

# DATA ARCHIVING AND SHARING

**Gökhan Pekcan**

University of Nevada, Reno

NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems  
Project kick-off meeting

University of Nevada, Reno - February 18, 2008



**NEES Nonstructural**  
Simulation of the Seismic Performance of Nonstructural Systems

Host Institution



Funded by



# Objectives

- **Store, archive and curate all data and metadata**
- **Utilize available NEESit resources**
- **Collaborate with NEESit to ensure the appropriate representation of data and data formats and,**
- **Release curated data and metadata to project participants and public as per DSAPG**

# DSAPG – Data Sharing and Archiving

- **All data resulting from experiments and simulations and information required to reproduce them should be stored**
- **As preliminary data in an *initial repository***
- **The investigators must submit structured data to the permanent repository within six months from the end of experiment or simulation, after proper quality evaluation, integration with documentation.**

# Local Data Repository

- **Over 2TB of storage**
- **Sensor Data and Video Data**
- **Accessible on a per project basis**
- **Accessible over the internet (FTP, SFTP, SCP)**



# DSAPG – Data Sharing and Archiving

- **All data resulting from experiments and simulations and information required to reproduce them should be stored**
- **As preliminary data in an *initial repository***
- **The investigators must submit structured data to the permanent repository within six months from the end of experiment or simulation, after proper quality evaluation, integration with documentation.**

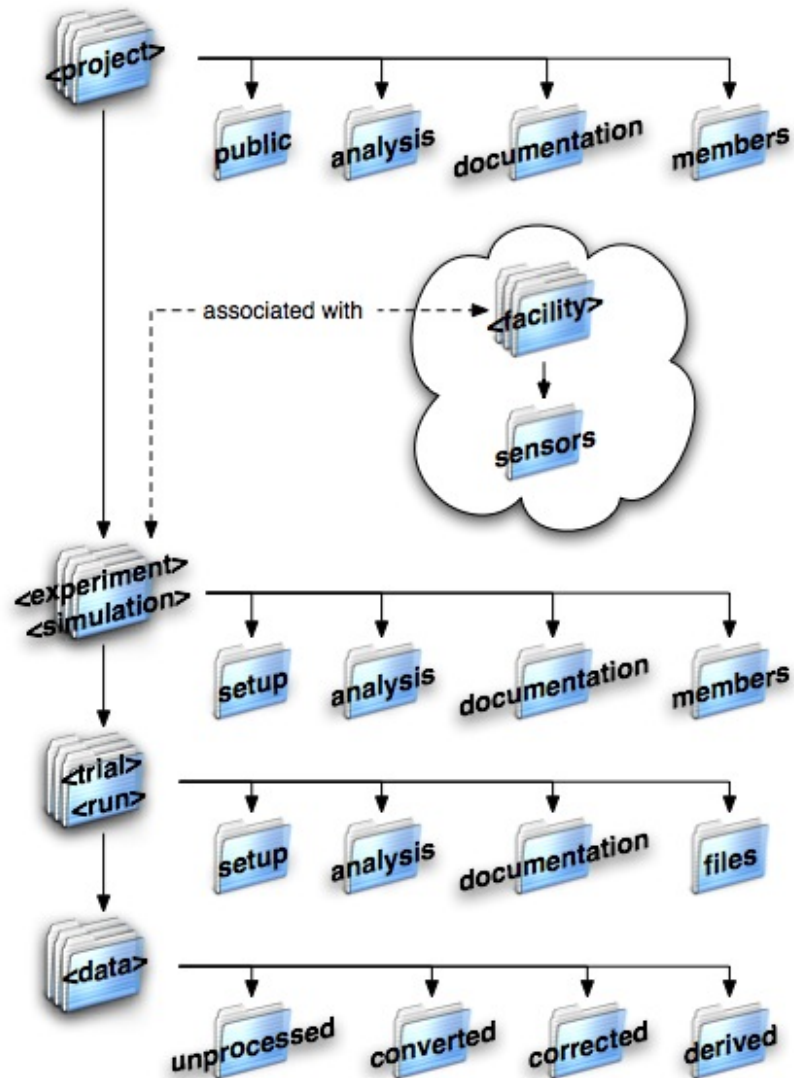
# DSAPG – Data Sharing and Archiving

- **Investigators are strongly encouraged to include additional interpretations and analyses that will help users interact with the measured data within two years**
- **Information placed in the archive (permanent repository) will be made automatically accessible to public no later than twelve months after the end of the experiment or simulation**

