

19th International Symposium on Aviation Psychology (ISAP 2017)

Dayton, Ohio, USA
8-11 May 2017

ISBN: 978-1-5108-4214-4

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by Wright State University – Conferences & Events
All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact Wright State University – Conferences & Events
at the address below.

Wright State University – Conferences & Events
3640 Colonel Glenn Highway
Dayton, Ohio 45435
USA

Phone: (937) 775-1000

<http://www.wright.edu>

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com



19th INTERNATIONAL SYMPOSIUM ON AVIATION PSYCHOLOGY

MAY 8 - MAY 11, 2017 | DAYTON, OHIO

PAPERS

Symposium: The Use of Qualitative Methods in Aviation Psychology

A Trend Analysis of Human Factors Issues in UK Military Aviation

Author: Sarah Weedon

Author: Victoria Cutler

Author: Saskia Revell

Exploring Facilitated Debriefing Techniques Using a Diary Study

Author: Shawn Pruchnicki

Author: Arjun H. Rao

Displays for the Aircrew

Is Rho the Key to Hazardous Weather Avoidance?

Author: William Knecht

Objective and Subjective Evaluation of a New LIDAR-Based Speed Prediction and Advisory Displays

Author: Jorg Onno Entzinger

Author: Tomoko Iijima

Author: Tsuneharu Uemura

Author: Jun Matsumoto

Author: Naoki Matayoshi

Author: Shinji Suzuki

Development of Increasingly Autonomous Traffic Display Manager Using Pilot Relevancy and Ranking Data

Author: Lisa R. Le Vie

Author: Vincent E. Houston

Simulation-Based Approaches to Pilot Training

Four-Year Follow-Up of Intensive, Simulator-Based Pilot Training

Author: Maxine Lubner

Author: Andrew R. Dattel

Author: Deb Henneberry

Author: Emerson Allen

Author: Sharon DeVivo

The Effect of Surprise on Pilot Upset Recovery Performance

Author: Annemarie Landman

Author: Eric L. Groen

Author: René van Paassen

Author: Adelbert W. Bronkhorst

Author: Max Mulder

Hi-Fidelity Mission Simulation and the State of the Art in Unmanned Training
Author: Matt J. Martin

Risk Analysis & Quality Assurance

Toward Identifying Risk in Human Performance of ATC Procedures
Author: Paul Krois
Author: Julia Pounds

Operationalizing the Definition of Risk as Variability
Author: Julia Pounds
Author: Paul Krois
Author: Barry C. Davis
Author: Melissa Wishy

Cognitive and Judgment Relevance to Autonomous and Remote Flight Testing
Author: Diogo Silva Castilho

Multi-Modal Display Technology

Evaluating Spatial-Auditory Symbology for Improved Performance in Low-Fidelity Spatial Audio Displays
Author: Griffin D. Romigh
Author: Jose Villa
Author: Jason Ayers

Virtual Reality and 2D Interfaces: A Comparison of Visual Search Task Performance
Author: Matthew Brown
Author: Kathleen Van Benthem
Author: James Howell
Author: Jonathan Poisson
Author: Scott Arbuthnot
Author: Chris M. Herdman

A Color-Code Design Tool
Author: David L. Post
Author: William E. Goode

Simulation for Test & Evaluation

Proposed Scenarios for the Standardization of the Evaluation of New ATC Technologies and Procedures
Author: Jerry M. Crutchfield
Author: Angel Millan

An Interdisciplinary Approach to Evaluating U.S. Army Aviation Training
Author: Martin S. Goodwin
Author: Lauren Reinerman-Jones
Author: Brian F. Goldiez
Author: Robert A. Crapanzano

Quantifying Pilot Contribution to Flight Safety during Unreliable Airspeed
Author: Timothy J. Etherington
Author: Lynda J. Kramer
Author: Randall E. Bailey
Author: Kellie Kennedy

