slip Effects, Theory and Experiment
Nangia R.K.
Nangia Aero Research Associates,
United Kingdom
Robinson G., Ross J.A., Peto J.W.
DERA, United Kingdom

Session 4.5
Full Scale Structural Testing

Chairman:
P. Sindelar
FFA, Sweden

ICAS-98-4.5.1
Dynamic Load Development and Results for Dynamic Excitation of a Full-Scale F/A-18 Fatigue Test Article
Conser D.P., Waldman W., Smith J.G.
Aeronautical and Maritime Research Lab.,
Australia

ICAS-98-4.5.2
Brazilian F-5 External Stores Aeroelastic Integration
Annes da Silva R.G., Bones C.A., Alonso A.C.P., Lucht R.R, Brandao M.P., de Feria Mello O.A.
CTA/IAE/ASA, Brazil

ICAS-98-4.5.3
N-250 Prototype 1 Flight Flutter Testing
Risdaya Fadil M., Indrawanto
Nusantara Aircraft Industries, Indonesia
Djojodihardjo H.
Agency for the Assessment and Application of Technology, Indonesia

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Session 5.5
Power Controls

Chairman:
T.B.D.

ICAS-98-5.5.1
More Efficient Fluid Power Systems Using Variable Displacement Hydraulic Motors
Biedermann O., Geerling G., Engelhardt J.
Technical Univ. Hamburg-Harburg, Germany

ICAS-98-5.5.2
Mechanical Failures of Flap Control Systems and Related Monitoring Techniques
Borello L., Villero G.
Turin Polytechnical University, Italy

ICAS-98-5.5.3
Computer Visualisation and Simulation of Fast Cyclic Hydraulic Actuator Dynamics
Jankovic J.
University of Belgrade, F.R. of Yugoslavia

Session 6.5
Flight Management ATC II

Chairman:
F. Abbink
NLR, The Netherlands

ICAS-98-6.5.1
Aircraft Vortex Wake, Flight Safety and Crisis of Airports
Vyshinsky V.V.
TsAGI, Russia

ICAS-98-6.5.2
Towards Automated Aircraft's Taxiing Phases
Siguerdidjane H.
SUPELEC, France
Pelegrin M.
Académie de l'Air et de l'Espace, France

ICAS-98-6.5.3
An Improved Technique for Flight Path and Groundspeed Analysis Using Recorded Radar Data
Orloff K.L., Bruno A.E.
Orloff Consulting, U.S.A.

Session 7.5
Flight Dynamics and Design (Student Session)

Chairman:
F. Quagliotti
Turin Politechnical University, Italy

ICAS-98-7.5.1
Analysis of Aircraft Stochastic Motion after Losing Control
Báthory Z.
Technical University of Budapest, Hungary

ICAS-98-7.5.2
Civil Applications of Thrust Vectoring - An Exploration
Van der Veen E.M.
Delft University of Technology, The Netherlands

ICAS-98-7.5.3
The Design of User-Oriented Fatigue Database Based on Client/Server Model
Wang M., Tung X.Y., Yong T.
Northwestern Polytechnical Univ., P.R. of China

Tuesday 16:00 - 18:00

Session 1.6
Robust Control Design

Chairman:
F. Levedäg
DASA, Germany

ICAS-98-1.6.1
Robustness Analysis Applied to Autopilot Design. Part I : μ-Analysis of Design Entries to a Robust Flight Control Benchmark
Looye G., Grübel G., Varga A., Moormann D.
DLR, Germany
Bennani S.
Techn. Univ. Delft, The Netherlands

ICAS-98-1.6.2
Robustness Analysis Applied to Autopilot Design, Part 2: Evaluation of a New Tool for μ-Analysis
Doll C., Magni J.-F.,
ONERA, France
Looye G.
DLR, Germany
Bennani S.
Faculty of Aerospace Engineering, The Netherlands

ICAS-98-1.6.3
Robustness Analysis Applied to Autopilot Design, Part 3: Physical Modeling of Aircraft for Automated LFT Generation Applied to the Research Civil Aircraft Model
Moormann D., Varga A., Looye G., Grübel G.
DLR, Germany

ICAS-98-1.6.4
Evaluation of Variable Structure Methods for Autopilot Design of Agile Missiles
Innocenti M., Matraia A., Nasuti F.
University of Pisa, Italy

Session 2.6
Unsteady CFD

Chairman:
P. Perrier
Dassault Aviation, France

ICAS-98-2.6.1
EROS: A European Euler Code for Helicopter Rotor Flow Simulations
Renzoni P. and alias
CIRA, Italy

ICAS-98-2.6.2
Propeller Slipstream Calculation Methods
Wang D.Q., Lindblad I., Eriksson P., Meijer S.
The Aeronautical Research Institute, Sweden

ICAS-98-2.6.3
Small Disturbance Euler Equations (SDEE) - An Efficient and Accurate Tool for Unsteady Load Predictions at all Mach Numbers
Kreiselmaier E., Laschka B.
Technical University of Munich, Germany

ICAS-98-2.6.4
A Time-marching, Type-dependent, Finite Difference Algotithm for the Modified Transonic Small Disturbance Equation
Gear J. A., Ly E., Phillips NTJ.
RMIT Univ., Australia

Session 3.6
High Speed Aerodynamic Configurations

Chairman:
S. Nomura
NASDA, Japan

ICAS-98-3.6.1
Experiments on Delta Wings with Rounded Leading-Edge Vortex Flaps
Rinoie K.
Cranfield Univ., U. K.

