



**DNA DATA
STORAGE**
ALLIANCE
A SNIA TECHNOLOGY AFFILIATE

DNA DATA STORAGE ALLIANCE

SNIA Preview

January 2024

Dave Landsman, Western Digital

DNA Data Storage Alliance

- Mission

- Create and promote an interoperable storage ecosystem based on DNA as a data storage medium

- Scope

- Educate the market to create awareness and adoption of DNA data storage
- Develop a DNA data storage industry technology roadmap to drive R&D and funding
- Develop standards and/or specifications as needed by ecosystem



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2023 in Review

Organization

- Membership
 - Maintaining ~40 members
 - New Board Members: Quantum & Catalog
 - New Members: Biosistemika, Entegris, Iridia, IPT/Lenovo, Kern Systems, IMEC, Monash U., UT Dallas
- Workgroups
 - Industry Technology Roadmap - John Hoffman
 - DNA Archive Rosetta Stone - Joel Christner
 - Data Retention - Dave Landsman
 - Interoperable Interfaces - Shruti Sethi
 - New: Standard CODECs - Joel Christner
- Solid financial base
 - Finished 2023 with cash on hand
 - Lowered dues for 2024
- Social media
 - LinkedIn: 1560 followers (from 1200 Jan-2023)
 - Twitter: 651 followers (from 550 Jan-2023)
 - Newsletter: 376 subscribers (from 275 Jan-2023)



Events

- All Member Meetup - February 2023
 - Productive working and informative sessions
- MIST 2 Workshop - June 2023
 - Submitted Alliance summary of DNA data storage
- SDC - October 2023
 - Alliance participated in Archival track and BoF
 - Library of Congress invited Alliance to present in 2024, as result

Workgroups

Industry Technology Roadmap SIG

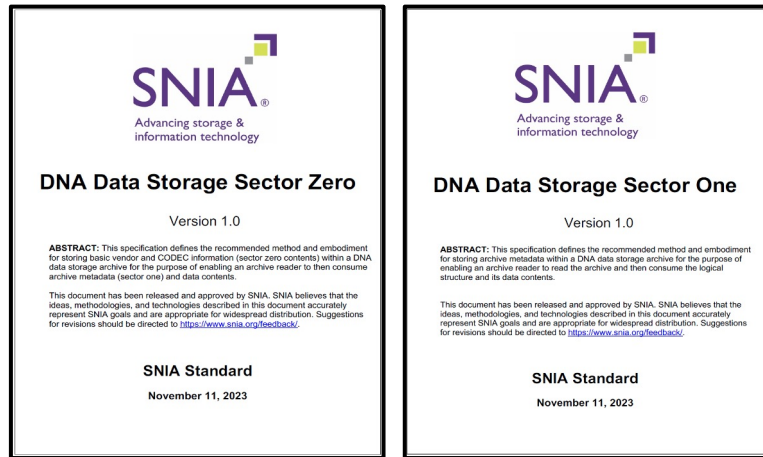
- All core roadmap chapters drafted
- Alliance submission to MIST 2
- Contribution to 2023 IEEE Mass Storage Roadmap

DNA TA TWG

- DNA Archive Rosetta Stone
 - Published specs to bootstrap into DNA database
 - Put a prototype Codec registry online
- Data Retention
 - Goal: Standard accelerated wear method and degradation half-life metric
 - Established research-based premises for the spec (DNA Data Stability Evaluation Method); now drafting
- Interoperable Interfaces
 - Defining framework for interoperability of a DNA based data storage system in a datacenter



The Alliance's first specs!!



See at [SNIA Standards Portfolio](#)



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2024

2024 Plans

■ Specifications

- Finish the work we have started
 - Technology Roadmap
 - DNA Data Stability Evaluation Method
 - Interoperability
- Enable/develop open source CODECs (new)

■ Events

- [Storage Technology Showcase](#) - March 03-06, Norfolk, Virginia
 - Ecosystem overview and Roadmap sneak peak
- [Library of Congress - Designing Storage Architectures](#) meeting - April 15-16, DC
 - Alliance invited to present Data Stability Evaluation Method at this year's meeting
- [Coding Theory, Algorithms for DNA-based Data Storage](#) workshop at [IEEE ISIT 2024](#) - July 7, Athens
 - Organized by Technion U., Tech U. of Munich (TUM), DNA Data Storage Alliance
 - 1 plenary talk; 4 invited talks; 16 posters from PhD students
 - Workshop format: Identify and discuss problems for continued work
- [SNIA SDC](#) - September 16-18, Santa Clara
 - Archival track

2024 Plans

- Create an archival storage initiative from SNIA
 - Media agnostic (DNA, Silica, etc.)
 - Use cases
 - Storage stack (application down to media)
 - Tools
- DNA TA all member in-person meeting
- Considering other events, e.g., Supercomputing conference, OCP



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Why get involved?

Why get involved?

- Industry Impact
 - First alliance in this new field; shaping industry as it's being built
- Segment Relevance
 - The storage hierarchy needs a new layer for zettabyte scale storage
- Why join?
 - Multi-disciplinary field requiring experts from software, storage, hardware, biotech and more
 - Opportunity to be part of a birth of a new technology for archival storage
- Contacts
 - Dave Landsman (dave.landsman@wdc.com)
 - Esther Singer (esinger@twistbioscience.com)
- Membership annual fees
 - General Member (Voting) - \$1,000 (first year free)
 - Board Member (Voting) - \$5,000
 - Academy (Non-Voting) - Free



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THANK YOU

Come join us:

dnastoragealliance.org

Twitter: @DnaDataStorage

LinkedIn: @dna-data-storage-alliance

Email: info@dnastoragealliance.org

Email: Dave Landsman (dave.landsman@wdc.com)

Email: Esther Singer (esinger@twistbioscience.com)