NSF Campus Cyberinfrastructure PI and
Cybersecurity Innovation for Cyberinfrastructure PI Workshop

September 24 – 26, 2018 | University of Maryland, College Park, MD

NSF Program (either CC or CICI): CICI

Program Area: RDP

Award Number: 1840218

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Project Title: Open Science Chain (OSC) - A Novel Distributed Ledger-Based Framework for Protecting Integrity and Provenance of Research Data

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Quad Chart for: *Open Science Chain (OSC) - A Distributed Ledger-Based Framework for Protecting Integrity and Provenance of Research Data*

Challenges:

- Issues of credibility and reproducibility of scientific results impact data sharing and hinder further growth of the research.
- No efficient solutions for researchers to
  - **Securely verify and validate** research datasets independently
  - Associate **ownership/identity with data**
  - Track **lineage information** of data

Our Solution

- **Open Science Chain (OSC)** - a **web-based CI** platform built using **open source distributed ledger technologies**.
- Metadata, identity and verification information of the dataset will be managed in OSC independent of existing storage repository solutions.
- Researchers have ability to **verify and validate datasets in a secure manner**.
- OSC will be designed using **real work datasets** from diverse domains

Broader Impact:

OSC will

- **spur data reuse** which can be audited and tracked regardless of the science domain.
- increase citations because of the easier access to reliable data.
- ensure greater provenance of data, thereby encouraging sharing and distribution of scientific research data.

Follow the Project:

www.opensciencechain.org

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