

FAST Research Session (Future Aerospace Strategic Thinking)

David J. Delene
Aerospace Research Fellow

UND UNIVERSITY OF
NORTH DAKOTA
ATMOSPHERIC SCIENCES

UND UNIVERSITY OF
NORTH DAKOTA
AVIATION



UND UNIVERSITY OF
NORTH DAKOTA
EARTH SYSTEM SCIENCE & POLICY

UND UNIVERSITY OF
NORTH DAKOTA
SPACE STUDIES

UND **AEROSPACE**
UNIVERSITY OF NORTH DAKOTA.

FAST Research Session Objectives

- Future Research
 - Not results from existing project.
- Aerospace Research
 - Involves aerospace personnel and facilities.
- Strategic Planning
 - FAST Presentation
 - Project Discussions
 - White Paper / Proposal
- Thinking about the Whole Project
 - Planning and Development.



FAST Research Session Presentation Format

- One Slide
- Need/Problem
- Concept
- Apparatus
- Objective
- Advancement
- End Users / Sponsor
- 3 Minute Presentation
- 3+ Minutes for Questions and Transition



FAST Research Session Slide Summary

- Maximum of one slide.
- Slide with three main sections is good.
- Slide is somewhat similar to a conference poster.
- Slide could include a key concept figure.
- Only 3 minutes, do not cover everything.
 - Covers material that would be in a White Paper.
 - Cover problem, how to address and who benefits.
 - What “End User” may fund the project.



Previous FAST Presentation Updates

Shawn Wagner - A Controlled Pylon System for Accurate Airborne Cloud Ice Crystal Sampling

- Declined: UND 2025 Early Career Proposals
- Submitted: ND EPSCoR FY26 STEM Research Seed Award

Mounir Chrit - A Controlled Pylon System for Accurate Airborne Cloud Ice Crystal Sampling

- Declined: UND 2025 Early Career Proposals
- Submitted: ND NASA EPSCoR Proposal

Jordan Christian, Predictability of Flash Drought in Subseasonal Forecasting Systems

- Successful: UND 2025 Early Career Proposals

Francisco Del Canto Viterale, Space Studies, Building a Stronger North Dakota Aerospace Workforce

- Reviewing Proposal Call: FY26 NASA Aerospace Skilled Technical Workforce Hubs (NAS_Hub)



FAST Research Session Attendee Participation

- Questions after each Presentation
 - Ask questions about project details.
- Research Topic Discussions Follow-on
 - Discussions following all Presentations
- Informal Project Idea Discussion
 - **Weds. 12-1 pm, Robin Hall Atrium**
- Present at Future FAST Sessions
 - **September 16, 2026 at 12-1 pm**
 - November 18, 2026 at 12-1 pm
 - February 10, 2027 at 12-1 pm



February 11 2025 FAST Research Session

Elizabeth Bjerke, 2026 Aerospace College Seed Grant Program

Marwa Majdi, Atmospheric Sciences

- UND Data Skills Pathway: Call For Projects Ideas

Nicholas Wilson, Aviation

- Midwest Electric & Alternative Propulsion Aircraft Data Consortium

Jeffrey VanLooy, ESSP

- Potential Concentration of Glacial Meltwater Contaminants from Moraine Dammed Lakes

Naimul Hasan, Space Studies

- Reinforcement Learning Oriented Descent Modeling for a Mars Lander Using Physics-Based Simulation

