A Qualitative Examination of the Effects Work-Related Separations Have on New Zealand International Flight Deck and Cabin Crew ................................................................. 722
Ms. Rachel Ward, Massey University

Situation Awareness

Situation Awareness: Where Are We Headed? ................................................................. 728
Dr. Mica Endsley, Texas Tech. University

Situation Awareness: Its Role in Flight Crew Decision Making ........................................ 734
Dr. Judith Orasanu, NASA Ames Research Center

Situation Awareness from the Team Perspective ............................................................... 740
Dr. Carolyn Prince, Naval Air Warfare Research Center
R. Stout

Issues Related to Situation Awareness .............................................................................. 745
Dr. Eleana Edens, FAA

Investigation of Situation Awareness Errors ..................................................................... 746
Mrs. Debra Jones, Texas Tech University
M. Endsley

The Risk Space Representation of Commercial Airspace ................................................... 752
Dr. Kip Smith, University of Minnesota
P. Hancock

“Oh No! We’ve Got a Problem” What ASRS Incident Data Tell About Flight Crew Performance During Aircraft Malfunctions ................................................................. 758
Capt. Robert Sumwalt, III, Battelle/ASRS
A. Watson

The Effect of a Situation Display on Memory Probe and Subjective Situational Awareness Metrics ...... 765
Dr. Michael Vidulich, USAF Armstrong Laboratory
A. McCoy, M. Crabtree

Decision Making

Dr. Peter Hancock, University of Minnesota
K. Smith, S. Scallen, A. Briggs, W. Knecht

Can Pilot Integrity Prevent VFR Into IMC Accidents? ....................................................... 773
Mr. Joe Hopkins, Mission Safety International

Decision Training

Expert Pilots' Perceptions of Problem Situations ............................................................... 777
Dr. Ute Fischer, San Jose State University
J. Orasanu, M. Wich

Self-Paced Decision Making Training: Bridging the Gap Between Experts and Novices ................ 783
Dr. Elise L. Amel, State University of New York, Oswego
M. Stevenson, B. Wulle, R. Black

xiii
Training Metacognitive Skills for Decision Making .................................................................................................. 789
Dr. Marvin Cohen, Cognitive Technologies, Inc.
J. Freemen, B. Thompson

FAA/OSU Research

The Airman Research Questionnaire: Characteristics of the American Pilot Population .................................. 795
Dr. David R. Hunter, FAA

Aeronautical Decision Making: The Expertise Method ............................................................................................ 801
Ms. Janeen Kochan, The Ohio State University

Piloting Expertise Intervention Strategies For Aeronautical Decision Making ......................................................... 804
Mr. James E. Guilkey, The Ohio State University
R. Jensen, S. Caberto, D. Fournier

Cognitive Factors

Must Habits Prevail in Aerosystems Design? ........................................................................................................... 809
Mr. Iain MacLeod, Aerosystems International

Cognitive Learning Preferences Among Corporate Aviation Pilots ................................................................. 815
Mr. Stephen Quilty, Bowling Green State University

Emergency Flight Situation Crew’s Intelligence Support System .............................................................. 820
Dr. Vladimir Ziberov, Air Force Flight Test Centre, Russia
A. Kupriyanov, A. Kalinin

Weather Information Transfer

The Effects of Compression Induced Distortion of Graphical Weather on Pilot Decision-Making ............. 827
Mr. Adam Dershowitz, MIT Lincoln Labs
A. Lind, D. Chandra, S. Bussolari

Analysis of the Weights Applied to Weather Information by Pilots .............................................................. 833
Dr. David Hunter, FAA
W. Driskill, J. Weissmuller, J. Quebe, D. Hand, M. Dittmar

Advanced Aviation Weather Graphics - Information Content, Display Concepts, Functionality, and User Needs .......................................................................................................................... 839
Mr. Tenny Lindholm, National Center for Atmospheric Research

Self Perceptions of Weather-Related Decision-Making Ability Amongst Pilots .............................................. 845
Mr. Mark Wiggins, University of Newcastle
N. Connan, C. Morris

Perceptual Factors

The Effects of Target Orientation on Dynamic Contrast Sensitivity ............................................................... 851
Capt. Craig Croxton, US Air Force Academy
A. Prestrude
Modeling Pilot Scanning Behavior: Strategies and Expertise .................................................. 857
Ms. Julianne Fox, University of Illinois
S. Fadden, C. Konrad, R. Marsh, D. Merwin, J. Sochacki, Y. Sohn
M. Tham, C. Wickens, G. Lintern, A. Kramer, S. Doane