ICAS-98-3.6.2
Effects of Using Bi-Flap-System on the Improvement of Aerodynamics of a Swept-back Wing
Xin D. D.
Beijing University of Aeronautics, P.R. of China
Li Yuan
Chinese Acad. of Sciences, P.R. of China

ICAS-98-3.6.3
Aerodynamic Characteristics of Missiles with Triangular Cross Sections
Agrell J., Hamner O.
The Aeronautical Research Institute, Sweden
Jonsson B.
DMA, Sweden

ICAS-98-3.6.4
Comparative Force and Moment Measurements on Full and Half Models in the Yugoslav T-38 Trisonic Wind Tunnel
Zrnic N.
University of Belgrade, F.R. of Yugoslavia

Session 4.6
Aerodynamic Loads

Chairman:
T.B.D.

ICAS-98-4.6.1
A Method for The Rapid Prediction of Unsteady Loads over Wings at Transonic Speeds
Nixon D.
Nwing Inc., U.S.A.

ICAS-98-4.6.2
A Numerical Study of Lifting Surface Aeroelastic Instability Using Transonic Unsteady Aerodynamic Code - ANTRANS
Wayan Tjatra I., Sekar W.K., Kadar M.
Nusantara Aircraft Industry, Bandung, Indonesia

ICAS-98-4.6.3
Computational Unsteady Aerodynamics in Aeroelastic Simulation
Prananta B.B.
Delft University of Technology, The Netherlands
Hounjet M.H.L.
NLR, The Netherlands
Hoeijmakers H.W.M.,
Univ. of Twente, The Netherlands

ICAS-98-4.6.4
Control Surface Effectiveness in the Transonic Regime
Eastep F.
University of Dayton, U.S.A.
Kolonay R., Andersen G., Beran P.
Wright Patterson AFB, USA

Session 5.6
Propulsion Integration

Chairman:
E. Chaput
Aerospatiale, France

ICAS-98-5.6.1
Engine Integration on Future Transport Aircraft - The European Research Programmes DUPRIN/ENIFAIR
Burgsmueller W.
Daimler-Benz Aerospace Airbus GmbH, Germany
Rollin C.
Aerospatiale, France
Rossow C.
DLR, Braunschweig, Germany

ICAS-98-5.6.2
Engine Sub-Idle Model
Cafarelli R., Gandolfo A., Sbuttoni A., Polidoro R.
Alenia Aerospazio, Italy

ICAS-98-5.6.3
Common Core Development Approach for Allison T406/AE Family of Turboshaft, Turboprop, and Turbofan Engines
Newill D. B.
Allison Engine Company, Indiana U.S.A.

Session 6.6
Reliability, Maintenance

Chairman:
O. Diran
ITB, Indonesia

ICAS-98-6.6.1
Life Management of Aircraft Engine Components Using Retirement for Cause Procedures
Wicks B.J.
Aeronautical and Maritime Research Lab., Australia

ICAS-98-6.6.2
Diagnostic from System Models. The Adam Expert System Approach
Girardelli E., Didò F.
Alenia Aerospazio, Italy

ICAS-98-6.6.3
Aircraft Operational Management Based on State-Estimation
Pokoradi L., Szabolcsi R.
Miklos Zrinyi National Defense Univ., Hungary

ICAS-98-6.6.4
The Neural Diagnostic Method and a Complex System of Diagnosing Airframe and Powerplant
Borowiczyk H., Lewitowicz J.
Air Force Institute of Technology, Poland

Session 7.6
Aerodynamics III (Student Session)

Chairman:
T.R. Steiner
RMIT, Australia

ICAS-98-7.6.1
Aircraft Load Models for a Pilatus PC-9 Based on Wind Tunnel Testing
Huang A.
Wackett Aerospace Centre RMIT, Australia

ICAS-98-7.6.2
Experimental Investigation of a Diffuser for Cooling and Air Conditioning System
Bayramgil V., Bayrak S., Yükselen M.A.,
Erim M.Z.
Technical University of Istanbul, Turkey

ICAS-98-7.6.3
Design Methodology for Low Speed High Altitude Long Endurance Unmanned Aerial Vehicles
Altman A.
Cranfield University, United Kingdom

Wednesday, 16 September

8:30 - 9:30
General Lecture II

Chairman: Shinya Kobayakawa
Corporate Adviser, Mitsubishi H.I. Ltd, Japan

ICAS-98-0.3
Status and Trends in Commercial Transport Aircraft
Professor Volker von Tein
German Aerospace Center/DLR, Germany

Wednesday 10:00 - 12:30

Session 1.7
Flight Dynamics II

Chairman:
S. Suzuki
Tokyo University, Japan

ICAS-98-1.7.1
Difficulties in the Application of Stability Derivatives to the Manoeuvring Aerodynamics of Combat Aircraft
Greenwell D.I.
DERA, United Kingdom

ICAS-98-1.7.2
A Study of Self Induced Oscillatory Rolling Motion: Analytical and Experimental Results
Guglieri G., Quagliotti F.B.
Turin Polytechnical University, Italy

ICAS-98-1.7.3
A Sensitivity Analysis of Chaos at High Angle of Attack
Gránásy P.
GE Lighting Tungsram, Hungary
Rohacs J.
Technical University of Budapest, Hungary

ICAS-98-1.7.4
High Angles of Attack Flight Dynamics of Contemporary and Prospective Fighters as a Function of their Configuration and Aerodynamics
Goraj Z.
Warsaw University of Technology, Poland

ICAS-98-1.7.5
Prediction of High-Alpha Aerodynamic Characteristics of Maneuvering Aircraft
Mendenhall M.R., Perkins S.C.,
Hegedus M. C.
Nielsen Engineering and Research, U.S.A.

