Flying in the COVID-19 Era--Science-based Risk Assessments and Mitigation Strategies on the Ground and in the Air: A Workshop

A VIRTUAL WORKSHOP OPEN TO THE GENERAL PUBLIC
Hosted by the Aeronautics and Space Engineering Board
National Academies of Sciences, Engineering, and Medicine

February 4, 2021 – February 5, 2021

AGENDA

THURSDAY, FEBRUARY 4, 2021
OPEN SESSION

Zoom Remote Access Information – Open Session
Link: TBD
Phone: +1-646-828-7666
Password: TBD
Meeting ID: TBD

All times are US Eastern Standard (UTC-5:00)

Workshop Opening

11:00 AM Welcome from the National Academies of Sciences, Engineering, and Medicine Colleen Hartman, Ph.D.
Aeronautics & Space Science Director, NASEM

11:05 AM Opening Remarks on Behalf of the Planning Committee John-Paul Clarke, Sc.D., Chair, Planning Committee Ernest Cockrell, Jr. Memorial Chair in Engineering, University of Texas at Austin

11:15 AM Keynote Talk: COVID-19 from a Public Health and Medicine Perspective Ashish K. Jha, M.D.
Dean, School of Public Health, Brown University

12:00 PM Keynote Talk: The World in Disorder: the COVID 19 Pandemic Victor J. Dzau, M.D.
President, National Academy of Medicine

12:30 PM Keynote Talk: A Virologists View of COVID 19 William A. Haseltine, M.D.
Chair and President, ACCESS Health International, Inc.

1:15 PM Keynote Question Period (30-minute Q&A session with panel roundtable)

1:45 PM Break (30-minute break)
ISSUE: What is the science behind risk mitigation strategies and how might they be implemented to ensure health?

2:15 PM  Session I Speaker Presentations
(15-minute presentations)

Session Moderator:  
John-Paul Clarke, Sc.D., Chair, Planning Committee  
Ernest Cockrell, Jr. Memorial Chair in Engineering, University of Texas at Austin

Speakers:

- Containing Covid: Reducing risk through layered nonpharmaceutical interventions  
  Caitlin Rivers, Ph.D.  
  Asst. Professor, Bloomberg School of Public Health, Johns Hopkins University

- Data Science Perspective on Flights: FlyHealthy study  
  Vicki Stover Hertzberg, Ph.D.  
  Professor, School of Nursing, Emory University

- Insights from the 2013 NAS report on ‘Infectious Disease Mitigation in Airports and Airplanes’ and application to Covid-19  
  Joseph Allen, D.Sc.  
  Assoc. Professor, T.H. Chan School of Public Health, Harvard University

- Aeroporti di Roma and the Italian Government’s Actions to Ensure Health Safety During the Pandemic  
  Ivan Bassato  
  Executive Vice President of Operations, Aeroporti di Roma

- Aerosol Dispersion in Commercial Aircraft Cabins  
  Joshua L. Santarpia, Ph.D.  
  Assoc. Professor, University of Nebraska Medical Center

3:30 PM  Session I Question Period
(45-minute Q&A session with panel roundtable)

4:15 PM  Break
(15-minute break period)

ISSUE: What are the transmission risks of COVID-19 within the airport terminal and what mitigations are effective?

4:30 PM  Session II Speaker Presentations
(15-minute presentations)

Session Moderator:  
Ilan Kroo, Ph.D., Member, Planning Committee  
Professor, Aeronautics and Astronautics, Stanford University

Speakers:

- Airport and Airplanes  
  Leonard Marcus, Ph.D.  
  Co-Director, National Preparedness Leadership Initiative

- Where are the locations and activities of risk in travel?  
  Jack Spengler, Ph.D.  
  Professor, T.H. Chan School of Public Health, Harvard University
Regional Airports and Airlines Perspective

Nobuyo Reinsch
Vice President of Aviation Safety & Security, Regional Airline Association

Infection Prevention Aspects of Air Travel

Saskia Popescu, Ph.D.
Asst. Professor, Biodefense Program, Schar School of Policy and Government, George Mason University

Non-Pharmaceutical Interventions Recommended at Airport Level in Europe

Cristian Ionut Panait, M.D.
Medical Expert, Aircrew & Medical Department, European Union Aviation Safety Agency

5:45 PM  Session II Question Period
(45-minute Q&A session with panel roundtable)

6:30 PM  Day 1 Closing Remarks
John-Paul Clarke, Sc.D., Chair, Planning Committee
Ernest Cockrell, Jr. Memorial Chair in Engineering, University of Texas at Austin

Workshop Adjourns for the Day, reconvene tomorrow at 11:00 AM

FRIDAY, FEBRUARY 5, 2021
OPEN SESSION

Zoom Remote Access Information – Open Session
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11:00 AM  Recap of Day 1 and Comments on Day 2 Agenda
John-Paul Clarke, Sc.D., Chair, Planning Committee
Ernest Cockrell, Jr. Memorial Chair in Engineering, University of Texas at Austin

Session III: Transmission Risks & Implications in the Aircraft Environment
ISSUE: What are the transmission risks of COVID-19 within the aircraft? What mitigation strategies are effective?

