STAR METRICS$^{\text{TM}}$

Update & Review of Activities (2013 & 2014)

Federal Demonstration Partnership

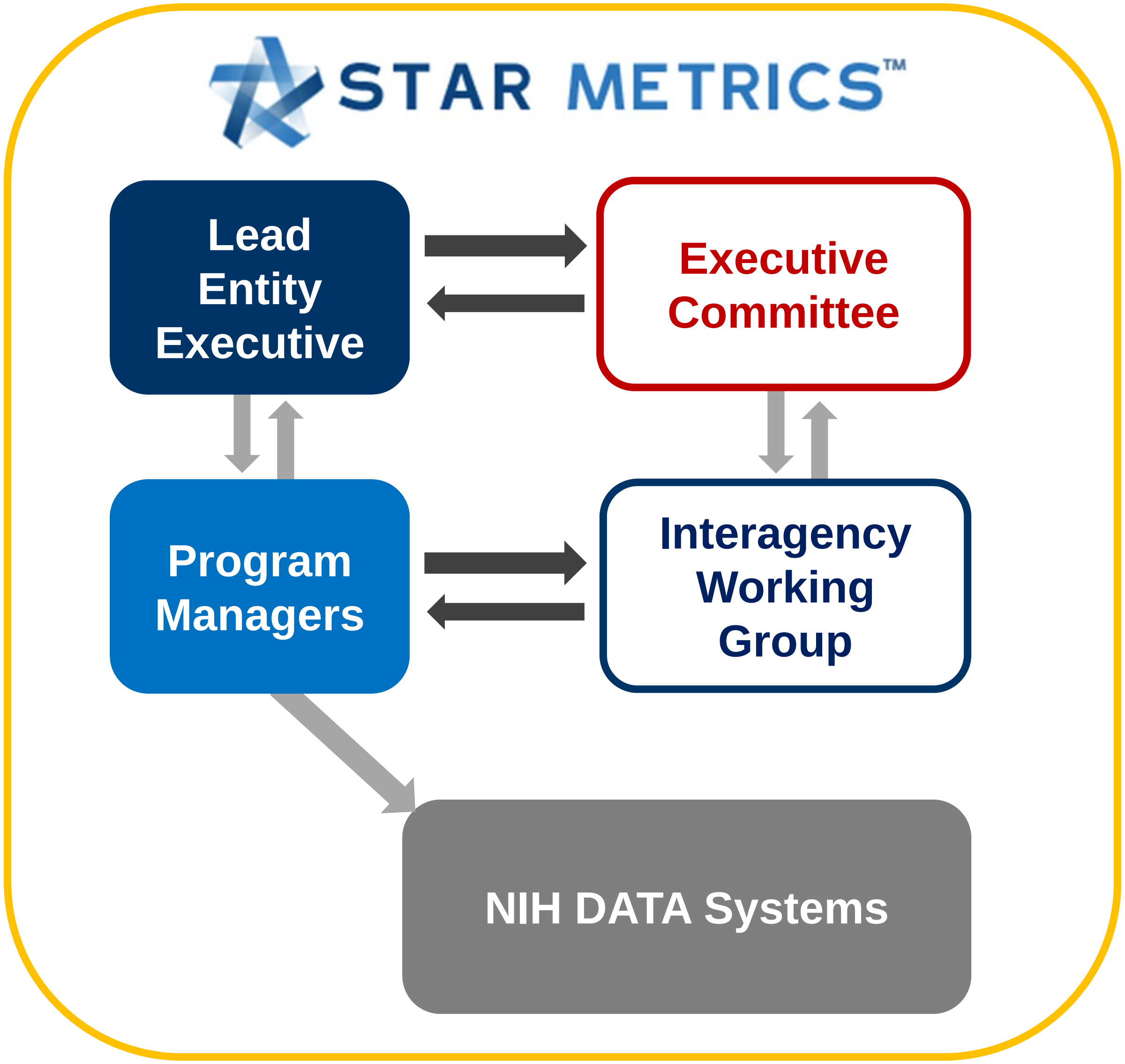
Jan 6, 2014

NIH National Institutes of Health
Office of Extramural Research

STAR METRICS

- Multi-agency program aimed at documenting a partial set of outputs from federal science investments.
- Agencies:
    - WH OSTP
    - NIH
    - NSF
    - USDA
    - EPA

