

Heather McNevin

218-838-3344

heathermcnevin@gmail.com

<https://www.linkedin.com/in/heathermcnevin/>

ORCID ID 0009-0003-3405-8788

Educational Background

Ph.D. in Aerospace. Expected Graduation 2026

University of North Dakota, Grand Forks, ND / GPA 4.0

- Independent Research: NMACs, Risk Perception, Gender and Risk, Safety Reporting, Flight Training, NGAFID Data Analysis, Crash Survivability and Aircraft Egress
- Created & Currently Manage Online Resource Page (Aerospace PhD Club) for all Aerospace PhD Students
- Dissertation: Behind the Reports: Analyzing Near Midair Collision Events Through the Aviation Safety Reporting System

This dissertation aims to determine a profile of NMAC events by utilizing thematic analysis. Additionally, air traffic control staffing levels will be analyzed for any potential relationship to undesired risk events such as NMACs.

Master of Science in Aeronautics. Graduated with Distinction 2020

Embry-Riddle Aeronautical University, Worldwide Campus / GPA 4.0

- Dual Specializations: Human Factors, Aviation/Aerospace Safety Systems
- Thesis: Communication Status of Near Midair Collision Events Aircraft

This research utilized deidentified safety reports from the Aviation Safety Reporting System (ASRS) to determine the communication status of aircraft involved in near midair collision events. It was discovered that in NMAC events between 2008 and 2017 indicated more than 68% of events each year occurred while at least one aircraft was in contact with air traffic control. There was a strong inverse correlation between the increasing number of NMAC events and the decreasing air traffic control workforce, suggesting there is a relationship between the two variables.

Bachelor of Science in Air Traffic Management. Graduated Magna Cum Laude 2004

University of North Dakota, Grand Forks, ND / GPA 3.5

- 2003 UND Competition Aerobatic Team
- Teachers Assistant in the Air Traffic Control Department

Certificates

Graduate Certificate in College Teaching, University of North Dakota, expected 2025

Management in Human Factors Analysis and Classification System, Embry-Riddle Aeronautical University, 2025

Human and Organizational Performance (HOP), National Association of Safety Professionals, 2024

Cognitive Interviewing Certificate, National Transportation Safety Board, 2022

Change Management Certificate, Cornell University, 2021

Data Analytics Certificate, Cornell University, 2020

Aviation Management Certificate, Embry-Riddle Aeronautical University/International Air Transport Association, 2017

Aircraft Accident Investigation Certificate, Embry-Riddle Aeronautical University, 2015

Aeronautical Licensure

- Certified Flight Instructor – Airplane Single and Multiengine Land Instrument Airplane
- Air Traffic Control Specialist – Enroute
- Commercial Pilot Airplane Single and Multiengine Land
- Instrument Airplane Rating
- Remote Pilot sUAS
- Type Ratings: DC-3, B-25
- Endorsements: High Performance, Complex, Tailwheel, Spin, RVSM, TAWS, Radar, High Altitude
- 1,100+ hours in 61 different aircraft types

Training

Advanced Safety Professional Practice Program, Safety Futures, 2025

- This 12-week intensive training program focuses on five areas in effectively implementing safety science in an organization: creating influence, managing risk, managing work, leading change, and facilitating learning.
- The program involves weekly group discussions paired with guided reading and exercises to develop 20 specific skills to be an effective safety professional.
- The training course is facilitated by Dr. David Provan

Innovative Interventions: Mastering Human Factors in Accident Prevention, ERAU, 2025

Advanced Human Factors Analysis and Classification System (HFACS), ERAU, 2025

Aircraft Crash Survival, Egress, & Water Survival, Civil Aerospace Medical Institute, 2024

- Evacuated Smoke Filled Kingair Mockup
- Deployed 6-person raft in deep pool
- Utilized USCG rescue basket for evacuation
- Completed single seat dunk evacuation from inverted position
- Learned signaling and basic survival

Aviation Physiological Training, Civil Aerospace Medical Institute, 2024

- Experienced Spatial Disorientation in GAT
- Participated in P.R.O.T.E. training to induce actual hypoxia

NASA Proposal Writing and Evaluation Experience (NPWEE) Academy, L'SPACE Program, Fall 2024