Accident Analysis and Safety

Development of a Model of "See and Avoid" in Parachuting
Author: Victoria Cutler
Author: Saskia Revell

A Study of Accidents/Incidents of Landing on Wrong Runway/at Wrong Airport (1992-2012)

Author: Linfeng Jin

Author: Edmund Lo

A Case Study Using the Human Factors Analysis and Classification System Framework

Author: Flavio A.C Mendonca

Author: Chenyu Huang

Author: Richard Fanjoy

Author: Julius Keller

Symposium: Lessons Learned from a High-Fidelity Simulation of a Flight Dispatch Center

Improving Aviation Students' Teamwork, Problem Solving, Coordination, and Communications Skills During a High-Fidelity Simulation

Author: Evan Lester

Author: Andrea M. Georgiou

Author: Michael Hein

Author: Glenn E. Littlepage

Author: Richard Moffett

Author: Paul Craig

Teamwork and Emergent Cognitive States as Predictors of Routine and Adaptive Performance

Author: Glenn E. Littlepage

Author: Megan E. Wertheimer

Self-Leadership Strategies & Performance Perspectives Within Student Aviation Teams

Author: Christopher Ryan Bearden

Student Perceptions on the Usefulness of Simulation-Based Training

Author: Andrea M. Georgiou

Author: Megan E. Wertheimer

Author: Megan E. Snodgrass

Displays: Attitude & Energy Awareness

Design Considerations for Attitude State Awareness and Prevention of Entry to Unusual Attitudes

Author: Kyle K.E Ellis

Author: Lawrence J. Prinzel

Author: Jarvis J. Arthur

Author: Stephanie N. Nicholas

Author: Daniel Kiggins

Author: Harry Verstynen

Author: Clay Hubbs

Author: James Wilkerson

Synthetic Vision System Commercial Aircraft Flight Deck Display Technologies for Unusual Attitude Recovery

Author: Lawrence J. Prinzel

Author: Kyle K.E Ellis

Author: Jarvis J. Arthur

Author: Stephanie N. Nicholas

Author: Daniel Kiggins

Operator Fatigue

Fatiguing the Force: Using Operational Data to Improve Air Force's Mission Effectiveness Model

Author: Kelly M. Amadio

Author: Jennifer P. Howland

Status of FAA Air Traffic Control Fatigue Interventions 2013-2016

Author: Darendia McCauley

Author: Thomas Nesthus

Safety Culture & Reporting

SMS Hazard Analysis at a University Flight School

Author: Wendy Beckman

Author: Don Crews

Longitudinal Safety Climate Analysis: Modeling for Enhanced Organizational Response

Author: Erin E. Bowen

Author: Brian J. Roggow

Tuesday Posters

Relational between Relational Energy, Emotional Labor and Cognitive Flexibility among Flight Attendants in India

Author: Rithi Baruah

Innovative Airport Visual Aids to Enhance Situational Awareness and Flight Training

Author: Wesley Major

Author: Sarah Hubbard

Simulation for UAV Flight

Author: William Weldon

Author: Brian Kozak

Crew State Monitoring and Line-Oriented Flight Training for Attention Management

Author: Chad Stephens

Author: Angela Harrivel

Author: Lawrence J. Prinzel

Author: Ray Comstock

Author: Nijo Abraham

Author: Alan Pope

Author: James Wilkerson

Author: Daniel Kiggins

Effects on Task Performance and Psychophysiological Measures of Performance during Normobaric Hypoxia Exposure

Author: Chad Stephens

Author: Kellie Kennedy

Author: Nicholas Napoli

Author: Matthew Demas

Author: Laura Barnes

Author: Brenda Crook

Author: Ralph Williams

Author: Mary Carolyn Last

Author: Paul Schutte

What Information About Consumers Predicts Their Trust in Autopilots

Author: Mattie Milner

Author: Stephen Rice

Author: Scott Winter

Author: Rian Mehta

Author: Matt Pierce

Potential Research on the Use of Big Data Paradigm for Pilot Environments

Author: Chang-Geun Oh

Final Results of Multimethodology Application at Civilian Air Navigation Complex Environment