GOVERNANCE



STAR METRICS™

Lead Entity Executive

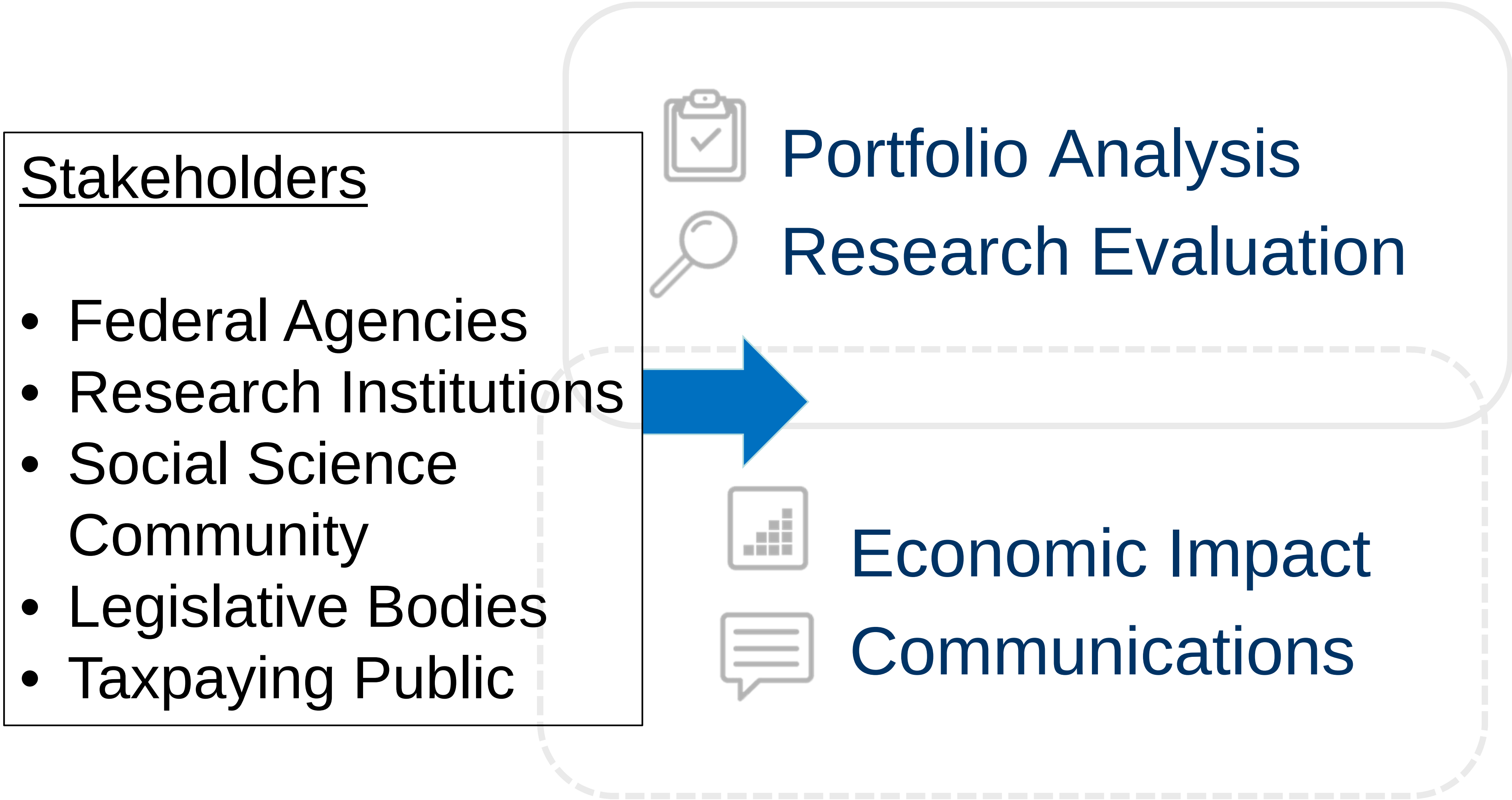
Executive Committee

Program Managers

Interagency Working Group

NIH DATA Systems

SHARED INTERESTS



Stakeholders

- Federal Agencies
- Research Institutions
- Social Science Community
- Legislative Bodies
- Taxpaying Public

Portfolio Analysis

Research Evaluation

Economic Impact

Communications

CURRENT ACTIVITIES

Measuring the economic impact of science funding

- **Level I**: Estimating jobs created by federal science awards.

