

HUB DATABASES

Moving Collaborative Research Forward

Ann Christine Catlin
Research Scientist
Purdue University
HUBbub Conference 2012

SHARING YOUR RESEARCH DATA

- Storage, preservation, access
- Lab/field data → databases
- Datasets → repositories
- Collection : web-forms & spreadsheets
- Exploration : “feature-rich” environment
- Access control and data security
- Backup and tracking
- Auditing and error-reporting

EXAMPLES



<http://nees.org>
10 databases



<http://cceHUB.org>
colorectal & thymic cancer databases



<http://pharmaHUB.org>
NIPTE-FDA Excipients Knowledge Base

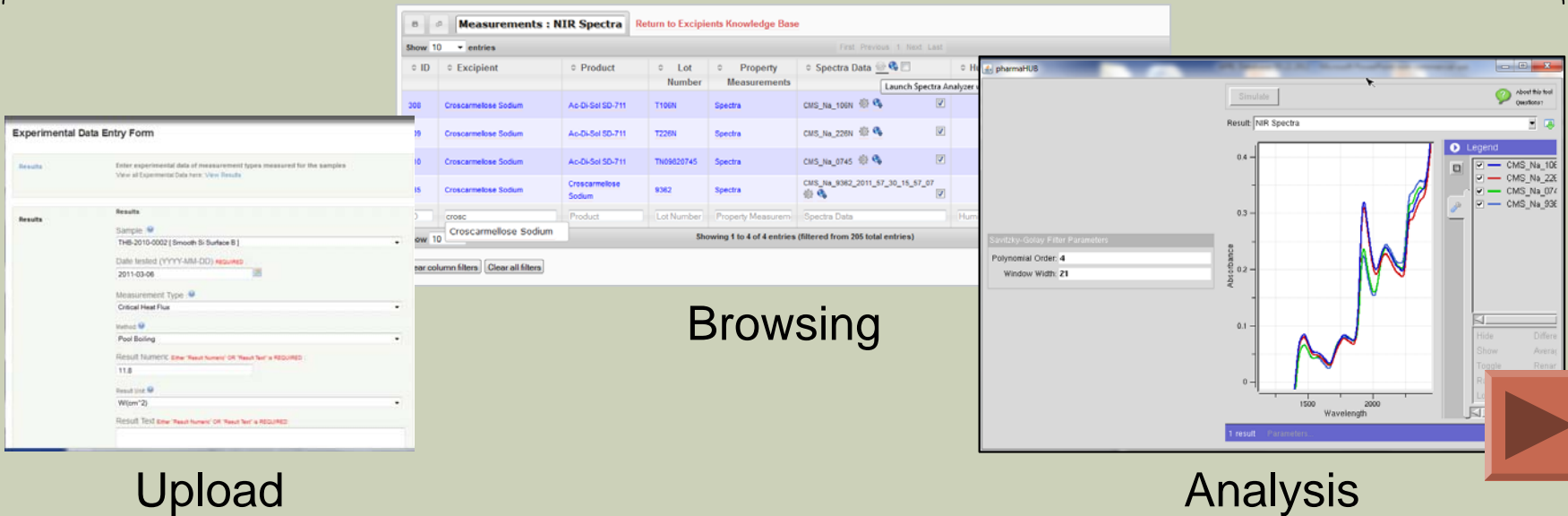


<http://IndianaCTSI.org>
Camp Calcium database

END-TO-END SOLUTION



<http://pharmaHUB.org>
NIPTE-FDA Excipients Knowledge Base



ACCESS CONTROLS

Upload

Experimental Data Entry Form

Results

Enter experimental data of measurement types measured for the samples
View all Experimental Data here View Results

Results

Sample: THB-2010-0002 (Smooth Si Surface B)

Date tested (YYYY-MM-DD) REQUIRED: 2011-03-08

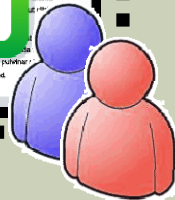
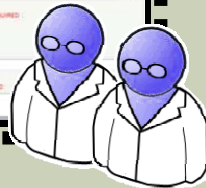
Measurement Type: Critical Heat Flux