Session 2.7
Three Dimensional CFD Approaches

Chairman:
K. Fujii
Institute of Space and Astronautical Sciences, Japan

ICAS-98-2.7.1 (Invited paper)
Simulating Three Dimensional Aeronautical Flows on Mixed Block - Structured/Semi structured / Unstructured Meshes
Shaw J.A., Peace A.J.
Aircraft Research Association, United Kingdom

ICAS-98-2.7.2
A Fast and Accurate Method for Solving the Navier-Stokes Equations
MacCormack R.W.
Stanford University, U.S.A.

ICAS-98-2.7.3
A Multigrid Algorithm for Inviscid Flow Computations on Unstructured Grids
Berglind T., Tysell L.
The Aeronautical Research Institute, Sweden

ICAS-98-2.7.4
MEGAFLOW - A Numerical Flow Simulation System
Kroll N., Rossow C.C.,
DLR, Germany
Becker K.
Daimler-Benz Aerospace Airbus, Germany
Thiele F.
Technical University of Berlin, Germany

ICAS-98-2.7.5
A Systems Approach to CFD Code Development
Jou W.H.
The Boeing Company, U.S.A.

Session 3.7
Uninhabited Air Vehicles

Chairman:
J. Langford
AURORA, U.S.A.

ICAS-98-3.7.1
Control of High Endurance Unmanned Air Vehicle
Wharington J., Herszberg I.
Royal Melbourne Institute of Technology, Australia

ICAS-98-3.7.2
Integrated Flight/Payload Control for Directional Payloads on UAVs
Schnellbeck A.,
British Aerospace, Australia
Bil C., Bandara S.N.
RMIT, Australia
Wong K.C.
University of Sydney, Australia

ICAS-98-3.7.3
A Toolset for the Design of Autonomous UAV Systems
Valentinis F., Belton W.A., Kneen J., Bil C.
Royal Melbourne Institute of Technology, Australia

ICAS-98-3.7.4
Wind Tunnel Investigations on RPV Wing Glove Configuration
Darida M., Smrcek L.
University of Glasgow, Scotland, United Kingdom

ICAS-98-3.7.5
Unmanned Air Vehicles (UAVs) over Australia
Wong K.C., Bil C.
Royal Melbourne Institute of Technology, Australia

Session 4.7
Structural Design and Optimisation

Chairman:
V. Venkayya
United State Air Force, U.S.A.

ICAS-98-4.7.1
From Structural Optimization to Multidisciplinary and Multilevel Optimization
Petiau C.
Dassault Aviation, France

ICAS-98-4.7.2
Structural Optimization with Static Constraints Using Expandable Modal Basis
Karpel M., Moulin B.
Technion - Israel Institute of Technology, Israel

ICAS-98-4.7.3
Evolution of Transport Airplane Structural Design Criteria to Incorporate Advances in Technology
Barnes T.J.
FAA, Renton, U.S.A.

ICAS-98-4.7.4
Study of Wing Structural Layout Decision Support System
Fang W., Li Z.
Beijing University of Aeronautics, P.R. of China

ICAS-98-4.7.5
Investigation of Shape Optimisation Techniques for the Design of Plates with Cut-Outs
Thomson R.S.
Cooperative Research Centre for Advanced Composite Structures Limited, Australia
Scott M.L.,
Royal Melbourne Institute of Technology, Australia
Searl A., Heller M.
Aeronautical and Maritime Research Laboratory, Australia

Session 5.7
Fatigue and Damage Tolerance

Chairman:
U. Göransson
Boeing, U.S.A.

ICAS-98-5.7.1
Numerical Simulation of Fatigue Crack Closure Behaviour under Biaxial Loading
Zhuang W.Z., Wang C.H.
Aeronautical and Maritime Research Lab., Australia

ICAS-98-5.7.2
Crack Growth Prediction Using an Analytical Crack Closure Model for a Semi-Elliptic Surface Flaw Loaded in Combined Tension and Out of Plane Bending
Walker K. F.
Aeronautical and Maritime Research Lab., Australia

ICAS-98-5.7.3
Fatigue and Damage Tolerance Substantiation of the GALAXY Executive Jet Aircraft
Granot Z., Brot A., Afnaim S.
Israel Aircraft Industries, Israel

ICAS-98-5.7.4
Ensuring Structural Damage Tolerance of Advanced and Aging Aircraft
Nesterenko G.I.
Central Aerohydrodynamic Institute, Russia

ICAS-98-5.7.5
Prediction of Fatigue Crack Growth in Fiber Reinforced Metal Laminates
Guo Y.J., Wu X.R.
Beijing Institute of Aeronautical Materials, P.R. of China