Author: Lisia Maria Espinola da Silva Pacheco Cabral

Author: Marcos Pereira Estellita Lins

Intelligent Multi-UxV Planner with Adaptive Collaborative/Control Technologies

Author: Gloria Calhoun

Author: Mark Draper

Author: Michael Hansen

Author: Scott Douglass

Author: Sarah Spriggs

Author: Michael Patzek

Author: Allen Rowe

Author: Dakota Evans

Author: Heath Ruff

Author: Kyle Behymer

Author: Michael Howard

Author: George Bearden

Author: Elizabeth Frost

Innovative & Dynamic Interfaces

A Dynamic System Simulation Device to Define Human-system interface Requirements for the Dassault Rafale

Author: Daniel Hauret

Author: Julien Donnot

Avionics Touch Screen in Turbulence: Simulation for Design (Part Two)

Author: Sylvain Hourlier

Author: Xavier Servantie

Effects of an Ecological Interface on Flight Training Effectiveness

Author: Ronald Deerenberg

Author: René van Paassen

Author: Clark Borst

Author: Max Mulder

General Aviation Cognition

Interviews of General Aviation Pilots: an Insight to Airspace Infringements

Author: Elena Psylou

Author: Arnab Majumdar

Author: Washington Ochieng

Flight Experience and Mental Representations of Space

Author: Mikayla Keller

Author: Jennifer E. Sutton

Individual Pilot Factors Predict Diversion Management and Situation Awareness during Simulated Cross-Country VFR Flight

Author: Kathleen Van Benthem

Author: Chris M. Herdman

Language and Communications

Human-Machine Articulation Work: Functional Dependency Dialogue for Human-Machine Teaming

Author: Clayton D. Rothwell

Author: Valerie L. Shalin

Facilitating Communication for Aviation Training and Maintenance

Author: Lorraine E. Holtaway

Author: Kyle Jackson

Author: Sarah Hubbard

Aviation English Intelligibility

Author: Julia Trippe

Author: Eric Pederson

What's Next for NextGen?

Federal Aviation Administration Flight Deck Human Factors Research Program

Author: Sheryl L. Chappell

Author: Regina G. Bolinger

Author: Ashley C. Awwad

Alerts on the NextGen Flight Deck

Author: Angelina Sebok

Author: Christopher Wickens

Author: Brett Walters

Author: Karl Fennell

NextGen Human Factors Accomplishments and Challenges in the Future

Author: Edmundo A. Sierra

Unmanned Aircraft Operations

An Investigation of Minimum Display Requirements for a UAS Detect and Avoid System

Author: Kevin W. Williams

Increasing Acceptance of Haptic Feedback in UAV Teleoperations by Visualizing Force Fields

Author: Victor Ho

Author: Clark Borst

Author: René van Paassen

Author: Max Mulder

An Investigation of Interfaces for Remotely Piloted Aircraft Crew When Dealing with Cyber Threats

Author: Kristen K. Liggett

Author: Peter Venero

Author: Gina Thomas

Weather Technology in the Cockpit (A PEGASAS Project)

Author: Mel J. Futrell

Author: Ian Johnson

Author: Geoff Whitehurst

Author: Vladimir N. Risukhin

Author: Lori J. Brown

Author: William Rantz

Author: Thomas K. Ferris

Author: Trey Roady

Author: Carolina Rodriguez-Paras

Author: Kathryn Tippey

Wednesday Posters

Does the Projected-Hand-Illusion Help in Teleoperation?