The Integration of Peripheral Vision Supporting Features Into Conventional Display Design .......... 863
Mr. Joerg-Otto Hart, University of Kassel

The Single Channel Processing Bottleneck in the Cockpit: Can It Be Bypassed? .............................. 869
Dr. James Johnston, NASA Ames Research Center
M. Gold, R. McCann

Physiology

Cardiovascular Assessment of Mental Workload Using Autonomic Components: Laboratory and In-Flight Examples ................................................................. 875
Dr. Richard Backs, Wright State University
G. Wilson, T. Hanks,

Differential Sensitivity of Heart Rate and Heart Rate Variability as Indices of Mental Workload in a Multi-Task Environment ................................................................. 881
Dr. Evan Byrne, The Catholic University of America
K. Chun, R. Parasuraman

EEG Activation Patterns During Tracking and Decision-Making Tasks: Differences Between Low and High Sustained Attention Adults .................................................................................... 886
Dr. Helen Crawford, Virginia Polytechnic Institute and State University
T. Knebel, J. Vendemia, L. Kaplan, B. Ratcliff,

Psychophysiological Effects of Graded Hypoxia as Measured by Cerebral Oximetry and Evoked Potentials ................................................................................................. 891
Dr. Lloyd Tripp, Logicon Technical Services
A. Arnold, J. Bagian, K. McCloskey, D. Naishadham

Physiology: Age Factors

The Physiology of the Glass Cockpit: “What’s It Doing Now?” .................................................. 897
Richard O. Reinhart, MD, Human Factors Resources, Inc.

Boundaries of Cognitive Performance as a Function of Age and Piloting Experience ................. 903
Dr. Pamela Tsang, Wright State University

Variables Contributing to the Increase in Accident Liklihood Between the Ages of Thirty-Five and Forty-Four ................................................................. 908
Ms. Julie A. Yates Harkey, Indiana State University
W. McCurry

Physiology: Substance Intake

Prevention of Decreases of Alertness of Aircrews During Long Haul Flights by Practical Recommendations: A Research in Real Flight Conditions ................................................................. 914
Mr. Phillippe Cabon, University Rene Descartes Paris V
R. Mollard, A. Coblentz
The Sustainment of Helicopter Pilot Performance with Dexedrine During Continuous Operations ...... 920
John A. Caldwell, Jr., Ph.D., US Army Aeromedical Research

Effect of Caffeine on Critical Flicker Frequency (CFF) ................................................................. 926
Dr. A.M. Prestrude, VA Polytechnic Institute and State University
J. Simeroth

The Value of Human Factors Training Survey Results ................................................................. 930
Dr. David Blumkin, University of North Dakota

Pilot Fatigue - Effects, Countermeasures and Regulations ......................................................... 936
Dr. J.C. Wilson, Leicester University
A. Elsey, P. Hunton

Cooperation, Key to the Truth ........................................................................................................ 941
Colonel (Ret.) Joseph L. Vogel, The Ohio State University

Stress Factors

Speech Recognition and Keyboard Input for Control and Stress Reporting in an ATC Simulation ...... 944
Dr. Hugh David, Eurocontrol
S. Pledger

Brain Activity and Perseveration of Emotions .............................................................................. 949
Dr. Renate Haschke, Friedrich-Schiller-University
P. Georgiewa, A. Heydenreich, A. Muller, J. Hopf, J. Kuhl

Flight Instructor Stress ................................................................................................................ 955
Steve Soros, Aerospace Aviation
I. Henley, B. Wyndham, H. Nicoll

Human Performance During a Short and a Long-Term Stay in Space ......................................... 961
Dr. Bernd Lorenz, German Aerospace Research Establishment
D. Manzey, A. Schiewe, G. Finell

Fatigue

Fatigue as a Risk Factor in General Aviation ............................................................................. 968
Mr. Richard J. Adams, Florida Institute of Technology
A. Stokes

Investigation of Sleep Patterns Among Air Traffic Control Specialists as a Function of Time Off Between Shifts in Rapidly Rotating Work Schedules ........................................................................ 974
Ms. Crystal Cruz, FAA Civil Aeromedical Institute
P. Della Rocco