Enabling studies of the portfolio of federal science investments

- **Level II**: A searchable database of science awards from federal agencies

USES OF LEVEL I DATA

- National workforce projections
- Benchmarking impact
- Communications
- Other- Reporting?

Dependent On

- Data quality
- Quality of job estimates
- Representative sampling

State of STAR METRICS

- Level I
  - Input (source data)
  - Process (job calculations)
  - Output (features of report)
- Level II
  - Extend 1 year dataset to 5 year dataset
  - Evaluate usefulness
- Website & Access
  - Update
  - Improve usability

Level I

- Documented exact procedures for generation and QA of quarterly reports
- Regenerated and analyzed Level I reports from previous quarter.
- Analyzed SAS code for stress points and improvement opportunities

Level I

- Identified problem areas and potential roadblocks for the future

- Level I Workshop on November 12, 2013
  - 52 in person attendees
  - (50 < n < 100) viewed videocast

Workshop Summary

- Data Quality- in all its many dimensions
- Linkage to other data sets- to facilitate other uses
- Recruitment- (perhaps targeted) to increase sample size
- Access (access & access)
- Understanding of the value of this effort through strategic communications

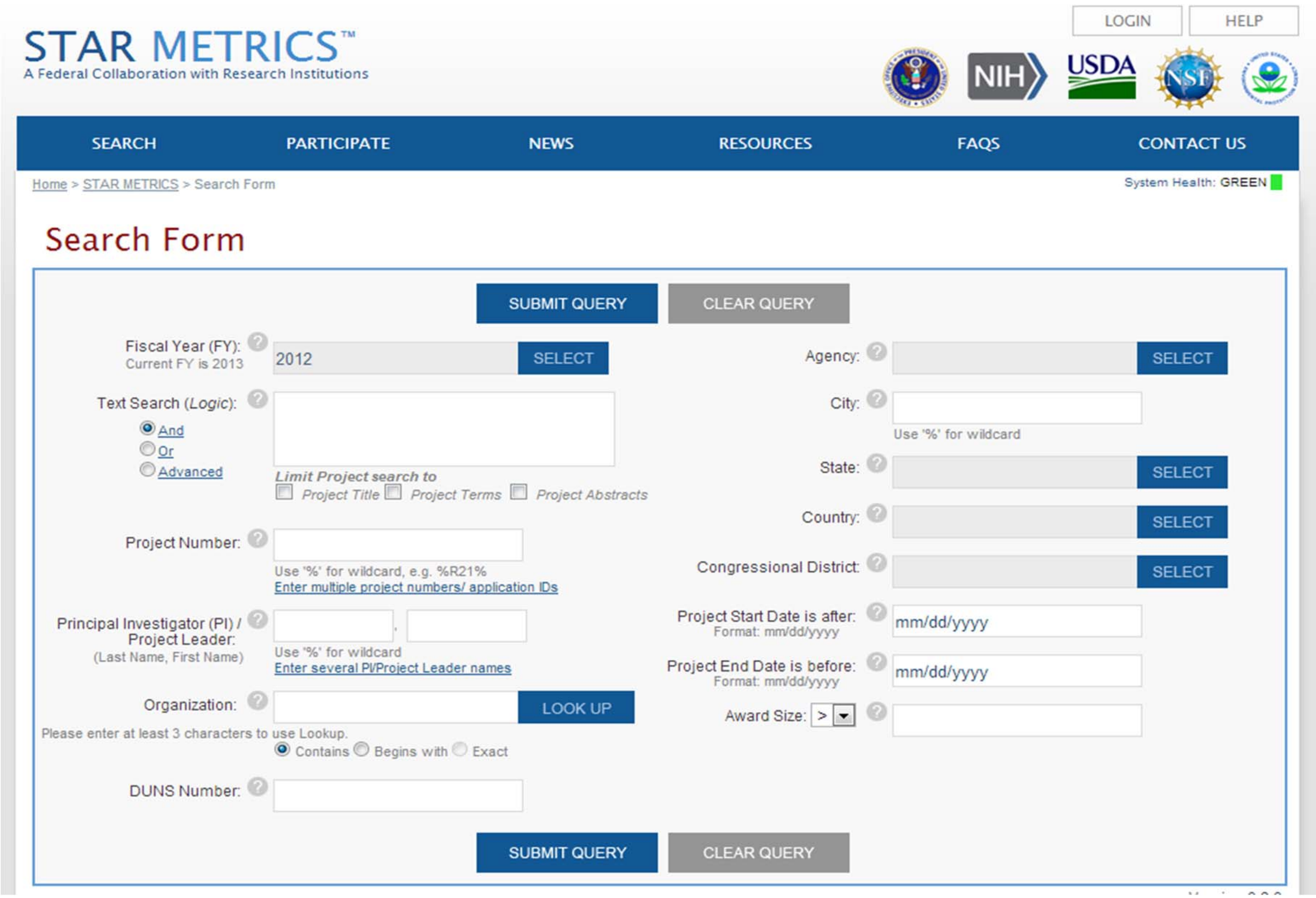
Level II-α Open For Comment

- Search awards information from NIH, NSF, NASA, and EPA (2008-2012)

- http://projectreporter.nih.gov/SM
- Password: demo@sm

- Feedback: starmetrics@mail.nih.gov

Level II Query Form


LOGIN
HELP
STAR METRICS™
A Federal Collaboration with Research Institutions
NIH
USDA
NSF
SEARCH
PARTICIPATE
NEWS
RESOURCES
FAQS
CONTACT US

Home > STAR METRICS > Search Form

System Health: GREEN 🟩

Search Form

SUBMIT QUERY
CLEAR QUERY

Fiscal Year (FY): 2012
Current FY is 2013

SELECT

Text Search (Logic):
● And
○ Or
○ Advanced

Limit Project search to
☐ Project Title ☐ Project Terms ☐ Project Abstracts

Project Number:
Use '%' for wildcard, e.g. %R21%
Enter multiple project numbers/ application IDs

Principal Investigator (PI) / Project Leader:
(Last Name, First Name)
Use '%' for wildcard
Enter several PI/Project Leader names

Organization:

Please enter at least 3 characters to use Lookup.
● Contains ○ Begins with ○ Exact

DUNS Number:

Agency:

City:
Use '%' for wildcard

State:

Country:

Congressional District:

SELECT
SELECT
SELECT
SELECT

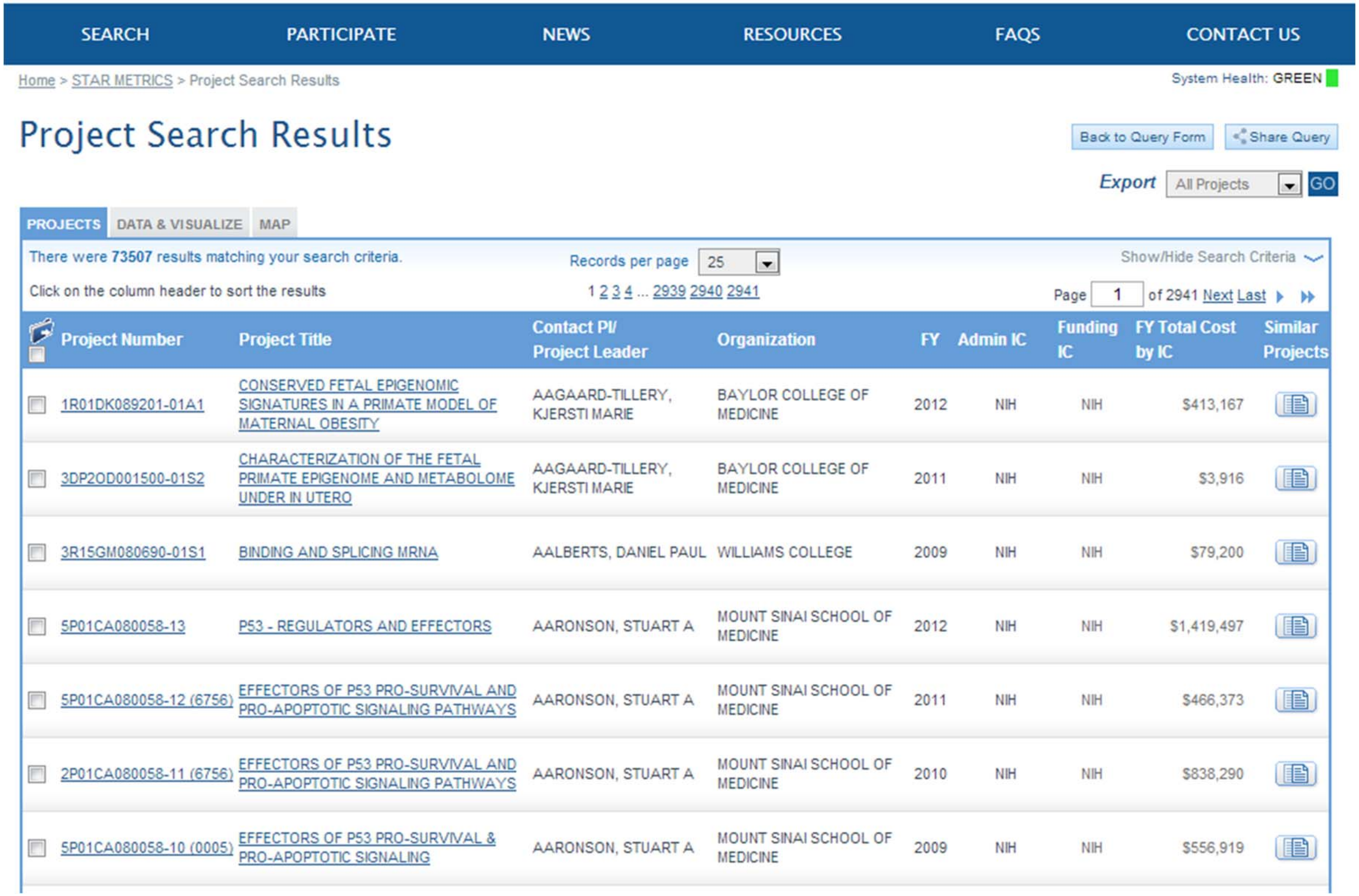
Project Start Date is after: mm/dd/yyyy
Format: mm/dd/yyyy

Project End Date is before: mm/dd/yyyy
Format: mm/dd/yyyy

Award Size: >

SUBMIT QUERY
CLEAR QUERY

Level II Search Results


SEARCH
PARTICIPATE
NEWS
RESOURCES
FAQS
CONTACT US
System Health: GREEN 🟩
Back to Query Form
Share Query
Export
All Projects
GO
PROJECTS
DATA & VISUALIZE
MAP
Show/Hide Search Criteria

Home > STAR METRICS > Project Search Results

Project Search Results

There were 73507 results matching your search criteria.