Author: Lloyd Wajon

Author: René van Paassen

Author: David A. Abbink

Author: Erwin Boer

Author: Max Mulder

Investigating Pilot's Decision Making When Facing an Unstabilized Approach: An Eye-Tracking Study

Author: Maxine Reynal

Author: Frank Rister

Author: Sébastien Scannella

Author: Christopher Wickens

Author: Frédéric Dehais

Incomplete Knowledge of Results and the Manipulation Response Bias

Author: Matthew J. Davis

The In-flight Affective Brain: Decision Making under Uncertainty and Safety Implications in Aviation

Author: Mariateresa Sestito

Author: Francesca Benuzzi

Author: Pierre Wydoodt

Author: Ermanno Giombelli

Author: Umberto Scoditti

Author: Giacomo Pavesi

Author: Paolo Frigio Nichelli

Author: Jean-Claude Dreher

Author: Seongmin Park

Human Decision Making and Threat-awareness Response during Emergency Aircraft Evacuations

Author: Sarah Hubbard

Author: Tim Ropp

How Task Complexity and Time Pressure Affect Air Traffic Controllers' Performance and Workload

Author: Qianru Yang

Author: Andrew R. Dattell

Author: Dahai Liu

Using Pair-Wise Rankings in the Assessment of Adaptive Aiding

Author: Christina Gruenwald

Author: Matt Middendorf

Author: Chelsey Credlebaugh

Author: Jonathan Mead

Author: Scott Galster

An EEG Data Investigation Using Only Artifacts

Author: Chelsey Credlebaugh

Author: Paul Middendorf

Author: Matt Middendorf

Author: Scott Galster

Investigating Facial Electromyography as an Indicator of Cognitive Workload

Author: Jonathan Mead

Author: Matt Middendorf

Author: Christina Gruenwald

Author: Chelsey Credlebaugh

Author: Scott Galster

Empirically Evaluating Representational Aids for Target Tracking and Sensor Management

Author: Taleri Hammack

Author: Jared Neely

Author: Terry Stanard

Author: Jason Roll

Author: John Flach

Able Flight

Author: Wesley Major

Author: Raymart Tinio

Author: Sarah Hubbard

Advancement in Pedagogical Foundations: Developing Language Proficiency for Student Success

Author: Stacey L. McIntire

Author: Juan R. Merkt

Author: Jacqueline R. Luedtke

Author: Timothy B. Holt

Author: Brent D. Bowen

Cognitive Ergonomics and Knowledge Management: A new Model for Addressing Aviation Issues

Author: Ronald John Lofaro

Effects of Automation

How Automation May Transform the Ways in Which Crew Manage Peak Workload and Incapacitation

Author: Nick McDonald

Author: Rabea Morrison

Author: Alison Kay

Author: Margaret Ryan

Understanding Pilots' Explanations of Automation Surprises

Author: Robert Mauro

Author: Loukia Loukopoulou

Author: Ljulia Trippe

Transparency and Conflict Resolution Automation Reliability in Air Traffic Control

Author: Fitri Trapsilawati

Author: Christopher Wickens

Author: Chun-Hsien Chen

Author: Xingda Qu

Mental Workload & Situation Awareness

Intelligent Systems Applied to Workload Monitoring and Task Allocation

Author: Scott Grigsby

Author: Jacob Crossman

Author: Rich Frederiksen

Author: Ben Purman

Author: Dylan Schmorrow

The Oculometer Training Tape Technique: The Revival

Author: Carolina Diaz-Piedra

Author: Andres Catena

Author: Luis J. Fuentes

Author: Leandro L. Di Stasi

Efficiency of a Situation Awareness Training Module in Initial Pilot Training

Author: David Gayraud

Author: Nadine Matton

Author: André Tricot

A Pedagogical Approach to Teach Aviation Students How to Conduct Situation Awareness Research

Author: Andrew R. Dattel

Author: Andrey Babin

Author: Tianhua Li

Author: Ziyi Dong

Author: Stephanie G. Fussell

Author: Qianru Yang

Individual & Cultural Factors

Effects of Coupling an Operational Philosophy and a Corporate Culture in a Sociotechnical System