Shift Work, Age, and Performance: Mood and Fatigue on a Counterclockwise, Rapidly Rotating Shift Schedule Used in Air Traffic Control Facilities .................................................. 980
Pamela S. Della Rocco, Ph.D., FAA Civil Aeromedical Institute
C. Cruz

Raising Awareness for Fatigue Among Air Traffic Controllers ................................................. 985
Renate J. Roske-Hofstrand, Ph.D., NYMA Incorporated
Cultural Factors

*The Oasis Program: Expanding CRM Beyond The Cockpit Door* .......................................................... 992
Dr. Marvin Karlins, University of South Florida

*Safety Culture in an Airline Company* ........................................................................................................ 996
Anne Marit Lie, European Commission, Joint Research Centre
J. Kjaer-Hansen, A. Gagliardi

*Human Factors and Organizational Issues in Controlled Flight Into Terrain (CFIT) Accidents* .......... 1002
Capt. Dan Maurino, Human Factors Study Programme, ICAO

*Affects of Collective Psychology on Accident Prevention and Automation* ........................................... 1008
Ellen N. Overton, New Mexico

Workload

*The DRA Workload Scales (DRAWS): A Validated Workload Assessment Technique* ...................... 1013
Mr. Chris Jordan, Defense Research Agency
E. Farmer, A. Belyavin

*How Controllers Compensate for the Lack of Flight Progress Strips* ................................................. 1019
Mr. Todd Truitt, University of Oklahoma
C. Albright, A. Barile, O. Vortac, C. Manning

*The Effects of Simulated Air Traffic Control Workload Manipulations on EEG* ................................ 1025
Dr. Glenn Wilson, USAF Armstrong Laboratory
C. Swain, J. Brookings

*The Impact of Trial Length and Mode Experience on Failure-Detection Performance on Monitored and Controlled Dynamic Tasks* ................................................................. 1031
Dr. Grant Young, New Mexico State University

Simulation

*Initial Validation of a Basic Flight Instruction Tutoring System (BFITS)* .............................................. 1037
Dr. Jefferson Koonce, University of Central Florida
S. Moore, C. Benton

*Benefits and Limitations of Simulation-Based Mission Planning and Rehearsal* ................................. 1041
V. Alan Spiker, Anacapa Sciences
R. Nullmeyer

*Instrument Training Using a Computer-Based Simulation Device at Lufthansa Airlines* ................. 1047
Professor Gustavo Ortiz, Andrews University
D. Kopp, T. Willenbucher

*An Evaluation of Reduced Motion-Based Simulator Use During Initial Training for MD-88 Crews* ... 1051
Steven Hampton, Embry-Riddle Aeronautical University
Empirical Research Using PC-Based Flight Simulations

Assessment of Cockpit Navigation and Memory Aids Using PC-Based Flight Simulation ................................................. 1057
Dr. Dennis Beringer, Civil Aeromedical Institute, FAA
H. Harris

The Acquisition and Decay of Aircrew Coordination Skills ...................................................................................... 1063
Florian Jentsch, University of Central Florida
C. Bowers, B. Holmes

Assessing Aircrew Coordination Skills in TH-57 Pilots ......................................................................................... 1069
Dr. Michael Brannick, University of South Florida
C. Prince, E. Salas, R. Stout

The Effects of a Pathway-in-the-Sky Display on the Performance of a Two Axis Tracking Task by Instrument Rated Pilots ........................................................................................................... 1073
Mr. Leonard Hennessy, University of Central Florida
J. Wise, J. Koonce

Performance Assessment

The Development of a Semi-Automated Flight Evaluation System (SAFES) ................................................................. 1078
Ms. Theresa Baldwin, Technology Systems, Inc.
C. Benton, K. Petriel, J. Koonce

The Flight Instructor Test: Is it A Valid and Reliable Assessment of an Instructor’s Teaching Competence? .................................................................................................................................................. 1082
Ms. Irene Henley, The University of NewCastle

The Decision to Fail - Bad enough to Reject or Not Good Enough to Retain? ............................................................... 1089
Mr. Colin Symonds, London Guildhall University

Performance Metrics Methodology: Bridging the Gap Between Subsystem Measures of Performance (MOPS) and Mission Measures of Effectiveness (MOES) ................................................................. 1095
Dr. Norman Warner, Naval Air Warfare Center, Aircraft Division
E. Forster, M. Messick, J. Wolf, S. Olejniczak