# DATA

- **Set of results produced by one or more numeric simulations and/or the readings from sensor(s) in one or more physical tests**
- **To fully describe data, more info needed**
  - Simulation and/or physical loading input files
  - Specimen description, figures, photos
  - Instrumentation layout and calibration
  - Description of test procedures
- **These are *metadata* = Data about Data collected**

# Data Hierarchy



- General project related; minutes, announcements, surveys, prototype designs, etc.
- NEES Equipment sites and list of sensors, etc maintained by the sites
- Simulation or physical experiments
- Can be associated with multiple sites
- Multiple trials where only minor changes to the experiment setup is defined (if any)
- Data !



NEES INC NEES IT CENTRAL ACTIVITIES RESEARCH SITES

NEEScentral Logout

Hello Gokhan | [Preferences](#)

HOME PROJECTS FACILITIES HELP  [Advanced Search](#)

Home > My Projects > NEESR-SG: Seismic Performance of Bridge Systems with Conventional and Innovative Materials > Experiment-1 > Setup

**Browser: My Projects**

[Expand All](#) | [Collapse All](#)

- NEEScentral :: My Projects
  - COLLABORATIVE RESEARCH: USING NEES AS A T
  - NEEScentral Demo (publicly accessible)
  - NEEScentral Demo Old
  - NEESR-GC: Simulation of the Seismic Performance
  - NEESR-SG: Seismic Performance of Bridge System
    - Experiment List
      - Four-span Bridge Biaxial Shake-Table Expe
        - Trial List
          - (001) WN01
            - Setup
            - Data
            - Analysis
            - Documentation
          - Setup**
          - Analysis
          - Documentation
          - Data Viewers
          - Experiment Members
        - FIU Phase I - Seismic Performance of Hybr
        - Full Scale Shake-Table Abutment Study
          - Analysis
          - Documentation
          - Public
          - Project Members
    - UCSD-UNR Abutment Testing

NEEScentral <https://central.nees.org>

**Project: NEESR-SG: Seismic Performance of Bridge Systems with Conventional and Innovative Materials**

**Experiment-1: Four-span Bridge Biaxial Shake-Table Experiments - Phase I - Conventional Bridge**

[Main](#) | [Trials](#) | [Setup](#) | [Analysis](#) | [Documentation](#) | [Data Viewers](#) | [Members](#)

**Experiment Setup**

- ▶ [Measurement Units](#)  
Define default measurement units for this experiment.
- ▶ [Material Properties](#)  
Define the materials used in the various parts of this experiment.
- ▶ [Coordinate Spaces](#)  
Coordinate Spaces used in the various parts of this experiment.
- ▶ [Sensor Location Plans](#)  
Define the sensor location plans for this experiment.
- ▶ [Source Location Plans](#)  
Define the source location plans for this experiment.
- ▶ [Equipment Inventory](#)  
Define the major equipment components used in this experiment.
- ▶ [Scale Factors](#)  
Define scaling factors for this experiment.
- ▶ [Models](#)  
Manage files that provide information about the models used in the experiment.

Project ID: 33 | Name: NEES-2005-0033 | Curation Status: Uncurated  
 | Contact: M. Saiid Saiidi | IT Contact: Chad Feller  
 Experiment ID: 203 | Name: Experiment-1 | Curation Status: Uncurated  
 | Domain: Shake Table



https://central.nees.org/?projid=424&expid=866&action=DisplaySimulationSetup - Windows Internet Explorer

https://central.nees.org/?projid=424&expid=866&action=DisplaySimulationSetup

NEES INC NEES IT CENTRAL ACTIVITIES RESEARCH SITES

NEEScentral Logout  
Hello Gokhan | Preferences

HOME PROJECTS FACILITIES HELP Search Advanced Search

Home > My Projects > NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems > Simulation-3 > Setup