Method: Pool Boiling

Result Numeric (Name: "Result Numeric" OR "Result Num" is REQUIRED): 11.8

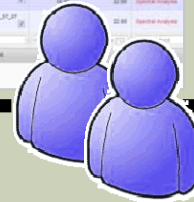
Result Unit: W/cm²

Result Text (Name: "Result Name" OR "Result Text" is REQUIRED):



Browsing

ID	Excipient	Product	Lot	Property	Spectra Data	Humidity	Temperature	Test Method
388	Disaccharide Subst	ALD-SR-02-111	7188	Spectra	QMS_ML_1000	30.00	22.00	Spectra Analysis
389	Disaccharide Subst	ALD-SR-02-111	7208	Spectra	QMS_ML_2000	30.00	22.00	Spectra Analysis
390	Disaccharide Subst	ALD-SR-02-111	76002190	Spectra	QMS_ML_2100	30.00	22.00	Spectra Analysis
391	Disaccharide Subst	Disaccharide Subst	8302	Spectra	QMS_ML_QMS_2011_01_10_10_10_10	30.00	22.00	Spectra Analysis



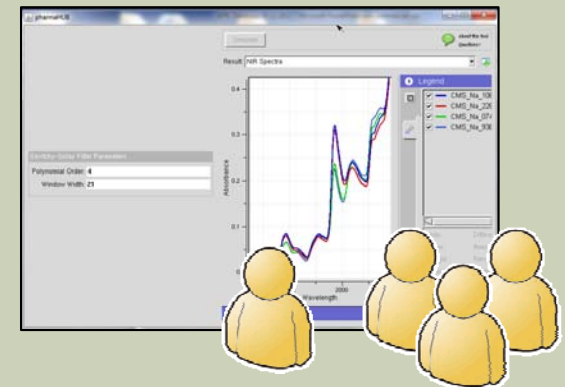
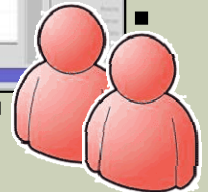
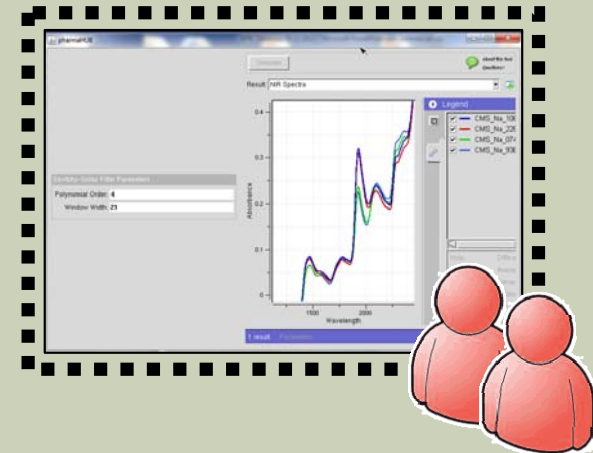
ID	Excipient	Product	Lot	Property	Spectra Data	Humidity	Temperature	Test Method
388	Disaccharide Subst	ALD-SR-02-111	7188	Spectra	QMS_ML_1000	30.00	22.00	Spectra Analysis
389	Disaccharide Subst	ALD-SR-02-111	7208	Spectra	QMS_ML_2000	30.00	22.00	Spectra Analysis
390	Disaccharide Subst	ALD-SR-02-111	76002190	Spectra	QMS_ML_2100	30.00	22.00	Spectra Analysis
391	Disaccharide Subst	Disaccharide Subst	8302	Spectra	QMS_ML_QMS_2011_01_10_10_10_10	30.00	22.00	Spectra Analysis