The Creation and Use of Objective Flight Assessment Parameters for Measuring Aviation Competencies (Including Human Factors) at the Professional Licencing Level .............................................................................. 1101
Professor Richard Macfarlane, Massey University

Selection

Selection: Civilian

Academic Proficiency Anxiety, and Information-Processing Variables as Predictors of Success in University Flight Training ............................................................................................................................................. 1107
Dr. Alan Stokes, Florida Institute of Technology
M. Bohan

A Statistical Model for Predicting Success in Aviation ................................................................................................. 1113
Linda C. Newcomb, Hampton University
G. Jerome
Selecting the Right Stuff: Problems and Challenges in Conducting Validation Research .......... 1117
Ms. Monica Martinussen, University of Tromso

Psychological Factors That Predict Successful Performance in a Professional Pilot Program .......... 1122
Dr. Maureen Pettitt, Western Michigan University
J. Dunlap

Selection: Military

Neuropsychiatrically Enhanced Flight Screening (N-EFS): A Pilot Baselining and Validation Effort ................................................................. 1127
Capt. Joseph Callister, Armstrong Lab./ AOCN
R. King, D. Lanier, P. Etterle

Flight Training Selection Using Simulators - A Validity Assessment .................................................. 1132
Capt. John Garvin, USAF Academy
S. Acosta, T. Murphy

Personality as the Key Factor in the Competence of a Pilot ............................................................. 1137
Mr. Yehuda Shinar, Shinar Institute

An Examination of Attrition Since the Commencement of Contracted Primary Flying Training in the Canadian Air Force ................................................................. 1142
Lt. Brian Thompson, Department of National Defence, Canada
P. Desmier

Personality Factors

The Profile of the IAF Pilots Based on the Results of the Pauli Test .................................................. 1148
Drs. Prasetyo, Research and Development Unit, Psychology Institute Indonesian Airforce

A Descriptive Study of Pilots' Self-Reported First Response to Conflict and Flight Problems .......... 1152
Dr. Michele Rollins, Personal Strengths Publishing

Helicopter Human Factors

What Are Some of the Pilot Characteristics of Expert Decision Making? ........................................ 1158
Dr. Maxine Lubner, Columbia University
E. Struening, R. Adams

Single Pilot Helicopter Cockpit Resource Management ................................................................. 1164
Mr. Bruce Mayes, Century Flight Mgt. Inc.

SH-60B Human Factors Systems Safety Analysis ................................................................. 1168
LCDR. John Schmidt, PhD., Naval Safety Center
S. Winsko

