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Technical & Professional Activities 2003

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MITRE
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Contributing to Aviation Every Day

The MITRE Corporation’s
Center for Advanced Aviation System Development
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Our Perspective on the Art and Science of Aviation

At The MITRE Corporation’s Center for Advanced Aviation System Development (MITRE/CAASD), our mission is to serve the public interest by advancing the safety, effectiveness, and efficiency of aviation in the United States and around the world. We conduct a continuing program of research, development, and engineering in collaboration with the aviation community.

One way to capture the impact of our work is to produce quality publications that represent our findings. Works published by MITRE/CAASD staff reach a large audience and provide significant insight and influence on both the domestic and international aviation communities. The list of published works in this booklet is a reflection of the uncommonly broad and deep exploration of many aspects of aviation system modernization.

Collaboration is an integral part of our strategy to achieve our mission for aviation. We are committed to promoting staff involvement in professional societies and encourage participation in technical and standards committees. Listed in this booklet you will find all the professional societies to which our staff members belong and contribute. You also will find a listing of staff serving on technical and standards committees and the role they play.

We pride ourselves in always offering the best that MITRE/CAASD has to offer. These efforts have been recognized throughout our community for their high standards and for the significant contributions made to aviation, at home and abroad. In this booklet, you will find a list of the work for which we have been recognized and honored, not only by our sponsors but by industry peers as well. Along with the list of awards presented to MITRE/CAASD, you also will find a list of patents awarded over the past year for some of our innovative work.

We are proud of the contributions our employees make to the state-of-the-art and science of aviation.

Amr A. ElSawy
Senior Vice President, The MITRE Corporation
General Manager, CAASD
Congratulations! On behalf of MITRE and CAASD’s Senior Management Team I want to offer you our congratulations and thanks for a job well done. I have every confidence that your continued energy and intellect will reach even greater heights in the future.

Amr
Book and Journal Contributions


Book and Journal Contributions (Concluded)


Conference Papers and Presentations


Conference Papers and Presentations (Continued)


Conference Papers and Presentations (Continued)


[58] “Enterprise Data Management in Research Organizations: Data the Way You Want It,” M. Brian Blake. Association for Computing Machinery Conference on Diversity in Computing, 15-18 October 2003, Atlanta, GA.


Conference Papers and Presentations (Continued)


Conference Papers and Presentations (Continued)


Conference Papers and Presentations (Continued)


Conference Papers and Presentations (Concluded)


Professional Society Memberships

Air Traffic Control Association (ATCA)
Air Transport Research Society (ATRS)
Aircraft Owners and Pilots Association (AOPA)
Airline Dispatchers Federation (ADF)
American Association for Artificial Intelligence (AAAI)
American Association of Airport Executives (AAAE)
American Chemical Society (ACS)
American Economic Association (AEA)
American Helicopter Society (AHS)
American Institute of Aeronautics and Astronautics (AIAA)
American Mathematical Society (AMS)
American Meteorological Society (AMS)
American Physical Society (APS)
American Statistical Association (Amstat)
Armed Forces Communications & Electronics Association (AFCEA)
Association for Computing Machinery (ACM)
Experimental Aircraft Association (EAA)
Human Factors and Ergonomics Society (HFES)
Institute for Operations Research and the Management Sciences (INFORMS)
Institute of Navigation's Washington Section (ION-DC)
International Air Transport Association (IATA)
International Federation for Automatic Control (IFAC)
International Society of Air Safety Investigators (ISASI)
International Union of Radio Science (URSI)
Mathematical Association of America (MAA)
National Electrical and Computer Engineering Honor Society (ETA KAPPA NU)
Project Management Institute (PMI)
RTCA (RTCA)
Royal Institute of Navigation (RIN)
Sigma Xi (Sigma Xi)
Society of Logistics Engineers (SOLE)
Society of Women Engineers (SWE)
Special Interest Group on Computer Human Interaction (SIG CHI)
Tau Beta Pi (Tau Beta Pi)
The Advanced Computing Systems Association (System Administration) (USENIX)
The Institute of Electrical and Electronics Engineers (IEEE)
The Institute of Navigation (ION)
The Society for Modeling and Simulation International (SCS)
The System Administrator's Guild (SAGE)
Transportation Research Board (TRB)
Worldwide TAAM Users' Group (WWTUG)
Technical Committee Memberships

