

Air Traffic Control Association

**52<sup>nd</sup> Annual Conference of the  
Air Traffic Control Association  
2007**

October 28-31, 2007  
Washington, DC, USA

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
**[www.proceedings.com](http://www.proceedings.com)**

**ISBN: 978-1-60423-950-8**

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

Papers in the *Proceedings* represent the work and opinions of the authors. Responsibility for all statements in each paper rests with the author. Contributors express their personal points of view and opinions that are not necessarily those of their employers or the Air Traffic Control Association. The Air Traffic Control Association does not assume responsibility for statements made and opinions expressed. Editing has been limited to spelling, format and style.

Library of Congress Control Card Number: 79-643160

International Serial Standard Number: (ISSN 0400-1926)

© 2007 by the Air Traffic Control Association, Inc., Suite 300, 1101 King Street, Alexandria, Virginia, 22314, all rights reserved. Other publications are encouraged to include 300 to 500 word abstracts or excerpts from any paper contained in this book provided credits are given to the author(s) and the Air Traffic Control Association. For permission to publish any complete paper held therein, write to the Air Traffic Control Association.

## Table of Contents

52<sup>ND</sup> ANNUAL AIR TRAFFIC CONTROL ASSOCIATION CONFERENCE PROCEEDINGS      OCTOBER 2007..

**GPS/INS INTEGRATION FOR NAVIGATION AND AIR TRAFFIC CONTROL.....1**

Siva Sivananthan  
Air Traffic Systems Division  
ARCON Corporation

**TRANSLATING RELIABILITY PARAMETERS INTO A ROBUST DESIGN FOR SAFETY CRITICAL ATC COMMUNICATION ENVIRONMENTS .....5**

Wolfgang Kampichler  
Alexander Viehweider  
Dieter Eier  
Frequentis USA, Inc.

**SAFETY CONSIDERATIONS IN ALLOWING UNMANNED AIRCRAFT INTO THE NAS .....12**

Jifeng Ru  
Kyungjung Kim  
Sumedh Puranik  
Mei Li  
Air Traffic Systems Division  
ARCON Corporation

**TRANSFORMING AIR TRAFFIC MANAGEMENT SYSTEMS USING SOA-BASED BUSINESS (MISSION) DRIVEN DEVELOPMENT METHODOLOGY .....18**

Daniel Davis  
Computer and Information Sciences  
Cornell University

Jay Zhao  
Government Communications Systems Division  
Harris Corporation

**A DATA STRATEGY FOR NETWORK-ENABLED OPERATIONS (NEO) .....27**

Dennis L. Gette  
eScience & Technology Solutions (eSTS), Inc.

**SWIM: A SERVICE ACCESS POINT PROVIDES A SINGLE POINT-OF-PRESENCE FOR USERS, USER-BASED APPLICATIONS AND SERVICES.....35**

Ronald Adkins  
Mark Graham  
Government Communications Systems Division  
Harris Corporation

<b>A CONCEPT FOR SERVICE BASED INFORMATION QUALITY AND SAFETY ENHANCEMENT IN AERONAUTICAL INFORMATION MANAGEMENT .....</b>	<b>43</b>
<p>Hannes Brunner  Alexander Mikula  Dieter Eier  Frequentis USA, Inc.</p>	
<b>SONY DDM MONITOR: A CASE STUDY IN IMPLEMENTING TECHNOLOGY CHANGE IN ATC .....</b>	<b>58</b>
<p>John Trueblood  Aydin Displays Inc.</p>	
<b>IMPACTS OF ANXIETY AND PERSONALITY TYPE ON FUTURE AIR TRAFFIC CONTROL SPECIALISTS..</b>	<b>65</b>
<p>Donald S. Metscher  Julia L. Wilson  College of Aviation – Department of Applied Aviation Sciences  Embry-Riddle Aeronautical University</p>	
<b>ACOUSTIC SLEEPINESS ANALYSIS-AN ACOUSTICAL PATTERN RECOGNITION APPROACH FOR DETECTING SLEEPINESS FROM RADIO COMMUNICATION.....</b>	<b>78</b>
<p>J. Krajewski, R. Wieland  Work and Organizational Psychology  Univ. of Wuppertal</p>	
<p>A. Gundel  German Aerospace Center (DLR)  Institute of Aerospace Medicine</p>	
<b>FLIGHT PLAN OPTIMIZATION IN A DYNAMIC AIRSPACE ENVIRONMENT .....</b>	<b>85</b>
<p>Vincent H. Kuo  Advanced Air Traffic Management Solutions  Computer Sciences Corporation</p>	