Session 6.7
Flight Safety I

Chairman:
T. Bando
NAL, Japan

ICAS-98-6.7.1
Ultrasonic Technology: a Solution for In-Flight and On-Ground Ice Detection
Le Pimpec M.
Intertechnique, France

ICAS-98-6.7.2
Evaluation of Windshear Hazard Displays and Go-Around Procedures Using Piloted Simulations at NLR
Haverdings H., Rouwhorst W.F.J.A.
National Aerospace Laboratory NLR, The Netherlands

ICAS-98-6.7.3
Safety Assessment of Aircraft Mounted Systems
Trotta L., Buffardi R., Querzoli R.
Alenia Aeronautica, Italy

ICAS-98-6.7.4
Determination of Flight-Safety Rates and Examination of their Variations with Time in Correlation to Reliability Rates
Lewitowicz J.
Air Force Institute of Technology, Poland
Urbanski M.
Ministry of Defence, Poland

ICAS-98-6.7.5
Strategies for Minimum Distance in Simulated Evacuation of Transport Airplanes
Martinez-Val R., Hedo J.M., Hernàndez C.
Madrid Polytechnical University, Spain

Session 7.7
Materials and Structures (Student Session)

Chairman:
G. P. Steven
University of Sydney, Australia

ICAS-98-7.7.1
Numerical Simulation of the Temperature Field during Fatigue Process
Yao L.J., Tong X., Ye D.
Northwestern Polytechnical Univ., Xi'an, P.R. of China

ICAS-98-7.7.2
A Finite Element Study of the Post-buckling Behaviour of a Flat Stiffened Panel
Lynch C.J., Sterling S.G.
The Queen's University of Belfast, United Kingdom

ICAS-98-7.7.3
A Design and Test Programme Involving Welded Sheet-Stringer Compression Panels
Gibson A., Sterling S.G.
The Queen's University of Belfast, United Kingdom

ICAS-98-7.7.4
Nonlinear Aeroelasticity and Flight Dynamics of Aircraft in Subsonic Flow
Patil M., Hodges D.H.
Georgia Institute of Technology, U.S.A.

ICAS-98-7.7.5
Aeroelastic Tailoring of Composite Box Beams
Patil M.
Georgia Institute of Technology, U.S.A.

Wednesday 14:00 - 15:30

Session 1.8
Terrain Avoidance

Chairman:
G. Nicholson
RAAF, Australia

ICAS-98-1.8.1
Testing of an Automatic, Low Altitude, All Terrain Ground Collision Avoidance System
Fergione J., Welch J., Griffin E.
Lockheed Martin, U.S.A.
Baldonado M., Weigelt J.
Edwards AFB, U.S.A.

ICAS-98-1.8.2
Results of a Joint US/Swedish Auto Ground Collision Avoidance System Program
Swihart D.E., Barfield A.F.
Wright Patterson AFB, U.S.A.
Brännström B.
FMU, Sweden
Cawood M., Turner R.
Lockheed Martin, USA
Lövgren J.
SAAB AB, Sweden

ICAS-98-1.8.3
Application of Ground Collision Avoidance System Nuisance Criteria
Huffman R., Skoog M.
Edwards AFB, U.S.A.
Piñeiro L.
Wright Patterson AFB, U.S.A.
Ferm M.
DMA, Sweden

Session 2.8
Boundary Layers

Chairman:
H. Naguib
Illinois Institute of Technology, U.S.A.

ICAS-98-2.8.1
Stability Analysis by the OS and PSE Approaches - Comparisons with Experiments
Langlois M.,
Bombardier, Canada
MacDonald P., Paraschivoiu I.
Ecole Polytechnique de Montreal, Canada
Masson C.
Ecole de Technologie Sup., Canada
Casalis G.
ONERA, France

ICAS-98-2.8.2
Prediction of the Vorticity Field Produced by Air-jet Vortex Generators
Bray T.P., Garry K.P.
Cranfield University, United Kingdom

ICAS-98-2.8.3
Axisymetric Simulations of Turbulent Compressible Flows over Aerospace Vehicles
Buonomo C.A., Strauss D.,
CTA/ITA/IEAA, Brazil
Azevedo J.L.F.,
CTA/IAE/ASE-N, Brazil

Session 3.8
Experimental Configuration Studies

Chairman:
D. Archer
University N.S.W., Australia

ICAS-98-3.8.1
Trailing-edge Flows on Highly-swept Wings
Shires A.
Defence Evaluation and Research Agency, United Kingdom

ICAS-98-3.8.2
Vortical Flowfield Structure at Forward Swept Wing Configurations
Breitsamter C., Laschka B.
Technical University of Munich, Germany

ICAS-98-3.8.3
Aerodynamic Characteristics of Unconventional Aircraft Configurations
Patek Z., Smrcek L.
ARTI Ltd., Czech Republic

Session 4.8
Composite Design and Analysis

Chairman:
A. A. Baker
DSTO, Australia

ICAS-98-4.8.1
Strength Prediction of 2-D Braided Carbon/Epoxy Composites
Falzon P. J.
Coop. Research Cent. for Advanced Composite Structures Limited, Melbourne, Australia
Herszberg I.
Royal Melbourne Institute of Technology, Australia