Author: Oleksandr Petrenko

Author: Oleg Petrenko

Self-Deception and Impression Management in Commercial Pilots: An Underreported and Potential Confound in Aviation Research

Author: Tabitha T. Black

Author: Charalambos C. Cleanthous

Author: Ryan Sain

Author: Steven M. Vera

Implementing Automation

Adaptive Automation Based on Air Traffic Controller's Decision-Making

Author: Martijn IJtsma

Author: Clark Borst

Author: G.A. Mercado-Velasco

Author: René van Paassen

Author: Max Mulder

Experimental Evaluation of a Scalable Autonomy Concept for Cognitive Agents aboard Reconnaissance UAVs

Author: Georg Rudnick

Author: Axel Schulte

Warhorse: A New Approach to Manned/Unmanned Teaming

Author: Paul Schutte

Author: Ralph Williams

Author: Ronald Daiker

Effects of Radar Side Conflict Probe Functionality on ATC Conflict Detection Performance and Efficiency

Author: Anthony J. Masalonis

Author: Ben Willems

Author: Thomas Fincannon

Spatial Orientation: What's Up?

A Comparison of Helmet-Mounted Display Symbolologies During Live Flight Operational Tasks

Author: Thomas Schnell

Author: Christopher Reichlen

Author: Christopher Reuter

Author: Eric Geiselman

Author: Jonathan Knox

Author: Henry Williams

Author: Bill Ercoline

USAF Spatial Disorientation Prevention: A Meta-Analytical Human Systems Integration Perspective

Author: Patrick O'Neill

Author: Michael Miller

Role of Primary Flying Performance in Pilot Training Tracks

Author: Rana Ihara

Author: Yumi Shibata

Author: Yuko Aiba

Author: Takenori Nomiyama

Author: Asao Kobayashi

Human Performance Assessment: Evaluation and Experimental Use of Wearable Sensors for Brain Activity

Author: Kurtulus Izzetoglu

Author: Dale Richards

Author: Lei Ding

Author: Chen Ling

Author: Ben Willems

Psychophysiological Methods

Interactive Team Cognition: Does Eye-gaze Behavior also Tell the Story?

Author: Dirk Schulze Kissing

Author: Carmen Bruder

Tracking Workload and Engagement in Air Traffic Control Students Using Electroencephalography Cognitive State Metrics

Author: Kyle A. Bernhardt

Author: Terra Jorgenson

Author: Craig Carlson

Author: Paul Drechsel

Author: Colt Iseminger

Author: Dmitri Poltavski

Author: Richard Ferraro

Author: Thomas Petros

Periodic Blink Measures Using Dynamic Windowing

Author: Matt Middendorf

Author: Jonathan Mead

Author: Christina Gruenwald

Author: Chelsey Credlebaugh

Author: Scott Galster

Selection of Air Traffic Controllers

Data-Driven Staffing Recommendations for Air Traffic Control Towers

Author: Linda G. Pierce

Author: Terry L. Craft

Predicting Air Traffic Control Student Success and Improving Placement through Skill Aptitude Testing

Author: Susan Schultheis

Author: Kerry Hutson

Author: Keith Baldwin

50 Years of Attrition Data in U.S. Air Traffic Control Specialist (ATCS) Field Training

Author: Dana Broach

Aviation Task/Work Analysis

Engineering for Humans: A New Extension to Systems Theoretic Process Analysis

Author: Megan France

Author: John Thomas

Objective Function Allocation Method for Human-Robotic Interaction using Work Models that Compute

Author: Martijn IJtsma

Author: Amy R. Pritchett

Author: Karen M. Feigh

Author: Lanssie M. Ma

Taking a Closer Look at Flight Crew Handling of Complex Failures – Ten Case Studies

Author: J.P. Reitsma

Author: L. Fucke

Author: Clark Borst

Author: René van Paassen

Task Analysis of Two Crew Operations in the Flight Deck in Part 121 Operations

Author: Paul Schutte