Records per page 25

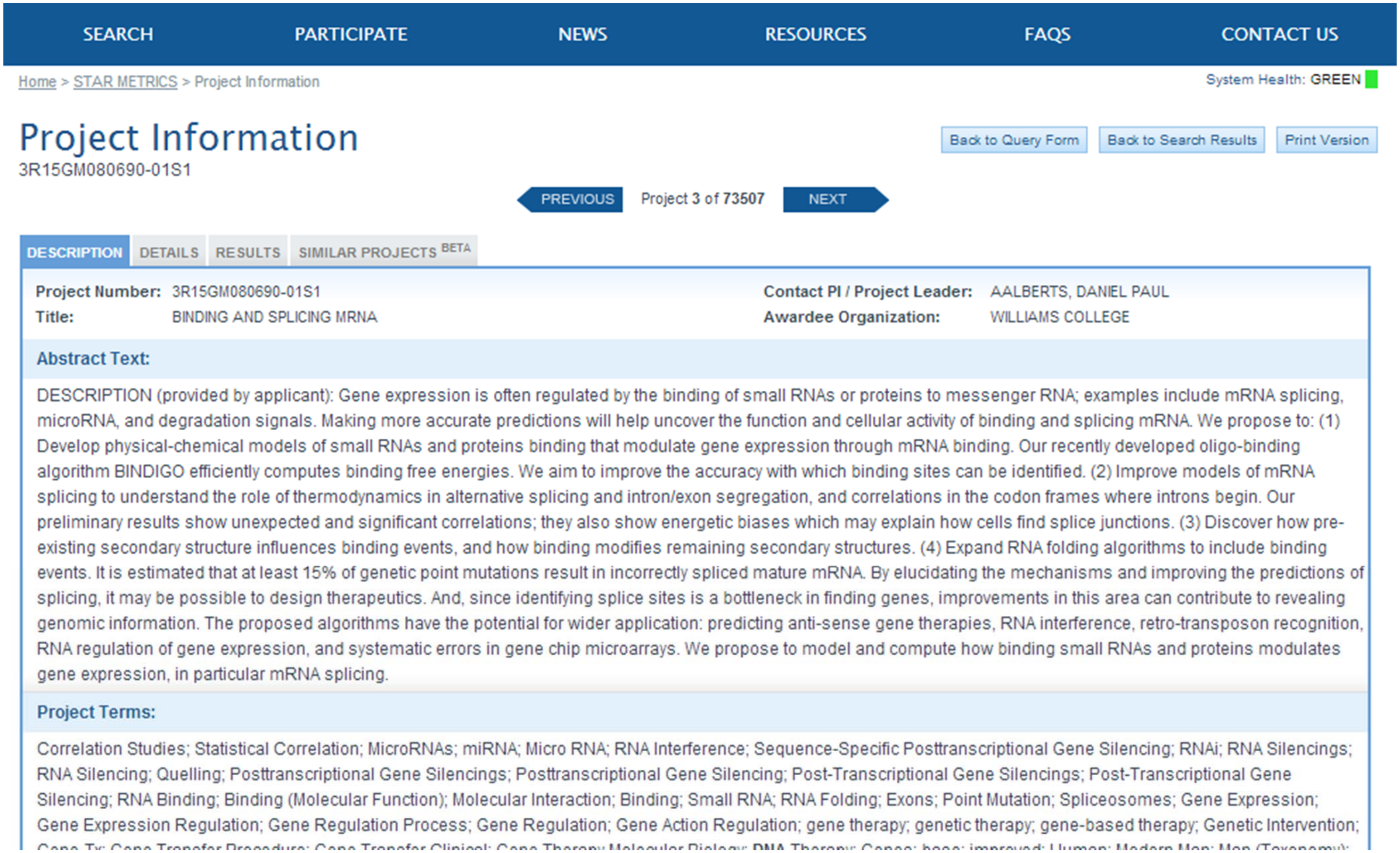
Click on the column header to sort the results

1 2 3 4 ... 2939 2940 2941

Page 1 of 2941 Next Last

☐	Project Number	Project Title	Contact PI/ Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
☐	1R01DK089201-01A1	CONSERVED FETAL EPIGENOMIC SIGNATURES IN A PRIMATE MODEL OF MATERNAL OBESITY	AAGAARD-TILLERY, KJERSTI MARIE	BAYLOR COLLEGE OF MEDICINE	2012	NIH	NIH	$413,167	
☐	3DP2OD001500-01S2	CHARACTERIZATION OF THE FETAL PRIMATE EPIGENOME AND METABOLOME UNDER IN UTERO	AAGAARD-TILLERY, KJERSTI MARIE	BAYLOR COLLEGE OF MEDICINE	2011	NIH	NIH	$3,916	
☐	3R15GM080690-01S1	BINDING AND SPLICING MRNA	AALBERTS, DANIEL PAUL	WILLIAMS COLLEGE	2009	NIH	NIH	$79,200	
☐	5P01CA080058-13	P53 - REGULATORS AND EFFECTORS	AARONSON, STUART A	MOUNT SINAI SCHOOL OF MEDICINE	2012	NIH	NIH	$1,419,497	
☐	5P01CA080058-12 (6756)	EFFECTORS OF P53 PRO-SURVIVAL AND PRO-APOPTOTIC SIGNALING PATHWAYS	AARONSON, STUART A	MOUNT SINAI SCHOOL OF MEDICINE	2011	NIH	NIH	$466,373	
☐	2P01CA080058-11 (6756)	EFFECTORS OF P53 PRO-SURVIVAL AND PRO-APOPTOTIC SIGNALING PATHWAYS	AARONSON, STUART A	MOUNT SINAI SCHOOL OF MEDICINE	2010	NIH	NIH	$838,290	
☐	5P01CA080058-10 (0005)	EFFECTORS OF P53 PRO-SURVIVAL & PRO-APOPTOTIC SIGNALING	AARONSON, STUART A	MOUNT SINAI SCHOOL OF MEDICINE	2009	NIH	NIH	$556,919	