ICAS-98-4.8.2
Effects of Stretching-Bending Couplings on the Buckling and Thermal Buckling Behavior of Unsymmetric Laminates
Cheng G.M.
First Research Institute, Beijing, P.R. of China
Tsao D.
Northwestern Polyt. Univ., Xi'an, PR of China

ICAS-98-4.8.3
Development of an Analytical Expression and a Finite Element Procedure to Determine the Residual Stresses in Bonded Repairs
Callinan R.J., Sanderson S., Tran-Cong T., Walker K.
Aeronautical and Maritime Research Lab., Australia

Session 5.8
Combustion and Control

Chairman:
G. Kappler
BMW Rolls Royce, Germany

ICAS-98-5.8.1
Characteristics of Momentum-Dominated Hydrocarbon Turbulent Diffusion Flames
Hegde U., Yuan Z.G.
National Center for Microgravity Research, Cleveland, USA
Stocker D.P.
NASA Lewis Research Center, U.S.A.
Bahadori M. Y.
Science and Technology Develop. Corporation, Los Angeles, USA

ICAS-98-5.8.2
Active Combustion Control for Propulsion Systems
Schadow K.C., Parr T.P., Yu K. H.
Naval Air Warfare Center, CA, U.S.A.

ICAS-98-5.8.3
Experimental Investigation of Working Process of the Front Devices with Opposite Flow Twisting, which are Used in the Combustion Chambers with Refined Ecological Performances
Rutovskiy V.B., Kravchenko I.V., Onischik I.I.
Moscow State Aviation Institute, Russia

Session 6.8
Engineering Design

Chairman:
D.L.I. Kirkpatrick
London University, United Kingdom

ICAS-98-6.8.1
Maximising the Efficiency of the Structural Qualification Process
Amphlett T.
British Aerospace, United Kingdom

ICAS-98-6.8.2
From a Mono-Disciplinary to a Multi-Disciplinary Approach in Aerospace: As Seen from an Information and Communication Technology Perspective
Vogels M.E.S., Arendsen P., Van Egmond J.E., Krol R. J., Laban M., Pruis G. W.
National Aerospace Laboratory NLR, The Netherlands

ICAS-98-6.8.3
Adaptive Selectively-Deformable Structures; New Concept in Engineering
Amiryants G.A.
TsAGI, Russia

Wednesday 16:00 - 18:00

Session 1.9
Safety and Cockpit Design

Chairman:
R. Howard
Australia

ICAS-98-1.9.1
A Systematic Investigation into Australian Aviation Safety
Braithwaite G.R, Faulkner J.P.E.
University of New South Wales, Australia
Coves R.E.
Loughborough Univ., United Kingdom

ICAS-98-1.9.2
Allocation of Fault Handling Techniques in Multiprocessing Avionics Architectures
Marchetto A.
Alenia, Italy

ICAS-98-1.9.3
Future Flight Decks
Arbuckle P.D., Abbott K.H., Schutte P.C., Abbott T.S.
NASA Langley Research Center, U.S.A.

ICAS-98-1.9.4
Human Factors Models and Classification Schemes for Improving Occurent Data Reporting Systems
Casseta O.P., Post W.
European Commission, Joint Research Center, Italy
Surace G.,
Turin Polytechnical University, Italy

Session 2.9
Aerodynamic Optimisation, Minimum Drag

Chairman:
A.S. Mahal
Boeing, U.S.A.

ICAS-98-2.9.1
Multi-Objective Strategies for Complex Optimization Problems in Aerodynamics Using Genetic Algorithms. Related Applications in Fluid Dynamics and Electromagnetics
Periaux J., Sefrioui M., Montel B.
Dassault Aviation, France

ICAS-98-2.9.2
Aerodynamic Design of High-Performance Sailplane Wing-Fuselage Combinations
Boermans L.M.M.
Delft Univ. of Technology, The Netherlands
Nicolosi F.
Univ. of Naples "Federico II", Italy
Kubrynski K.
Technical Univ. of Warshaw, Poland

ICAS-98-2.9.3
An Improved Method for the Design and Calculation of Aerodynamic Characteristics of Airfoil with the Dominant Turbulent Boundary Layer at Subsonic and Lower Transonic Speeds
Kostic I.
Faculty of Mechanical Engineering, Belgrade F.R. of Yugoslavia

ICAS-98-2.9.4
Numerical Shape Optimization of Natural Laminar FLow Bodies
Lutz Th., Wagner S.
Inst. of Aerodynamics and Gasdynamics Stuttgart, Germany

Session 3.9
Dynamic Wind Tunnel Measurements

Chairman:
H.U. Meier
DNW, The Netherlands

ICAS-98-3.9.1
Study of Environment Effects by Means of Scale Models Flight Tests in a Laboratory
Coton P.
ONERA, France

ICAS-98-3.9.2
Wind Tunnel Simulation of Combat Aircraft Manoeuvres
Greenwell D.I.
DERA, United Kingdom
Goman M.G.
de Monfort University, United Kingdom

ICAS-98-3.9.3
Low Speed Wind Tunnel Experiments on a Delta Wing Oscillating in Pitch
Hummel D., Loeser Th.
Technical University of Braunschweig, Germany

ICAS-98-3.9.4
Improving the Aerodynamic Efficiency of a Wing by Acoustic Excitation
Ahmed N.A., Archer R.D., Heywood M.
University of New South Wales, Australia

Session 4.9
Structural Modelling and Simulation

Chairman:
E. Nissim
Technion, Israel

ICAS-98-4.9.1
On-line Robust Modal Stability Prediction Using Wavelet Processing
Brenner M.J., Lind R.
NASA Dryden Flight Research Center, U.S.A.