**Browser: My Projects**

Expand All | Collapse All

- NEEScentral :: My Projects
  - COLLABORATIVE RESEARCH: USING NEES AS A T
  - NEEScentral Demo (publicly accessible)
  - NEEScentral Demo Old
  - NEESR-GC: Simulation of the Seismic Performance
    - Experiment List
    - Simulation
      - Run List
      - Setup
      - Documentation
      - Simulation Members
    - Analysis
    - Documentation
    - Public
    - Project Members
  - NEESR-SG: Seismic Performance of Bridge System
  - UCSD-UNR Abutment Testing

NEEScentral https://central.nees.org

**Project: NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems**

Simulation-3: Simulation

Main Runs Setup Documentation Members

**Simulation Setup**

- ▶ [Computer Systems](#)  
Define the computer hardware and software used in this simulation.
- ▶ [Material Properties](#)  
Define the materials used in the various parts of this simulation.
- ▶ [Model Types](#)  
Define the model types used in the various parts of this simulation.

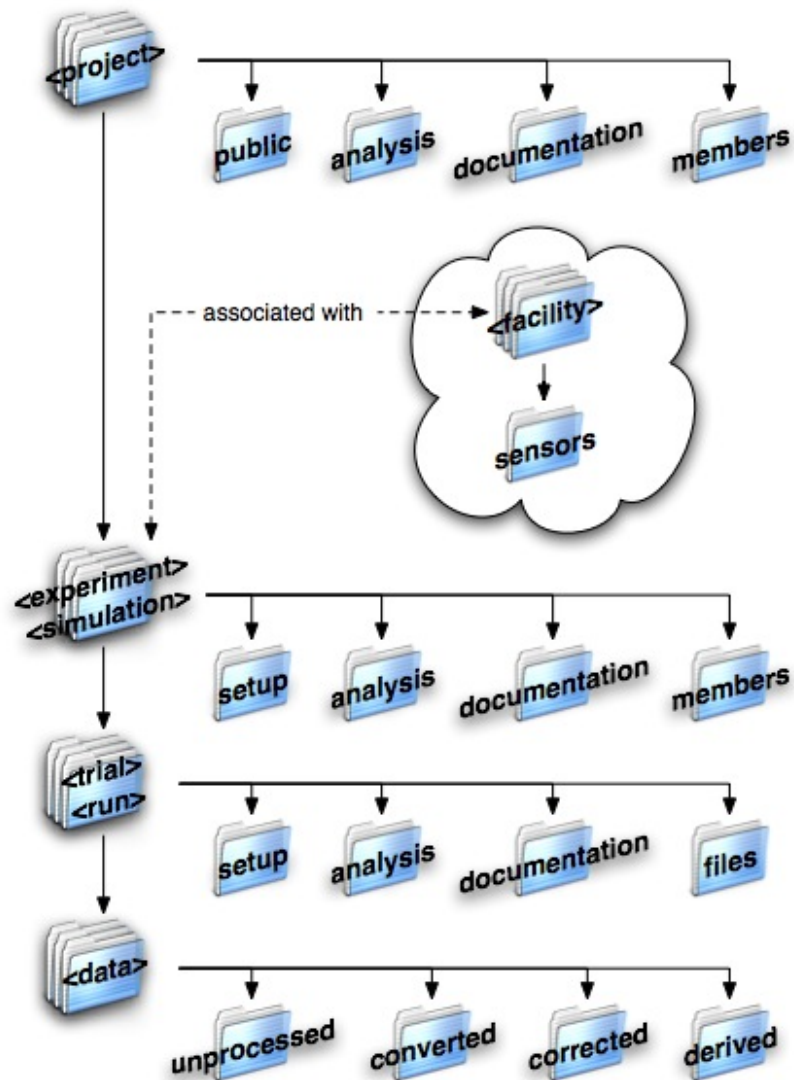
Project ID: 424 | Name: NEES-2007-0424 | Curation Status: Uncurated  
| Contact: [Gokhan Pekcan](#) | IT Contact: [Gokhan Pekcan](#)  
Experiment ID: 866 | Name: Simulation-3 | Curation Status: Uncurated  
| Domain: Simulation

NEES Cyberinfrastructure Center, 9500 Gilman Drive, La Jolla, CA 92093-0444  
Tel: (866) 260-4100, Fax: (858) 822-5464 | Email: [it-support@nees.org](mailto:it-support@nees.org) |  
Supported by the [National Science Foundation](#) (Award CMS-0402490).