American Institute of Aeronautics and Astronautics (AIAA)

Information System Group
James E. Dieudonne – Deputy Director

Technical Activities Committee
James E. Dieudonne

Technical Advisory Committee
Satish C. Mohleji – Deputy Director

Technical Committees

Air Transportation Systems
David R. Maroney

Digital Avionics
James E. Dieudonne - Honorary Member
John C. Gonda III

Economics
Dipasis Bhadra

General Aviation
Doyle Peed

Guidance, Navigation, and Control
Daniel B. Kirk

FAA Research, Engineering and Development Advisory Committee (REDAIC)

Amr A. ElSawy

Air Traffic Services Subcommittee
Andrew R. Lacher

RTCA

Free Flight Steering Committee
Amr A. ElSawy

Policy Board
Amr A. ElSawy – Vice Chair

Program Management Committee
Christopher J. Hegarty

Safe Flight 21 System Engineering Council
Stanley R. Jones
John C. Moody Jr.

Select Committee on Free Flight
Deborah A. Kirkman

Transportation Research Board

Aviation Group
Agam N. Sinha – Chair

Group One Council
Agam N. Sinha

Worldwide TAAM User’s Group (WWTUG)

Americas-Pacific TAAM User’s Group
Jonathan H. Hoffman – Chair
Michael J. Yablonski
Standards Committee Memberships

**RTCA**

**SC-189 Air Traffic Services Safety and Interoperability Requirements**
- James E. Dieudonne
- Stephen L. Giles

**SC-200 Modular Avionics**
- Kent V. Hollinger

**SC-159 Global Positioning System (GPS)**
- Christopher J. Hegarty - Co-Chair
- Young C. Lee – Secretary
- Ronald Braff
- M. Bakry El-Arini
- James P. Fernow
- Taehwan Kim
- Ronald O. Lejeune
- Donald R. Owen
- Curtis A. Shively
- Michael Tran

**SC-186 (ADS-B)**
- Randall S. Bone – Working Group Chair
- Roxaneh Chamlou
- Jonathan B. Hammer – Working Group Secretary
- Stanley R. Jones
- John C. Moody Jr.
- Robert C. Strain
- Andrew D. Zeitlin – Working Group Chair

**SC-195 Flight Information Services Communications (FISC)**
- John C. Moody Jr.
- Daniel V. Stapleton Jr.
- Robert C. Strain
Awards


[117] Leadership Citations awarded to Ti-Jeun Kao, John C. Moody, Jr., and Andrew D. Zeitlin by RTCA during its 5th Annual Spring Forum and Award Luncheon, June 24, 2003.


Special Recognition


[120] FAA Recognition award presented by Mr. Steven Dash to Douglas L. Bamford and Fidel A. Parraga, for their support of the FAA Telecommunications Infrastructure (FTI) Program, March 25, 2003.

[121] Special Recognition award presented to Catherine P. Horton for continuous support of the ATP Mission 2002 by the FAA’s Air Traffic Planning and Procedures Office, June 2003.

Patents


This invention covers a method for assisting a traffic flow manager in re-routing air traffic around flow constrained areas, typically weather systems. It allows the user to examine and compare the impacts of different alternatives for managing a congestion problem, and produces flight-specific recommendations for re-routing traffic.


This invention is designed to support the en route sector controller in the resolution of aircraft and airspace conflicts, by suggesting alternative, conflict-free routes that can be easily cleared to the pilot, and easily flown. The approach is computationally efficient, and produces routes that can be easily implemented using today’s air traffic control procedures. It has been implemented as a component of MITRE/CAASD’s Problem Analysis, Resolution and Ranking (PARR) prototype.
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