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## Presentations

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# Second NATIONAL SYMPOSIUM ON MULTIFUNCTION PHASED ARRAY RADAR

MOVING FORWARD WITH RISK REDUCTION FOR COST-EFFECTIVE SERVICE IMPROVEMENTS

November 17-19, 2009  
National Weather Center  
120 David L. Boren Blvd, Norman, Oklahoma

[Summary Report \(pdf - 117K\)](#)

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### Workshop: PAR 201

A short course in the basics of phased array radar concepts and technology.

- o Dr. Jeff Herd (MIT Lincoln Laboratory) - [PAR Basics](#)
  - o Dr. Yasser Al-Rashid (Lockheed Martin) - [PAR System Architecture](#)
  - o Mr. Mike Sarcione (Raytheon) - [PAR Performance Considerations](#)
  - o Dr. Sebastian Torres (National Severe Storms Laboratory) - [PAR Applications/Unique Capabilities for Weather and Air Traffic](#)
  - o Mr. Tim Maese (Basic Commerce and Industries) - [Data management](#)
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### November 17, 2009

**Mr. Samuel P. Williamson**, Federal Coordinator for Meteorological Services and Supporting Research, *Opening Remarks*

[\(.pdf -236 KB\)](#)

**Dr. Kelvin Droegemeier**, Vice President for Research, University of Oklahoma, *Welcome*

**Dr. Randolph M. Lyon**, Chief, Commerce Branch—Housing, Treasury and Commerce Division; Office of Management and Budget, *Keynote*

#### Senior Leader Perspective: MPAR Potential and Interagency Collaboration

Moderator: **Dr. John Snow**, Dean, College of Atmospheric and Geographic Sciences, University of Oklahoma

- **Dr. Richard Spinrad**, Assistant Administrator of NOAA for Oceanic and Atmospheric Research
- **Mr. James Williams**, Director of Systems Engineering, Federal Aviation Administration

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[\(.pdf -394 KB\)](#)

- **Mr. Kevin “Spanky” Kirsch**, Director, Science and Technology Special Programs, Department of Homeland Security ([.pdf -273 KB](#))
- **Dr. John Stubstad**, Office of the Director, Defense Research and Engineering, Office of the Secretary of Defense ([.pdf -74 KB](#))

**Mr. Jud Stailey**, Senior Staff Meteorologist, OFCM, *MPAR Risk-Reduction Implementation Strategy* ([.pdf -264 KB](#))

**Dr. Paul Smith**, Chair—NRC Committee on the Evaluation of the MPAR Planning Process, *Evaluation of the MPAR Planning Process* ([.pdf -77 KB](#))

### **Session 1: Multifunctionality—Agency Needs, Priorities, and Principles of Operation**

Moderator: **Dr. Fred Lewis**, Air Force Director of Weather ([.pdf -49 KB](#))

- **Mr. James Williams**, Director of Systems Engineering, Federal Aviation Administration ([.pdf -289 KB](#))
- **Mr. Kevin “Spanky” Kirsch**, Director, Science and Technology Special Programs, Department of Homeland Security ([.pdf -2.2MB](#))
- **Mr. Don Berchhoff**, Director, Office of Science and Technology, National Weather Service (NOAA) ([.pdf -2.1MB](#))
- **Dr. John Stubstad**, Office of the Director, Defense Research and Engineering, Office of the Secretary of Defense

### **November 18, 2009**

**Dr. Jeff Kimpel**, Director, National Severe Storms Laboratory (NOAA), *Opening Remarks*

### **Session 2: Underpinning for Service Improvements: Technology Innovation and Development—Laboratory Update**

Moderator: **Dr. Joe Friday**, Oklahoma University School of Meteorology, Professor Emeritus

- **Mr. Robert Sexton**, Office of the Undersecretary of Defense (Acquisition, Technology, and Logistics), *Navy Phased Array Radar Research and Development* ([.pdf -1.2MB](#))
- **Dr. David McLaughlin**, Director, Engineering Research Center for CASA, *Progress with the Collaborative Adaptive Sensing of the Atmosphere Initiative* [presented by David Pepyne] ([.pdf -1.3MB](#))
- **Mr. Larry Bovino**, US Army CERDAC, *US Army Phased Array Research and Development* ([.pdf -901 KB](#))
- **Mr. Doug Forsyth**, NSSL Division Chief for Radar R&D, *National Weather Radar Testbed Research and Development* ([.pdf -1.9 MB](#))

### **Session 3: Underpinning for Service Improvements: Technology Innovation and Development—Industry Update**

Moderator: **Dr. Kelvin Droegemeier**, Vice President for Research and Regents’ Professor of Meteorology, Oklahoma University