- Virtual NASA workforce development preparation academy dedicated to teaching skills in writing and evaluating professional technical proposals
- Attended and engaged in weekly lectures taught by NASA scientists, engineers, and managers
- Part of Human Health, Life Support, and Habitation Systems Team
- Member of team that developed and submitted a New Technology Report (NTR) selected by NASA panel out of multiple concepts for advancement to full proposal
 - Serve as Lead Engineer
 - Serve as Flight Test Engineer
 - Serve as Human Factors Engineer
- Served on NASA Review panel for three grant proposal reviews
 - Served as Chair for one review
 - Served as Secondary for one review
- Team received highest scoring proposal for the Fall 2024 and was selected for funding
- Prototype development and testing throughout 2025

- Delivery of Duckweed Protein Supplement Dispenser to NASA in Dec 2025

Human Factors Analysis and Classification System (HFACS), ERAU, 2024

Test Foundations of Flight Test, AIAA, 2024

Mentors Helping Mentors Workshop, UND, 2024

Teaching Experience

Assistant Professor and Course Developer – Undergraduate and Graduate

Aeronautics, Professional Flight, and Aviation Safety Degree Programs – In-person and Online

Minnesota State University Mankato, 2025-Present

- Flight Instructor (AVIA360)
- Fundamentals of Air Traffic Control (AVIA442)
- D2L LMS

Adjunct Professor and Course Developer - Graduate

Aviation Safety Graduate Degree Program – Online Asynchronous

Minnesota State University Mankato, 2025-Present

- Aviation Human Factors (AVIA545)
- Safety Management Systems (AVIA560)
- D2L LMS

Adjunct Professor and Course Developer - Undergraduate

Aviation Safety and Operations Undergraduate Degree Program – Online Asynchronous

University of North Dakota, 2021 – Present

- Introduction to Air Traffic Management (AVIT103/104)
- General Aviation Operations and Management (AVIT407)
- Fundamentals of Aircraft Systems Operations (AVIT328)
- Aviation Capstone – Undergraduate (AVIT485)
- Blackboard / Blackboard Ultra LMS

FAA Certified Flight Instructor

McNevin Aviation Inc, 2005-Present

- Teach ground and flight training for recurrent training, private pilot, commercial pilot, instrument pilot, flight instructor, Wings program, and pinch hitter programs

FAA Safety Team Representative

Minneapolis Flight Standards District Office, 2009-Present

- Conduct safety seminars
- Give remedial training in accordance with FAA Compliance Program
- Assist FFAST Program Manager with National Training Plan goals

Aviation English Instructor

Uleadair, 2024-Present

- Teach foreign professional pilots aviation English to ICAO standard

Research and Publications

Scholarship In Progress

These projects are a research collaboration with Stacey Jackson as part of independent research conducted during my PhD program. I serve as team lead. Most will be moving to journal submission in spring of 2025.

- Estimating Unreported Safety Events, What SMS Isn't Seeing (preparing for submission)
- Gender Differences and Safety Reporting (preparing for submission)
- Trust in the Aviation Safety Reporting System (preparing for submission)
- Analyzing Near Midair Collision Trends (preparing for submission)
- Reasons for Not Utilizing ASRS for NMAC Events (preparing for submission)
- Gender Perception in Aviation Undergraduate Students (data collection phase)

Solo research projects in various stages of the journey to publication.

- Communication Status of Aircraft in Near Midair Collision Events (preparing for submission)
- The Math of See and Avoid (data analysis phase)
- PIREPs: The Journey to Accurate Dissemination (data collection phase)
- Measuring the Effectiveness of the FAA Pilot Proficiency Program (data gathering phase)

Scholarship with Students

- HFACS Analysis of Aviation Accidents in Minnesota (data analysis phase)

Books in Progress

- The Air Traffic Control System
- How to Handle an Emergency; A Pilots Guide to Confidently Managing Trouble
- Elevate Your Flying; How to be a Better, More Confident, Aviator

Published Non-Academic Articles

- Sport Aerobatics
- Aviation for Women
- Aitkin Independent Age
- Minnesota Flyer (30+ articles)
- Ask a Flight Instructor (51 answers)
- Managing the Skies
- MN Wing CAP Pilot Newsletter
- Minneapolis Center Facility Newsletter (60+ articles)
- Minneapolis ARTCC Safety Newsletter (3 editions)
- Delta ALPA Newsletter
- Minnesota State University Mankato Aviation Safety Newsletter
- Prescott Flying Club Safety Newsletter (3 editions)

Papers

- McNevin, H. (2020). *Communication status of aircraft and near midair collision occurrences*. [Masters thesis, Embry-Riddle Aeronautical University]. ERAU Worldwide Scholarly Commons. Retrieved from <https://commons.erau.edu/ww-graduate-works/9/>

Posters

- McNevin, H. (2025, February). Air traffic control and near midair collision events. Poster presented at University of North Dakota Graduate Research Achievement Day 2025.
- McNevin, H. (2024, February). What a study on near midair collision events has shown us about safety. Poster presented at University of North Dakota Graduate Research Achievement Day 2024.