NSF SDSC NEES

http://it.nees.org/ Internet 100%

# Data Hierarchy



- General project related; minutes, announcements, surveys, prototype designs, etc.
- NEES Equipment sites and list of sensors, etc maintained by the sites
- Simulation or physical experiments
- Can be associated with multiple sites
- Multiple trials where only minor changes to the setup is defined at the experiment
- Data !

11



**NEES Nonstructural**  
Simulation of the Seismic Performance of Nonstructural Systems

Host Institution



Funded by



# Data Terminology

- **Unprocessed: Raw data directly from the data acquisition systems**
  - Sensor data, Audio, Video, Images
- **Converted: Data converted to standard file formats and in engineering units**
- **Corrected: Data that has been revised to compensate for errors**
- **Derived: Data that has been further processed to plot, compare, and analyze results**

12



**NEES Nonstructural**  
Simulation of the Seismic Performance of Nonstructural Systems

Host Institution



Funded by



# If you do not have a NEES account yet...

NEEScentral - Windows Internet Explorer

https://central.nees.org/index.php

Google

Links: Customize Links, Free Hotmail, Windows, Windows Marketplace, Windows Media

NEEScentral

NEES INC | NEES IT | CENTRAL | ACTIVITIES | RESEARCH SITES

Username: \_\_\_\_\_ Password: \_\_\_\_\_ Login

Forgot Password | **Register New Account**

HOME | PROJECTS | FACILITIES | HELP

Search: \_\_\_\_\_ Advanced Search

### Additional Resources

**Have some questions?**

- Read in-depth instructions in the [NEEScentral User's Guide](#).
- Submit a support request on the [NEESit Support](#) home page.
- View articles covering specific topics in the [NEESit Knowledge Base](#).
- Learn about the latest enhancements in the [NEEScentral Release Notes](#).

### Welcome to NEEScentral

#### NEEScentral Homepage

#### Please Sign In

This web portal is available to all NEES participants and is designed to provide a simple way for researchers to share and archive their project data. Check the [News and Announcements](#) for the latest information.

If you are a member of the NEES community, please sign in now, otherwise you can still actively search and view published data in this repository without needing a login account. [Sign in Help](#) is available if you need to request a [New Account](#) or a [New Password](#).

[Sign in now >](#)

#### NEEScentral Demo Project

Just getting started with NEEScentral? Browse this demo project to see an example of real data, including experiment and trial setup, documentation, and sensor data.

[Go to Demo Project >](#)

#### Requirements

NEEScentral adheres to web standards and requires that you utilize a standards-compliant browser to properly interact with the site.

Suggested browsers include Mozilla Firefox 1.0+, Internet Explorer 6.0+, Safari 1.0+ and Opera 7.0+.

NEEScentral makes significant use of the Java Platform (version 1.5 or better is recommended).

NEES Cyberinfrastructure Center, 9500 Gilman Drive, La Jolla, CA 92093-0444  
Tel: (866) 260-4100, Fax: (858) 822-5464 | Email: [it-support@nees.org](mailto:it-support@nees.org) |  
Supported by the [National Science Foundation](#) (Award CMS-0402490).

NSF | SDSC | NEES

Internet 100%

13



**NEES Nonstructural**  
Simulation of the Seismic Performance of Nonstructural Systems

Host Institution



Funded by



https://central.nees.org/?projid=424&action=EditProjectMembers - Windows Internet Explorer

https://central.nees.org/?projid=424&action=EditProjectMembers

NEES INC NEES IT CENTRAL ACTIVITIES RESEARCH SITES

NEEScentral

Logout

Hello Gokhan! [Preferences](#)

HOME PROJECTS FACILITIES HELP

Search [Advanced Search](#)

Home > My Projects > NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems > Members

**Browser: My Projects**

[Expand All](#) | [Collapse All](#)

- NEEScentral :: My Projects
  - COLLABORATIVE RESEARCH: USING NEES AS A TE
  - NEEScentral Demo (publicly accessible)
  - NEEScentral Demo Old
  - NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems
    - Experiment List
    - Analysis
    - Documentation
    - Public
    - Project Members**
  - NEESR-SG: Seismic Performance of Bridge Systems
  - UCSD-UNR Abutment Testing