ICAS-98-4.9.2
Theoretical Study of Transonic Flutter/Buzz in The Frequency and Time Domain
Kouzmina S., Mosounov V., Ishmuratov F.
TsAGI, Russia

ICAS-98-4.9.3
Optimisation of the Structural Dynamic Finite-Element Model for a Complete Aircraft
Dunn S.A.
Aeronautical and Maritime Research Lab., Australia

ICAS-98-4.9.4
Structural Dynamic Analysis of Non-Linear Multibody Systems by a Time-Discontinuous Galerkin Finite Element Formulation
Damilano J.G., Duarte J.A.A.
IAE/CTA/ASA-E, Brazil

Session 5.9
Durability and Damage Tolerance of Composites

Chairman:
T. Ishikawa
NAL, Japan

ICAS-98-5.9.1
Compressions after Impact Behaviour of Multilayer Woven Glass/Vinyl Ester Composites
Bannister M., Callus P., Herszberg I.
Royal Melbourne Institute of Technology, Australia

ICAS-98-5.9.2
The Effect of Damage on the Performance of Postbuckling Fibre Composite Shear Panels
Scott M.L., Thomson R.S.
Royal Melbourne Institute of Technology, Australia

ICAS-98-5.9.3
Numerical Modelling for Predicting Damage Tolerance of Composite Structure
Eve O., Tropis A.
Aerospatiale, France
Zeghloul A., Tahiri V.
Laboratoire de physique et mécanique, France

ICAS-98-5.9.4
Probabilistic Approach for Design of a Composite RPV Wing.
Jacob K.A.
Ministry of Defence, India

POSTER SESSIONS

For the first time at an ICAS Congress, poster sessions will take place twice daily with no parallel sessions scheduled during those times. Posters featuring enlarged text, equations, tables and figures will be for general exhibition throughout the Congress. Poster presenters will be scheduled specific times at which they will stand by their posters for discussions with Congress delegates.

Please find on page 29 the list of posters as of June 30, 1998.

Thursday, 17 September

8:30 - 9:30
General Lecture III

Chairman: Prof. Dr. Ing. Boris Laschka
Munich Technical University, Germany

ICAS-98-0.4
Eurofighter Technology for the 21st Century
E. Obermeier
Daimler Benz Aerospace AG, Germany

Thursday 10:00 - 12:30

Session 1.10
Flight Performance, Control and Identification

Chairman:
F. Quagliotti
Turin Politechnical University, Italy

ICAS-98-1.10.1
The Impact of Engine Technology Advancements on the Range v Performance Trade-off for a Future Combat Aircraft
Crawford C.A.
DERA, United Kingdom

ICAS-98-1.10.2
Closed-Loop Constrained Control Allocation for a Supermanoeuverable Aircraft
Dang-Vu B., Brocas D.
Laboratoire ONERA-Ecole de l'Air, France

ICAS-98-1.10.3
Pneumatic Yaw Control at High Angle of Attack for Low Observability Combat Aircraft
Garry K.P., Williams S.P.
Cranfield University, United Kingdom

ICAS-98-1.10.4
Fuzzy Stability Augmentation System for Aircraft Handling Qualities
Bousson K., Paglione P.
University of Beira Interior, Portugal

ICAS-98-1.10.5
Identification of Aircraft Non-Linear Dynamics Using Volterra Series
Marques F.D., Belo E.M.
University of Sao Paulo, Brazil

Session 2.10
Off-Body Flow Fields

Chairman:
W.H. Jou
Boeing, USA

ICAS-98-2.10.1
Modeling Exhaust Jet Dilution in Aircraft Walks: Application to the Contrail Formation
Garnier F., Laverdant A.
ONERA, France

ICAS-98-2.10.2
Large-Eddy Simulation of a Trailing Vortex System behind a Civil Aircraft Model
Da Silva C.B., Sousa J.M.N., Pereira J.C.F.
Technical University of Lisbon, Portugal

ICAS-98-2.10.3
An Engineering Methodology for Subsonic Store Trajectory Prediction
Bulbeck C.J., McKenzie G.J., Fairlie B.D.
Aeronautical and Maritime Research Lab., Australia

ICAS-98-2.10.4
ACFD Applications to Store Separation
Cenko A.
Naval Air Warfare Center, MD, U.S.A.
Lutton M.
Air Force Seek Eagle Office, Eglin AFB, U.S.A.

ICAS-98-2.10.5
Supersonic Underexpanded Rectangular Jet Oscillations: A Computational Study
Han S., Taghavi Ray R.
The University of Kansas, U.S.A.