- McNevin, H., Jackson, S. (2023, February). What we don't see can kill you; unreported safety events may be more common than we think. Poster presented at University of North Dakota Graduate Research Achievement Day 2023.

Grants

Total: \$23,000

NASA Proposal Writing and Evaluation Experience Grant - 2024

- Team received \$10,000 NASA grant to fund new technology prototype
- Will develop Duckweed Protein Supplement Dispenser project for delivery to NASA in Dec 2025
- Serve on Engineering team as Lead Engineer, Human Factors Engineer, and Flight Test Engineer
- <https://www.duckweedlabs.co/>

Interpilot Aviation Safety Foundation - 2024

- \$2,000 grant to expand professional development
- Attended Safety Futures 12-week Course taught by Dr David Provan

University of North Dakota Runway Accelerator Grant Program - 2024

- \$1,000 grant to develop business
- \$9,000 grant for advanced business development
- Co-Founded AeroBoox LLC to develop interactive aviation training books and materials

Middleton School of Entrepreneurship and Management Fall Pitch Competition - 2024

- \$1,000 grant to write aviation training materials (social impact award)
- Team placed 2nd
- Funds utilized to further creation of aviation training materials

Subject Matter Expertise

- General Aviation Safety
- Human Factors
- Safety Management Systems
- Near Midair Collision
- Training and Curriculum Development
- Learning Science
- Aviation & Air Traffic Accident and Incident Investigation
- Survivability and Egress Science (Primarily as it relates to GA)

Professional Experience

AIAA General Aviation Technical Committee

American Institute for Aeronautics and Astronautics (AIAA)

TC Under the Aircraft Technology, Integration, & Operations Group, 2025 - Present

- Foster research and development related to GA technologies and systems, including support systems and safety
- Advocate for GA
- Promote improved public understanding
- Address airport, airspace, and air traffic control issues

Air Traffic Control Specialist

Federal Aviation Administration, Minneapolis Air Route Traffic Control Center, 2006-2024

- Training Enterprise Application Management Facility Cadre (10/22-12/22)
- ATSEP Facilitator (1/22-7/24) – provide SMS introduction to new ATCS
- Traffic Management Coordinator (04/19 – 04/20) – ensure efficient traffic flows
- STEM AVSED Representative (12/19-7/24) – aerospace educational outreach
- National Validation Team (03/19 – 5/23) – ensure accurate traffic counts and facility level
- Local Safety Council Collaborative Work Group (03/15-6/19) – develop and administer ATC SMS program
- Scenario Generation (SGT) Developer (11/17 – 01/23) – develop training scenarios for simulator lab
- Controller In Charge (CIC) Certification (04/17 – 7/24) – oversee operational area
- On-the-job Training Instructor (05/10 – 7/24) – provide training during live traffic operation
- Created 140-page air traffic control study guide to assist controllers in training
- FAA Courses
 - Scenario Generation Training 53154001 (Nov 2017)
 - Enhanced Traffic Management Coordinator Training 50115 (Sept 2019)
- Secret Security Clearance (2007-2024)

Owner / Chief Flight Instructor

McNevin Aviation Inc., 2005 - Present

Monitored all flight school operations, managed \$300,000 in aircraft assets, conducted budgeting, advertising, scheduling, billing, and basic aircraft maintenance.

- 100% pass rate for students written exams and practical tests
- Developed syllabi and lesson plans: private and commercial pilot, instrument rating, biennial flight review, FAA Wings Pilot Proficiency Program, tailwheel endorsement, complex endorsement, spin training, insurance checkouts, recurrent training, and pinch hitter course
- Developed and Implemented Safety Management System for flight students and rental pilots
- Developing online 'air traffic control for pilots' course

Aerospace Consulting

AeroGuidance Consulting LLC, 2024-Present

Provide consulting services for aviation and aerospace education and training programs, from safety oversight to university program development.

Airborne Fire Patrol

Department of Natural Resources, 2004-2006

Fly over county and identify fires, radio information/legal descriptions to DNR ground crews and coordinate necessary response from DNR, fire departments, law enforcement, and aerial suppression crews.