11:15 AM  Session III Speaker Presentations
(15-minute presentations)
Session Moderator:
Robie Samanta Roy, Ph.D., Member, Planning Committee
Vice President, Technology, Government Affairs, Lockheed Martin

Speakers:

• How Airlines Responded to the COVID-19 Crisis
  Laurie A. Garrow, Ph.D.
  Co-Director, Center for Urban and Regional Air Mobility (CURAM), Georgia Institute of Technology; President, Airline Operations Research Society (AGIFORS)

• In-flight COVID-19 Transmission Risk and Feasible Mitigation Strategies
  Joshua Barocas, M.D.
  Asst. Professor, Boston University School of Medicine

• The role of fomites in the spread of viruses and quantitative microbial risk assessment
  Charles Gerba, Ph.D.
  Professor, University of Arizona
• Boeing and Airline Studies on Cabin Spread

  **Michael Delaney**, Member, Planning Committee
  Chief Aerospace Safety Officer, Boeing

• Airbus Studies on Cabin Spread and Airflow

  **Stefan Roemelt**
  Senior Vice President of Engineering, Cabin & Cargo, Airbus

• Delta Air Lines Proactive Response and Future Plans

  **David Garrison**
  SVP for Corporate Safety, Security, and Compliance, Delta Air Lines

12:45 PM  **Session III Question Period**
  (45-minute Q&A session with panel roundtable)

1:30 PM  **Break**
  (30-minute break period)

### Session IV: What Do We Wish We Knew Then? What Do We Wish We Could Know Now?

**ISSUE:** Looking back over the last year, what information was missing and what lessons did we learn? How does that inform our prioritization of studies and information going forward?

2:00 PM  **Session IV Speaker Presentations**
  (15-minute presentations)

  **Session Moderator:**
  **Pamela Melroy**, Member, Planning Committee
  CEO, Melroy & Hollett Technology Partners

*Speakers:*

• Collaboration and Fast Response During the Pandemic

  **David Walt, Ph.D.**
  Professor, Harvard Medical School

• Adaptive Terminal Creation

  **David Kipp**
  Vice President, Technology Services, Burns Engineering

• COVID 19 – A Catalyst for Accelerating Airport Terminal Design Trends

  **Josh Cohn**
  Director, Airport Planning, InterVistas

• Multi-Layered Strategy to Reducing COVID-19 Risk in Air Travel

  **Hassan Shahidi, Ph.D.**
  President, Flight Safety Foundation

• Communicating with the Public

  **Lindsey Leininger, Ph.D., M.A.**
  Clinical Professor of Business Administration, Tuck School of Business, Dartmouth University

• Impact on IATA

  **James Wiltshire**
  Assistant Director for External Affairs, International Air Transport Association
3:30 PM  Session IV Question Period
(45-minute Q&A session with panel roundtable)

4:15 PM  Break
(15-minute break period)

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Session V: Ensuring the Future in US for the Aviation Industry

Summary Session - Looking into a crystal ball: how will COVID-19 affect the commercial airline industry?

4:30 PM  Session V Speaker Presentations
(15-minute presentations)

Session Moderator: Alan Epstein, Ph.D., Member, Planning Committee
Professor Emeritus, Aeronautics and Astronautics, Massachusetts Institute of Technology

Speakers:

- Public Health Perspective
  Celine Gounder, M.D.
  Clinical Asst. Professor, New York University Grossman School of Medicine

- Perception and Attitudes Towards COVID-19 Mitigation Measures: A Cross-National Analysis of Air Travel Demand
  Francesco Manca, Ph.D.
  Research Associate, Dept. of Civil and Environmental Engineering, Imperial College London

- A Systems Approach for Pandemic Preparedness and Response
  Pinar Keskinocak, Ph.D.
  Director, Center for Health and Humanitarian Systems, Georgia Institute of Technology

- An OEM View on Health and Safety Engagement Post COVID-19
  Valerie Manning, Ph.D., Member, Planning Committee
  Senior Vice President, Customer Support, Airbus

- Prognostication for the Airline Industry
  Myles Walton, Ph.D
  Managing Director, UBS

5:45 PM  Session V Question Period
(45-minute Q&A session with panel roundtable)

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Workshop Closing

6:30 PM  Workshop Summary

Workshop Adjourns