Session 3.10
Separated Flows

Chairman:
B. R. Williams
DERA, UK

ICAS-98-3.10.1
Application of an Improved K-E Model to Separation Flows
Chen S., Lai J.C.S., Milthorpe J., Mudford N.
University of New South Wales, Australia

ICAS-98-3.10.2
Behaviours of Separated and Reattaching Flow Formed over Backward Facing Step
Rinoie K., Shirai Y., Saito Y., Sunada Y.
University of Tokyo, Japan

ICAS-98-3.10.3
Skin Friction Measurements Downstream of a Back-Facing Step
Spazzini P.G., Iuso G., Onorato M.
Turin Polytechnical University, Italy
De Ponte S.
Milano Polytechnical Univ., Italy

ICAS-98-3.10.4
PLIF Imaging of the Separated Region Behind a Cone in a Hypersonic Flow
O'Byrne S., Danehy P.M., Gai S.L.,
Mudford N.R., Houwing A.F.P.
Australian National University, Australia

ICAS-98-3.10.5
Boundary Layer Effects on the Base Pressure Behind a Blunt Trailing Edge Aerofoil
Vassilopoulos K., Gai S.L.
University of New South Wales, Australia

Session 4.10
Future Transport Aircraft

Chairman:
M. Mizuno
Japan Aircraft Development Corp., Japan

ICAS-98-4.10.1
The Ecolifter : A New Concept for a Dedicated Advanced Cargo Transport
Schmitt D.
Technical University of Munich, Germany
Roeder J.
Air Cargo Research Team, Germany

ICAS-98-4.10.2
Recent Investigations of the Very Large Passenger Blended-Wing-Body Aircraft
Denisov V.E., Bolsunovsky A.L., Buzoverya N.P., Gurevich B.I.
Central Aerohydrodynamic Institute, Russia

ICAS-98-4.10.3
The Environmental Challenge as Chance for the Next Century Aircraft Design
Szodruch J., Oelkers W., Schümacher J.
Daimler-Benz Aerospace Airbus GmbH, Germany

ICAS-98-4.10.4
N2130: A New Regional Airliner for the 21st Century
Habibie I.A., Dr. Wahono A.R.
ITPN, Indonesia

ICAS-98-4.10.5
The Blended Wing-Body Configuration as an Alternative to Conventional Subsonic Civil Transport Aircraft Design
Kehayas N.
Consultant, Greece

Session 5.10
Propeller Design and Interactions

Chairman:
R.W. Menthe
Hamilton Standard, U.S.A.

ICAS-98-5.10.1
A Comparison of Three Techniques for the Prediction of Isolated Propeller Performance
Van Bronswijk N., Gibbens P.W.
University of Sydney, Australia

ICAS-98-5.10.2
Euler/Navier-Stokes Simulation for Propulsion-Airframe Integration of Advanced Propeller-Driven Aircraft in the European Research Programs GEMINI/APIAN
Amato M.
CIRA, Italy
Boyle F., Eaton J.A.
National University of Ireland
Gardarein P.
ONERA, France

ICAS-98-5.10.3
Aerodynamic Integration of High Speed Propeller on Aircraft: Recent Investigations in European Wind Tunnels
Dumas A., Castan C.
Aerospatiale, France

Thursday 14:00 - 15:30

Session 1.11
Flight Safety II

Chairman:
T.B.D.

ICAS-98-1.11.1
The Risks of Overruns
Caves R.E., Kirckland I.
Loughborough University, United Kingdom
Sayce A.
CAA, UK

ICAS-98-1.11.2
Aircraft Landing-A Total System Approach
Papadopoulos C., Self A. W., Kopadoulos G. G.
Kingston University, United Kingdom

ICAS-98-1.11.3
HIRF/EMC Test Technologies and Methodologies
Ripamonti S.
Alenia Aerospazio, Italy

Session 2.11
Aircraft and Airship Performance

Chairman:
X. Ying
Boeing, U.S.A.

ICAS-98-2.11.1
Flight Mechanics and Control Characteristics of a Modern V/STOL Airship
Nagabhushan B.L.
Saint Louis University, U.S.A.

ICAS-98-2.11.2
Calibration of Air Combat Simulation Models Based on Performance Data
Hoffren J., Vilenius J.
Helsinki University of Technology, Finland

ICAS-98-2.11.3
Effect of Load Factors on Turn Manoeuver of Agricultural Aircraft
Rasuo B.
University of Belgrade, F.R. of Yugoslavia

Session 3.11
Wind Tunnel Developments

Chairman:
N. Wood
University of Manchester, United Kingdom

ICAS-98-3.11.1
Computation of Wind Tunnel Flows in Transonic Slotted-Wall Test Sections
Sedin Y.
Saab AB, Sweden
Agrell N.
FFA, Sweden

ICAS-98-3.11.2
Numerical, Wind-Tunnel and Flight Tests for P92J and P96 Light Aircraft
Coiro D.P., Marulo F., Nicolosi F., Ricci F.
Dipartimento di Progettazione Aeronautica, Napoli, Italy

ICAS-98-3.11.3
Commemorating Ten Years Operation of the Indonesian Low Speed Windtunnel
Sakya A.E., Wiriadidjaja S., Adibroto A.
UPT-LAGG, BPP Teknologi, Indonesia

Session 4.11
Smart Structures

Chairman:
E. Breitbach
DRL, Germany

ICAS-98-4.11.1
Research of Active Vibration Control Technologies for Composite Shell
Chen Y., Tao B.Q., Liu G., Wan J.G., Jin J.
Nanjing University of Aeronautics and Astronautics, P.R. of China