- Instrumental in apprehension of and evidence gathering against arsonists

Dual Function Security Screener

Transportation Security Administration, 2004-2005

Provided baggage and passenger screening utilizing Heismann x-ray and explosive trace detection equipment, conducted physical property searches and pat downs, customer service.

FBO Manager and Airport Field Manager

Aitkin Aviation Inc., 1999-2001

Operated the Unicom station, provided line service, ordered aircraft parts, developed and maintained website, conducted advertising campaigns, and assisted mechanic. As a field manager, inspected and provided maintenance for airport signage and lighting, and maintained current airport NOTAMs with FSS. Operated ATV, Ford tractor with Tiger mowers/Schweiss snowblower, Dixon mower, and Ford 555 backhoe. Completed fuel training in accordance with FAR139.321.

Presentations

Air Traffic Control

- Minneapolis Air Route Traffic Control Center Operation Raincheck (50+ seminars given 2009-2018)
- EAA Airventure (2011, 2016, 2017, 2018, 2019, 2022, 2023, 2024)
- Discover Aviation Days (2012)
- Minnesota State University Mankato (2013, 2019)
- Women In Aviation International Conference (2012, 2014, 2016, 2023)
- General Aviation Joint Steering Committee (2015)
- FAA Headquarters Quality Assurance (2015)
- 34th Combat Aviation Brigade (2016)
- Partnership for Safety (2016)
- Civil Air Patrol (2016, 2017, 2019, 2024, 2025)
- ZMP Military Users Forum (2016, 2017, 2018)
- FBI Citizens Academy (2016, 2017, 2018)
- WAI Stars of the North (2016)
- ATC / Pilot Forum (2014)
- Gopher Flying Club (2016)
- Ninety-nines Organization (2017, 2024)
- New Prague High School Robotics Team (2017)
- Experimental Aircraft Association chapters (2018, 2023)
- Northfield Sertoma (2018)
- STEM Days Program (2012)
- UND Student Air Traffic Controllers Association (2017)
- St Cloud Community Center (2013)
- Farmington Senior Activities Group (2015)
- Commemorative Air Force (2018)
- Prescott Flying Club (2022, 2023)
- Delta Flying Club (2023)
- Roseville Rotary Club (2025)

Human Factors

- Experimental Aircraft Association chapter 54 (2023)
- Prescott Flying Club (2023)

Honors

FAA Administrators Safety Award (2010)

Selected by the FAA Administrator (Randy Babbitt) for safety efforts in educating both pilots and air traffic controllers to increase understanding on both sides of the mic.

ATO Administrative Excellence Award – National Validation Team (2020)

The Administrative Excellence Award is presented to an individual or team for demonstration of customer service excellence and a “can do” attitude in accomplishing administrative processes, procedures, and support, contributing to ATO goals.

NATCA Team Excellence Award – National Validation Team (2021)

District FAA Safety Team Representative of the Year (2016)

Recognition for outstanding contributions to aviation safety through education within the state of Minnesota.

Copperstate Aerobatic Contest Safety Trophy (2005)

In competition aerobatics, every movement is scored. I received this award for choosing to take a penalty on points in order to ensure separation from nearby traffic in the aerobatic box, demonstrating a superior dedication to safety.

Minnesota Aviation Hall of Fame Scholarship (2024)

Professional Women Controllers Margaret Hoffman Memorial Scholarship (2024)

Lilian Elsinga Outstanding Student Leader Award - 2025

Professional Development

Master Aviation Educator – accreditation awarded after 500 documented hours across 5 categories of professional development in aerospace instruction. Less than 20 MAE worldwide. Valid for 2 years. Earned (2015, 2018, 2023, 2025 (validation in progress)).

Wings Pilot Proficiency Program – participant since 2002. Levels achieved: Master (level 2) Advanced (level 5) Basic (level 10)

Professional Associations

- Association of Professional Warbird Operators
- American Institute of Aeronautics and Astronautics
- Royal Aeronautical Society
- National Association of Flight Instructors
- Chartered Institute of Ergonomics and Human Factors
- International Society of Air Safety Investigators
- Civil Air Patrol
- Aircraft Owners and Pilots Association
- Society of Aviation and Flight Educators
- Experimental Aircraft Association
- Women In Aviation International
- Minnesota Pilots Association
- Commemorative Air Force
- Professional Women Controllers
- Flight Safety Foundation
- Ninety-Nines
- The International Group for Historic Aircraft Recovery
- North American Trainer Association
- Air Traffic Control Association