Pilot Education

Using Cognitive Task Analysis to Support Training Development .................................................. 1172
Dr. George Kaempf, Klein Associates, Inc.
D. Klinger, S. Wolf, R. Lofaro
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing Student Pilots for their Profession by Implementing Problem-Based Learning in Aviation Studies</td>
<td>1177</td>
</tr>
<tr>
<td>Ms. Susan Foley, the University of Newcastle</td>
<td></td>
</tr>
<tr>
<td>P. Anderson, I. Henley</td>
<td></td>
</tr>
<tr>
<td>Learning, Instruction and Organization in Aviation</td>
<td>1183</td>
</tr>
<tr>
<td>Dr. Ross A. Telfer, Instructional Research and Development Pty. Ltd.</td>
<td></td>
</tr>
<tr>
<td>P. Moore</td>
<td></td>
</tr>
<tr>
<td>Using Group Dynamics to Reinforce CRM Concepts in a Collegiate Course</td>
<td>1189</td>
</tr>
<tr>
<td>Mr. John P. Young, Purdue University</td>
<td></td>
</tr>
<tr>
<td>Assessing Human Factors</td>
<td>1192</td>
</tr>
<tr>
<td>Dr. Stanley Trollip, S.R. Trollip and Associates Inc.</td>
<td></td>
</tr>
<tr>
<td>Transfer Effectiveness Evaluation of Personal-Computer Based Aviation Training Devices</td>
<td>1198</td>
</tr>
<tr>
<td>Development of an Experimental Flight Syllabus for Testing PC Computer-Based Aviation Training Devices</td>
<td></td>
</tr>
<tr>
<td>Mr. Tom Emanuel, University of Illinois</td>
<td></td>
</tr>
<tr>
<td>H. Taylor, C. Hulin, G. Lintern, S. Phillips, D. Talleur</td>
<td></td>
</tr>
<tr>
<td>Developing Performance Measures for Evaluating Personal Computer-Based Aviation Training Devices Within an FAR Part 141 Pilot Training School</td>
<td>1204</td>
</tr>
<tr>
<td>Ms. Sybil Phillips, University of Illinois</td>
<td></td>
</tr>
<tr>
<td>H. Taylor, G. Lintern, C. Hulin, T. Emanuel, D. Talleur</td>
<td></td>
</tr>
<tr>
<td>Transfer of Training Effectiveness of Personal Computer-Based Aviation Training Devices</td>
<td>1210</td>
</tr>
<tr>
<td>Dr. Henry Taylor, University of Illinois</td>
<td></td>
</tr>
<tr>
<td>G. Lintern, C. Hulin, T. Emanuel, S. Phillips, D. Talleur</td>
<td></td>
</tr>
<tr>
<td>Qualification Guidelines for Personal Computer-Based Aviation Training Devices</td>
<td>1216</td>
</tr>
<tr>
<td>Dr. Kevin Williams, FAA Civil Aeromedical Institute</td>
<td></td>
</tr>
<tr>
<td>R. Blanchard</td>
<td></td>
</tr>
<tr>
<td>Training Innovations</td>
<td></td>
</tr>
<tr>
<td>The Elite Crew: A New Look at Crew Resource Management</td>
<td>1221</td>
</tr>
<tr>
<td>Dr. Charlotte Freeman, Samford University</td>
<td></td>
</tr>
<tr>
<td>D. Simmon</td>
<td></td>
</tr>
<tr>
<td>Embedding Intelligent Tutoring into Real-Time Simulation</td>
<td>1227</td>
</tr>
<tr>
<td>Dr. Richard Gill, University of Idaho</td>
<td></td>
</tr>
<tr>
<td>S. Gordon, B. Babbitt</td>
<td></td>
</tr>
<tr>
<td>Training Pilots to Fly With a Single Eye Helmet Mounted Display</td>
<td>1231</td>
</tr>
<tr>
<td>Dr. Daniel Gopher, Technion</td>
<td></td>
</tr>
<tr>
<td>J. Seagull</td>
<td></td>
</tr>
<tr>
<td>Learning Strategies: Implications for Ab Initio Pilot Training</td>
<td>1237</td>
</tr>
<tr>
<td>Dr. Lynn Hunt, Massey University</td>
<td></td>
</tr>
</tbody>
</table>
Human Factors Training

Towards Safer Skies ................................................................. 1243
Capt. Abdul Ismail, Malaysia Airlines

Strategy and Method for Adapted Human Factors Training: The JRC-CRM Experience ............. 1247
Dr. Johan Kjaer-Hansen, European Commission Joint Research Centre

Leadership Responsibility Training: A Model Program for Regional Airline Captain Upgrades .... 1253
Mr. Larry Patterson, Tennessee State University

Management and Safety

Task and Job Description the Core of Human Resources Management in EATCHIP ..................... 1259
Dr. Manfred Barbarino, EUROCONTROL

Communication and Cooperation Analysis in Air Traffic Control .............................................. 1265
Ms. Anna Bellorini, Joint Research Centre, European Commission
F. Vanderhaegen

Communication for Aviation Safety Detecting and Eliminating the Hazard ............................. 1272
Mr. Gavin McKellar, South African Airways

Accident Investigation

A Methodology for Retrospective Analysis of Accidents Involving Human Factors ....................... 1278
Mr. Mauro Pedrali, C.N.R.S., ARAMIIHS
P. Cacciabue, G. Cojazzi

Modeling Pilot Decision Making in New Zealand General Aviation Accidents Using the Surry Decision Model ................................................................. 1284
Claire Pitnam, Massey University
R. St. George

Flightcrew Errors and the Contexts in Which They Occurred: 37 Major, U.S. Air Carrier Accidents ............................................................................................... 1291
Mr. Benjamin Berman, National Transportation Safety Board

Human Factors in U.S. Naval Aviation Mishaps: An Information Processing Approach ............. 1295
Dr. Douglas Wiegmann, Naval Aerospace Medical Research Labs
S. Shappell

Controlled Flight Into Terrain: The Utility of Models of Information Processing and Human Error in Aviation Safety ................................................................. 1300
LCDR Scott Shappell, Ph.D and U.S. Navy
D. Wiegmann