ICAS-98-4.11.2
Optimal Placement of Piezoelectric Sensors and Actuators Using Combinatorial Optimisation
Cardascia L., Surace G., Ruotolo R.
Turin Polytechnical University, Italy

ICAS-98-4.11.3
A Lightweight Concept for Aerodynamics Surfaces with Variable Camber
Campanile L.F. Hanselka H.
DLR, Germany

Session 5.11
Environmental Effects

Chairman:
B. Bourke
Australia

ICAS-98-5.11.1
Estimation of Civil Aircraft Performance and Operating Practices from Radar Data
Caves R.E., Jenkinson L.R.
Loughborough University, United Kingdom
Rhodes D.P., Ollerhead J.B.
National Air Traffic Services Ltd, United Kingdom

ICAS-98-5.11.2
A New Numerical Tool for the Evaluation of Noise Impact Generated by Helicopters
Norgia L.
CIRA, Italy

ICAS-98-5.11.3
Design and Analysis of Propellers for General Aviation Aircraft Noise Reduction
Drack L.E., Wood L.A.
Royal Melbourne Institute of Techn., Australia

Thursday, 17 September

16:00 - 17:00
ICAS Von Karman Lecture
Chairman: Jean-Pierre Marec
Chairman of the Programme Committee

ICAS-98-0.5
Development of the Global Express, a Success of International Partnership
J. P. Holding
Bombardier Inc, Canada

17:00 - 17:30
Closing Ceremony

TECHNICAL TOUR
Date: Friday 18th September 1998
Time: 9.00 am - 5.00 pm

Delegates are invited to participate in a technical tour of the Fishermens Bend aerospace industry precinct. The tour will include visits to the following organisations and is included in the registration fee. Lunch and light refreshments will be provided.

Aerospace Technologies of Australia (ASTA)
ASTA Components - a member of the Boeing Group, has a range of major aerospace manufacturing contracts for overseas companies. These include the Boeing 757 and 777 rudders, Airbus A-330 and A-340 main landing gear doors, and other large carbon fibre composite components. The tour will comprise of visits to the Structural Bonding Centre, Engineering Department, Profiler Shop and Airframe Assembly Centre.

Cooperative Research Centre for Advanced Composite Structures (CRC-ACS)
The CRC-ACS is one of 67 Cooperative Research Centres established and supported under the Australian Government's Cooperative Research Centres Program. The Centre provides Research and Development support to the aerospace industry in the design, manufacture and operation of advanced composite structures. Visitors will be given a summary of the Centre's research activities. A wide range of composite parts made by pultrusion, vacuum forming, resin infusion and liquid moulding are on display. The Centre also has programs on advanced textiles including stitching, weaving, knitting and embroidery techniques.

Defence Science and Technology Organisation's Aeronautical and Maritime Research Laboratory (DSTO-AMRL)
The AMRL is one of two laboratories operated by the DSTO which is part of the Australian Department of Defence. AMRL provides Research and Development support to the Australian Defence Force for its air and sea platforms and weapons systems. The tour of AMRL facilities will include the Air Operations Simulation Centre, Low Speed Wind Tunnel, the pioneering Bonded Composite Repair Technology, advanced Vibration Analysis techniques for detecting faults in aircraft engines and transmission systems and AMRL's world class F/A-18 fatigue test rig.

Hawker de Havilland Victoria Ltd (HdH)
Established in 1927, HdH has developed into an internationally recognised supplier to both military and commercial aerospace industries, and remains one of Australia's largest and most diversified aerospace design and manufacturing organisations. The tour will include the assembly and fabrication areas with emphasis on sheetmetal stretching and titanium forming.

Royal Melbourne Institute of Technology (RMIT)
The RMIT Department of Aerospace Engineering and Sir Lawrence Wackett Centre for Aerospace Design Technology are co-located in the heart of the Fishermens Bend Aerospace Precinct, where over 500 students are studying courses ranging from certificates to doctorates. The tour will include visits to wind tunnels, the advanced composite structures laboratory and also computer aided engineering facilities.

TECHNICAL EXHIBITION

The ICAS 98 exhibition provides opportunities for organisations to promote technical products and services associated with aerospace design, engineering, manufacturing and aircraft operations. It is anticipated that high quality exhibits of new and significant equipment, literature, materials, products, services, software, etc. will attract considerable interest from congress delegates. Marketing of the ICAS 98 exhibition is being undertaken by the Aerospace Foundation of Australia Ltd as an element of its continuing co-operation with the Australian Division of The Royal Aeronautical Society and the Institution of Engineers, Australia.

The exhibition area will be accessible throughout the congress and delegates will also be especially encouraged to interact with exhibitors at specific times. The Standard Booth Package includes a Shell Scheme constructed by using a modular panelling system offering maximum wall display space, fascia, fascia sign, two spotlights, power and one folding table. Display booths are a standard size being 2.4 m high with 3.0 m wide walls (9 m^2). The exhibition Package (AUD 3, 750.00) also includes full registration for one delegate, which comprises attendance at the Congress sessions and Technical Tour, morning and afternoon teas daily, Welcome Reception, lunches each day, Congress Reception, admission to the exhibition, Book of abstracts, Proceedings on CD-ROM, Congress satchel and name badge.

To register your Application to Exhibit, please contact the ICAS 98 Congress Administration Office.