ID	Excipient	Product	Lot	Property	Spectra Data	Humidity	Temperature	Test Method
388	Disaccharide Subst	ALD-SR-02-111	7188	Spectra	QMS_ML_1000	30.00	22.00	Spectra Analysis
389	Disaccharide Subst	ALD-SR-02-111	7208	Spectra	QMS_ML_2000	30.00	22.00	Spectra Analysis
390	Disaccharide Subst	ALD-SR-02-111	76002190	Spectra	QMS_ML_2100	30.00	22.00	Spectra Analysis
391	Disaccharide Subst	Disaccharide Subst	8302	Spectra	QMS_ML_QMS_2011_01_10_10_10_10	30.00	22.00	Spectra Analysis



Analysis



DATA COLLECTION

- Web-forms
- Spreadsheets
- Datasets

The screenshot displays a web browser window with the URL <https://nees.org/groups/groupdev/datasharing>. The page title is "Experimental Data Entry Form". The NEEShub logo is visible, along with navigation links: "About NEES", "Tools & Resources", "Learning & Outreach", "Project Warehouse", "Simulation", "Sites", "Collaborate", and "Explore NE". A breadcrumb trail indicates the current location: "Home > Groups > Group collaboration ideas > Data Sharing".

The main content area is titled "Group collaboration ideas" and "Accessing your dropbox folder". It states: "Your dropbox folder has been created. All members of your group can access this shared folder using any of the following methods:"

- SynchroNEES Tool**: This program was created by the NEES project to make it easy to access your group files and your NEES files on your desktop. [More information](#) →
- Within a Workspace**: Our [workspace](#) tool gives you a Linux desktop that you can access anytime, anywhere with your web browser. Your group shared folder is just another directory. Access it as follows:

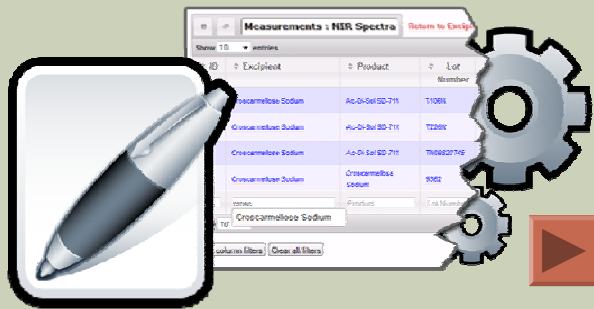
```
% cd /data/groups/groupdev/dropbox
```
- Secure File Transfer Protocol (SFTP)**: Use any standard SFTP client to access your dropbox folder as follows:

```
% sftp mmcLennan@nees.org  
% cd /data/groups/groupdev/dropbox
```

The SFTP program is fairly standard on MacOSX and Linux machines. If you're running Windows, you'll need to install an SFTP client.

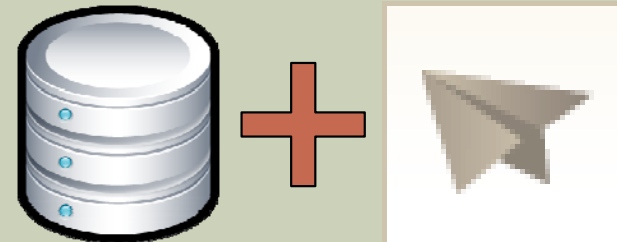
FUTURE DIRECTIONS

POINT-AND-CLICK DATABASE CREATION



- Define columns and properties
- Create specific views
- Configure access controls
- Preview database
- Deploy when ready

INTEGRATE DATABASES/PROJECTS



- Upload data within projects
- Collaborate and clean data
- Stage and preview database
- Publish database with DOI

MORE INFORMATION

DataStore <http://catalyzecare.org/content/article/32>
Interactive Data Views <http://hubzero.org/resources/406>



Ann Christine Catlin
Scientific Solutions Group
Purdue University
acc@purdue.edu

Team:
SUDHEERA FERNANDO
RUCHITH FERNANDO
PUNEET GUPTA
SAHAN GAMAGE
SUMUDINIE FERNANDO