

Sociology Speaker Series

Spring 2022

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Dead Reckoning: Air Traffic Control, System Effects, and Risk

What makes this system so safe, or is it? – and what do air traffic controllers do that technology can't replace? This book explores how the air traffic control system has persisted over time, maintaining safe operation despite two shocks to the system - Ronald Reagan's 1981 firing of over 14,000 striking controllers and the September 11th terrorist attacks - and in addition, surviving frequent periods of decline that increase risk. I focus on *system effects*: how historical conditions and events in the system's external environment – political, economic, technological, cultural – affect the air traffic organization, changing it, and how in turn those changes not only impact the social, technological, and material arrangements of the workplace, but controllers' interpretive work, cultural understandings, and everyday work practices. Far from a top-down model, the analysis shows how controllers respond to these events.

The book is an historical ethnography covering the life course of the system from system emergence through 2017. It is based on archival research, surveys, interviews, and field work in four air traffic control facilities in the New England Region. Two examples demonstrate the agency of the workforce in maintaining the viability of the system. Incrementally, problem-solving people and organizations (management, union) inside the air traffic control system developed strategies of resilience, reliability, and redundancy that provided perennial dynamic flexibility to the system. Both examples demonstrate how the past manifests in the present. The first example demonstrates how, on September 11, controllers were able to clear the sky of over 4,000 airplanes in two hours and 15 minutes, an unprecedented, unrehearsed action performed without incident. The second shows the 2004-2017 intersection of two historical trajectories – modernization and a staffing crisis – that increased system risk. In response, controllers improvised tools of repair to adjust the liabilities of technological and organizational innovations to local conditions, contributing to safety and system persistence.



**Thursday, April 14
12:30pm MST**

**Followed by a meeting with
graduate students 1:30pm
MST**

Location: [Zoom](#)