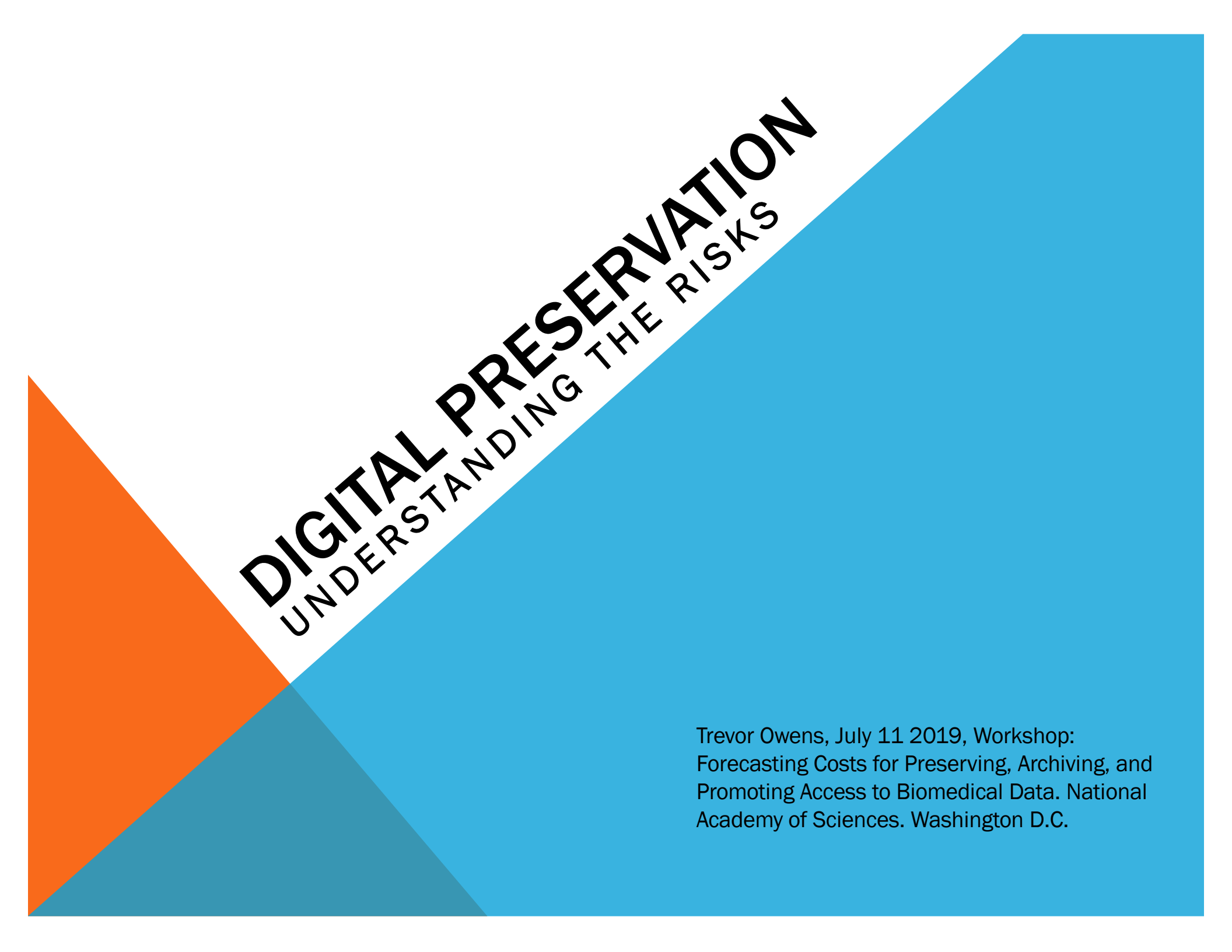




DIGITAL PRESERVATION

UNDERSTANDING THE RISKS

Trevor Owens, July 11 2019, Workshop:
Forecasting Costs for Preserving, Archiving, and
Promoting Access to Biomedical Data. National
Academy of Sciences. Washington D.C.

DIGITAL PRESERVATION

Ensuring long term access to significant digital content. In practice, fundamentally a process of identifying and responding to potential risks of loss of access and usability.



NDSA LEVELS OF DIGITAL PRESERVATION

Phillips, M., Bailey, J., Goethals, A., & Owens, T. (2013). The NDSA Levels of Digital Preservation: An Explanation and Uses. In Proceedings of the 2013 IS&T Archiving Conference.



FIVE RISK AREAS

Storage and geographic location

File Fixity and Data Integrity

Information Security

Metadata

File Formats



STORAGE AND GEOGRAPHY

Risk: Damage to storage media could result in total loss of data.

Mitigation Action: Manage multiple copies, in different geographic regions that face different disaster threats.



FILE FIXITY AND DATA INTEGRITY

Risk: Loss of data through use, transactions, or bit rot.

Mitigation Action: Generate, track, log, and manage fixity information across copies and use data to repair bad copies.



INFORMATION SECURITY

Risk: Loss of data through unauthorized user actions.

Mitigation Action: Manage access restrictions, log actions on files, audit logs.



METADATA

Risk: Loss of usability of data or ability to authenticate data.

Mitigation Action: Produce and manage administrative, technical, descriptive, and preservation metadata and maintain non-co-located copies of metadata.



FILE FORMATS

Risk: Loss of usability/renderability of data.

Mitigation Actions: Articulate preservation intent, limit format support re sustainability factors, inventory formats, validate files, produce derivatives, virtualization & emulation.



PLANNING APPROACH

The best way to mitigate these risks involves 1) hiring permanent trained staff and 2) resourcing them as a central cost center and to 3) plan on supporting a continual refresh cycle for software and hardware.



LOOK AT THE LEDGER

If you want to know if an organization is serious about digital preservation ask their accountants. What part of core operations resources are invested in staffing, contracts, and software and hardware dedicated to digital preservation?