NEEScentral https://central.nees.org


**Project: NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems**

Main Experiments Analysis Documentation Public **Members**

**Members of Project: NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems**

Name	Roles	Email	Permissions
Ewing-Taylor, Jacque	Collaborator	jacque@unr.edu	view,create,edit,delete
Filiatrault, Andre	Co-PI	af36@buffalo.edu	view,create,edit,delete
Hutchinson, Tara	Co-PI	tara@ucsd.edu	view,create,edit,delete
Itani, Ahmad	Collaborator	itani@unr.edu	view,create,edit,delete
Kuester, Falko	Collaborator	fkuester@ucsd.edu	view,create,edit,delete
Maragakis, Manos	Principal Investigator	maragaki@ce.unr.edu	view,create,edit,delete,grant
Pekcan, Gokhan	Collaborator	pekcan@unr.edu	view,create,edit,delete,grant
Reinhorn, Andrei	Collaborator	reinhorn@buffalo.edu	view,create,edit,delete
Reitherman, Robert	Co-PI	Reitherman@curee.org	view,create,edit,delete
Whittaker, Andrew	Collaborator	awhittak@eng.buffalo.edu	view,create,edit,delete

aaleti, sriramreddy (sriram)

 Project ID: 424 | Name: NEES-2007-0424 | Curation Status: Uncurated  
 | Contact: Gokhan Pekcan | IT Contact: Gokhan Pekcan

Done Internet 100%



**NEES Nonstructural**  
 Simulation of the Seismic Performance of Nonstructural Systems

Host Institution



Funded by



https://central.nees.org/?projid=424&action=DisplayProjectDocumentation - Windows Internet Explorer

https://central.nees.org/?projid=424&action=DisplayProjectDocumentation

NEES INC NEES IT CENTRAL ACTIVITIES RESEARCH SITES

NEEScentral Logout

Hello Gokhan! Preferences

HOME PROJECTS FACILITIES HELP Search Advanced Search

Home > My Projects > NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems > Documentation

**Browser: My Projects**  
Expand All | Collapse All

- NEEScentral :: My Projects
  - COLLABORATIVE RESEARCH: USING NEES AS A TE
  - NEEScentral Demo (publicly accessible)
  - NEEScentral Demo Old
  - NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems
    - Experiment List
    - Analysis
    - Documentation**
    - Public
    - Project Members
  - NEESR-SG: Seismic Performance of Bridge Systems
  - UCSD-UNR Abutment Testing

NEEScentral https://central.nees.org

**Project: NEESR-GC: Simulation of the Seismic Performance of Nonstructural Systems**

Main Experiments Analysis **Documentation** Public Members

**Documentation**


Manage all general documentation for this project that is not specific to a particular experiment. Examples include final project proposal, documents from funding agency, budget spreadsheets, quarterly reports, or a project personnel contact list.

**Documentation:** Upload New Directory Refresh

Current Path: /NEES-2007-0424/Documentation

<input type="checkbox"/>	Name	Timestamp	Size	
<input type="checkbox"/>	Literature			Detail ✖
<input type="checkbox"/>	Meetings			Detail ✖

Download

 Project ID: 424 | Name: NEES-2007-0424 | Curation Status: Uncurated  
| Contact: Gokhan Pekcan | IT Contact: Gokhan Pekcan

NEES Cyberinfrastructure Center, 9500 Gilman Drive, La Jolla, CA 92093-0444  
Tel: (866) 260-4100, Fax: (858) 822-5464 | Email: [it-support@nees.org](mailto:it-support@nees.org) |  
Supported by the [National Science Foundation](http://www.nsf.gov) (Award CMS-0402490).

NSF NEES SDSC

Internet 100%



**NEES Nonstructural**  
Simulation of the Seismic Performance of Nonstructural Systems

Host Institution



Funded by



# Sources of Information

- **NEEScentral User's Guide**

<http://it.nees.org/library/data/neescentral-users-guide-17.php#contents>

- **NEES Data Sharing and Archiving Policies and Guidelines**

<http://nees.org/Governance/Policies/>



Thank You...

**Questions?**



***NEES Nonstructural***  
Simulation of the Seismic Performance of Nonstructural Systems

Host Institution



Funded by