Spatial Disorientation

Spatial Disorientation in Fixed-Wing General Aviation Accidents ............................................ 1307
Dr. Rudolf Mortimer, University of Illinois
Spatial Disorientation in Rotary-Wing Aircrew: What Makes an Incident and What Makes an Accident? ................................................................. 1312
Dr. Simon Durnford, US Army Aeromedical Research Laboratory
J. Crowley

Ground-Based Spatial Disorientation Training in the United States Air Force: Past and Current Approaches ......................................................... 1318
Dr. Fred Previc, Armstrong Lab, Brooks Air Force Base
W. Ercoline

Panel Summaries

New Developments in Computer-based Testing: The Future For Pilot Selection Procedures ........ 1324
Prof. Dave Bartram, University of Hull

Personality Factors In Pilot Selection: Validation Of The Cathay Pacific Airways Selection Procedures .......................................................... 1330
Prof. Dave Bartram, University of Hull

Abort Early and Avoid the Rush: Simple, Low Cost Concepts to Widen Safety Margins On Take Off Roll .............................................................................. 1336
Dr. Robert O. Besco, Professional Performance/Improvement Inc.

Pilot Selection I: The State-of-Play .............................................................. 1341
Eugene Burke, London Fire Brigade

Pilot Selection II: Where Do We Go from Here? ........................................... 1347
Eugene Burke, London Fire Brigade

Pilot Error/Pilot Selection Research Phase II: The Development of a Simulation Scenario to Validate the Beckett Pilot Personality Inventory (BPPI) .......................................................... 1354
Dr. Steve Caberto, US Air Force and The Ohio State University
R. Jensen, J. Guilkey, D. Fournier, C. Ventola, D. Rogers

Human Factors Education for Aviators .......................................................... 1360
Dr. Anthony Ciaverelli, Naval Postgraduate School
S. Trollip

Issues in Pilot Selection .............................................................................. 1365
Dr. Diane Damos, University of Southern California

The Uses of the World Wide Web in Furthering Aviation Safety .................... 1369
David Fournier, The Ohio State University

Aircrew Discourse: Exploring Strategies of Information and Action Management .......... 1370
Ms. Cheryl Irwin, San Jose State University Foundation
E. Veinott

The Use of Decision Speeds for Rejected Takeoffs ...................................... 1375
William Melvin, Aviation Safety Consultant
Poster Summaries

Monitoring of Automation Failures by Young and Old Adults .................................................. 1382
Mr. David Hardy, The Catholic University of America
M. Mouloua, R. Molloy, C. Dwivedi, R. Parasuraman

Crew Resource Management Summit Beckman Center National Academy of Sciences Final Report:
March 1995 ................................................................. 1388
Stacy Lonstein, ISM Teaching Systems, Inc.

The Use of ASRS Incident Reports in AQP Training ............................................................. 1390
Ms. Susan Mangold, Battelle Memorial Institute
R. Morrison, S. Frank

The Model AQP Database Process: Challenges in Process and Design .................................. 1395
Mr. David Neumeister, Battelle Memorial Institute
D. Eldredge, S. Mangold, S. Wall

The United States Air Force Psychologist's Role in Aircraft Mishap Prevention and Investigation .... 1401
Dr. Walter Sipes, Krug Life Sciences
R. King

Navigation Errors in Relation to Controlled Flight into Terrain (CFIT) Accidents ...................... 1403
Dr. Robert Woodhouse, Queens University
R. Woodhouse

Workshop Summaries

Assessment of Non-Technical Skills - "The Morning After" .................................................. 1407
Dr. Patricia A.M. Antersijn, KLM Flight Crew Training Centre
M. Verhoef - de Groen

Practical Stress Management in the CRM Programme ......................................................... 1411
Mrs. Carolyn Blanch, Interface Training
M. Dowd

Post Graduate CRM Training ................................................................. 1413
Mr. J. Norman Komich, US AIR Shuttle

Visualization to Improve Pilot Performance in Flight ......................................................... 1418
Dr. Margaret Rappaport, Massachusetts

Understanding Gender-based Differences: A Workshop for Women and Men in the Aviation Industry ......................................................... 1425
Ruth Lowe Sitler, Kent State University
B. Wulle, M. A. Turney

Eighth Symposium Attendance List .................................................................................. 1430

Author Index ................................................................................. 1453

Representation List .................................................................................. 1458