- **Mr. Michael Sarcione**, Senior Principal Engineering Fellow, Sensor H/W, Raytheon Integrated Defense Systems ([.pdf -80 KB](#))
- **Dr. Douglas Reep**, Director, Airborne Early Warning and Advanced Programs, Lockheed Martin ([.pdf -1.0MB](#))
- **Mr. Jay Kralovec**, Chief Antenna Technologist/Space Systems, Harris Corporation ([.pdf -322 KB](#))
- **Mr. Frank Walker**, Director, Surveillance and Fire Control Systems, Advanced Concepts and Technology, Northrop Grumman ([.pdf -1.4MB](#))
- **Dr. Jeff Barner**, Program Manager, Foundry Services, Cree Inc ([.pdf -3.3MB](#))
- **Mr. Steve Nelson**, VP MMIC Operations, Cobham ([.pdf -650 KB](#))

**Luncheon Speaker: Dr. Karlin Toner**, Director, NextGen Coordination Staff to the Secretary and Senior Policy Committee, U.S. Department of Transportation

### **Session 4: Potential Service Improvements for Air Surveillance and Weather—Part 1**

Moderator: **Mr. Kevin “Spanky” Kirsch**, Director, Science and Technology Special Programs, Department of Homeland Security

- **Dr. John Cho**, MIT Lincoln Laboratory, *MPAR Characteristics and Potential Service Improvements* ([.pdf -711 KB](#))

([.pdf -209 KB](#))

- **Lt Col Bryan Miller**, USAF, NORAD J3, *Aircraft Surveillance Applications*
- **Mr. Gary Andrews**, DeTect Inc, *Bird Hazard Mitigation* ([.pdf -273 KB](#))
- **Dr. David Schneider**, USGS Alaska Volcano Observatory, *Volcanic Ash* ([.pdf -1.8MB](#))
- **Mr. Andy James**, Oklahoma Department of Forestry, *Wildland Fire/Smoke* ([.pdf -804 KB](#))

### Session 5: Potential Service Improvements for Air Surveillance and Weather—Part 2

Moderator: **Dr. John Cho**, MIT Lincoln Lab

- **Mr. Tim Maese**, Basic Commerce and Industries, *Extracting Weather Data from a Hybrid PAR* ([.pdf -799 KB](#))
- **Dr. Pam Heinselman**, National Severe Storms Laboratory, *Early Detection of Severe Storms* ([.pdf -8.2MB](#))
- **Dr. David Stensrud**, NSSL Division Chief for Forecasting R&D, *Storm-scale NWP Models and Initialization using PAR Data* ([.pdf -4.7MB](#))
- **Dr. Robert Palmer**, University of Oklahoma, *Other Weather Applications* ([.pdf -1.6MB](#))
- **Dr. Walter Bach**, US Army, *Biological/Chemical Threat Applications* ([.pdf -48 KB](#))

**November 19, 2009**

**Mr. James Williams**, Director of Systems Engineering, Federal Aviation Administration, *Opening Remarks*

### Session 6: Addressing the Risk Reduction Challenges

Moderator: **Dr. Robert Serafin**, National Center for Atmospheric Research, Director Emeritus

- **Mr. Tracy Wallace**, Georgia Tech Research Institute, *Defining the Technical Issues* ([.pdf -239 KB](#))
- **Dr. Dusan Zrnica**, National Severe Storms Laboratory, *Dual Polarization—the Challenge* ([.pdf -469 KB](#))
- **Dr. Jeff Herd**, MIT Lincoln Lab, *Dual Polarization—Progress* ([.pdf -772 KB](#))
- **Mr. Garth Torok**, William J. Hughes Technical Center (FAA), *Technical Assessment Program* ([.pdf -532 KB](#))
- **Dr. Yasser Al-Rashid**, Lockheed Martin, *Leveraging DoD Capabilities to Demonstrate Dual Pol and Multi-mission Performance* ([.pdf -364 KB](#))
- **Dr. Bill Chappell**, Purdue University, *Digital Array Radar* ([.pdf -2.2MB](#))

### Session 7: Moving Forward with Risk Reduction

Moderator: **Dr. Paul Try**, Senior Vice President, Science & Technology Corporation

- **Dr. Jeff Kimpel**, Director, National Severe Storms Laboratory (NOAA) ([.pdf -301 KB](#))
- **Mr. James Williams**, Director of Systems Engineering, Federal Aviation Administration
- **Mr. Ted Hom**, US Army Product Manager for Radars, Program Executive Office Intelligence, Electronics Warfare, and Sensors ([.pdf -229 KB](#))
- **Lt Col Bryan Miller**, USAF, NORAD J3 ([.pdf -203 KB](#))
- **CAPT Michael Angove**, Naval Deputy to NOAA, US Navy ([.pdf -531 KB](#))

### Review of Action Items and Closing Remarks

- **Mr. Samuel P. Williamson**, Federal Coordinator for Meteorological Services and Supporting Research ([.pdf -327 KB](#))

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Videos of the presentations can be made available on request:

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