Project Information



Project Information

3R15GM080690-01S1

Project Number:	3R15GM080690-01S1	**Contact PI / Project Leader:**	AALBERTS, DANIEL PAUL
Title:	BINDING AND SPLICING MRNA	**Awardee Organization:**	WILLIAMS COLLEGE

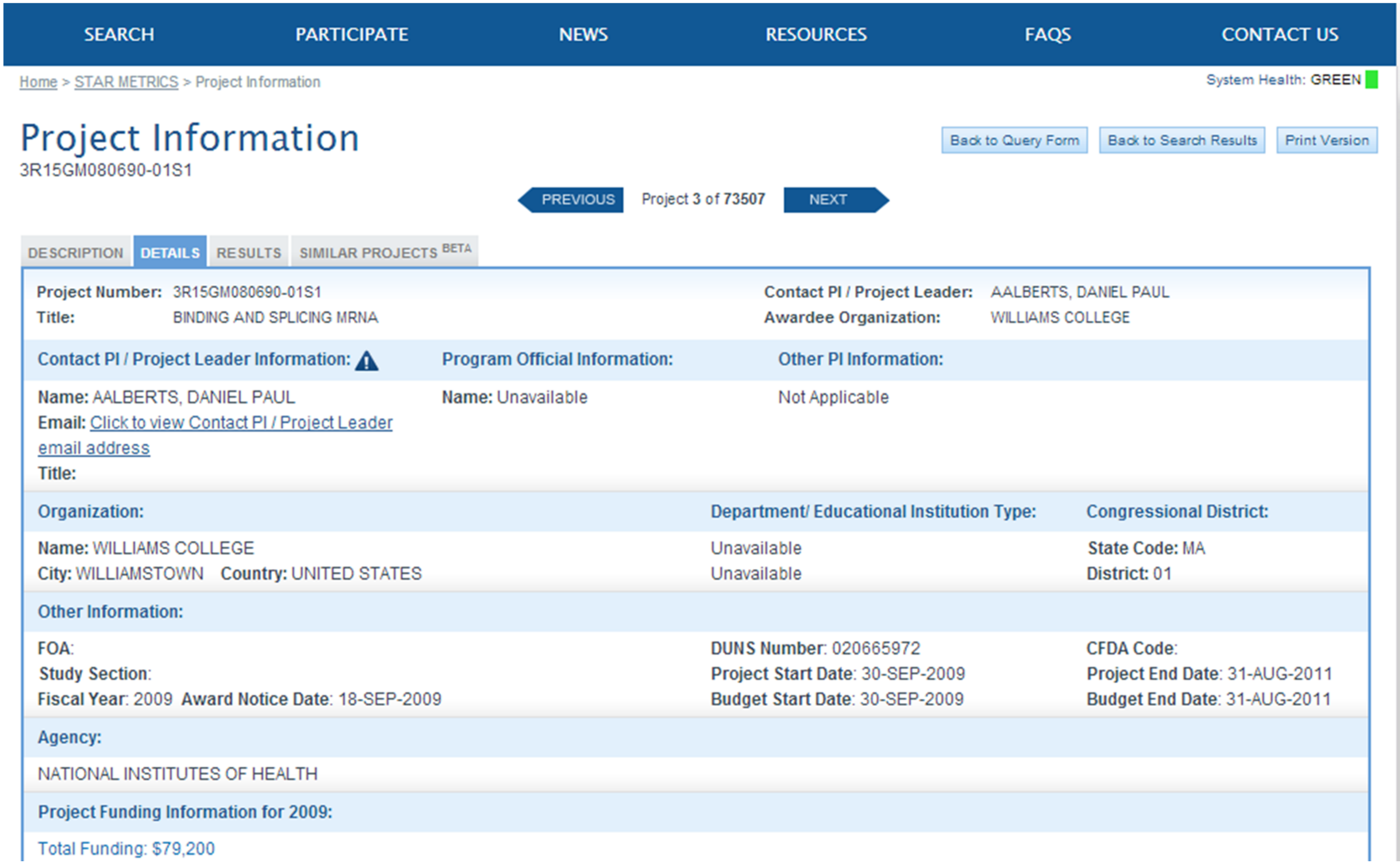
Abstract Text:

DESCRIPTION (provided by applicant): Gene expression is often regulated by the binding of small RNAs or proteins to messenger RNA; examples include mRNA splicing, microRNA, and degradation signals. Making more accurate predictions will help uncover the function and cellular activity of binding and splicing mRNA. We propose to: (1) Develop physical-chemical models of small RNAs and proteins binding that modulate gene expression through mRNA binding. Our recently developed oligo-binding algorithm BINDIGO efficiently computes binding free energies. We aim to improve the accuracy with which binding sites can be identified. (2) Improve models of mRNA splicing to understand the role of thermodynamics in alternative splicing and intron/exon segregation, and correlations in the codon frames where introns begin. Our preliminary results show unexpected and significant correlations; they also show energetic biases which may explain how cells find splice junctions. (3) Discover how pre-existing secondary structure influences binding events, and how binding modifies remaining secondary structures. (4) Expand RNA folding algorithms to include binding events. It is estimated that at least 15% of genetic point mutations result in incorrectly spliced mature mRNA. By elucidating the mechanisms and improving the predictions of splicing, it may be possible to design therapeutics. And, since identifying splice sites is a bottleneck in finding genes, improvements in this area can contribute to revealing genomic information. The proposed algorithms have the potential for wider application: predicting anti-sense gene therapies, RNA interference, retro-transposon recognition, RNA regulation of gene expression, and systematic errors in gene chip microarrays. We propose to model and compute how binding small RNAs and proteins modulates gene expression, in particular mRNA splicing.

Project Terms:

Correlation Studies; Statistical Correlation; MicroRNAs; miRNA; Micro RNA; RNA Interference; Sequence-Specific Posttranscriptional Gene Silencing; RNAi; RNA Silencings; RNA Silencing; Quelling; Posttranscriptional Gene Silencings; Posttranscriptional Gene Silencing; Post-Transcriptional Gene Silencings; Post-Transcriptional Gene Silencing; RNA Binding; Binding (Molecular Function); Molecular Interaction; Binding; Small RNA; RNA Folding; Exons; Point Mutation; Spliceosomes; Gene Expression; Gene Expression Regulation; Gene Regulation Process; Gene Regulation; Gene Action Regulation; gene therapy; genetic therapy; gene-based therapy; Genetic Intervention;

Project Details


SEARCH
PARTICIPATE
NEWS
RESOURCES
FAQS
CONTACT US
Home > STAR METRICS > Project Information
System Health: GREEN 🟩
Back to Query Form
Back to Search Results
Print Version
PREVIOUS
Project 3 of 73507
NEXT
DESCRIPTION
DETAILS
RESULTS
SIMILAR PROJECTS BETA

Project Information

3R15GM080690-01S1

Project Number: 3R15GM080690-01S1
Title: BINDING AND SPLICING MRNA
Contact PI / Project Leader: AALBERTS, DANIEL PAUL
Awardee Organization: WILLIAMS COLLEGE

Contact PI / Project Leader Information: ⚠

Name: AALBERTS, DANIEL PAUL
Email: Click to view Contact PI / Project Leader email address
Title:

Program Official Information:

Name: Unavailable

Other PI Information:

Not Applicable

Organization:

Name: WILLIAMS COLLEGE
City: WILLIAMSTOWN **Country:** UNITED STATES

Department/ Educational Institution Type:

Unavailable
Unavailable

Congressional District:

State Code: MA
District: 01

Other Information:

FOA:
Study Section:
Fiscal Year: 2009 **Award Notice Date:** 18-SEP-2009
DUNS Number: 020665972
Project Start Date: 30-SEP-2009
Budget Start Date: 30-SEP-2009
CFDA Code:
Project End Date: 31-AUG-2011
Budget End Date: 31-AUG-2011

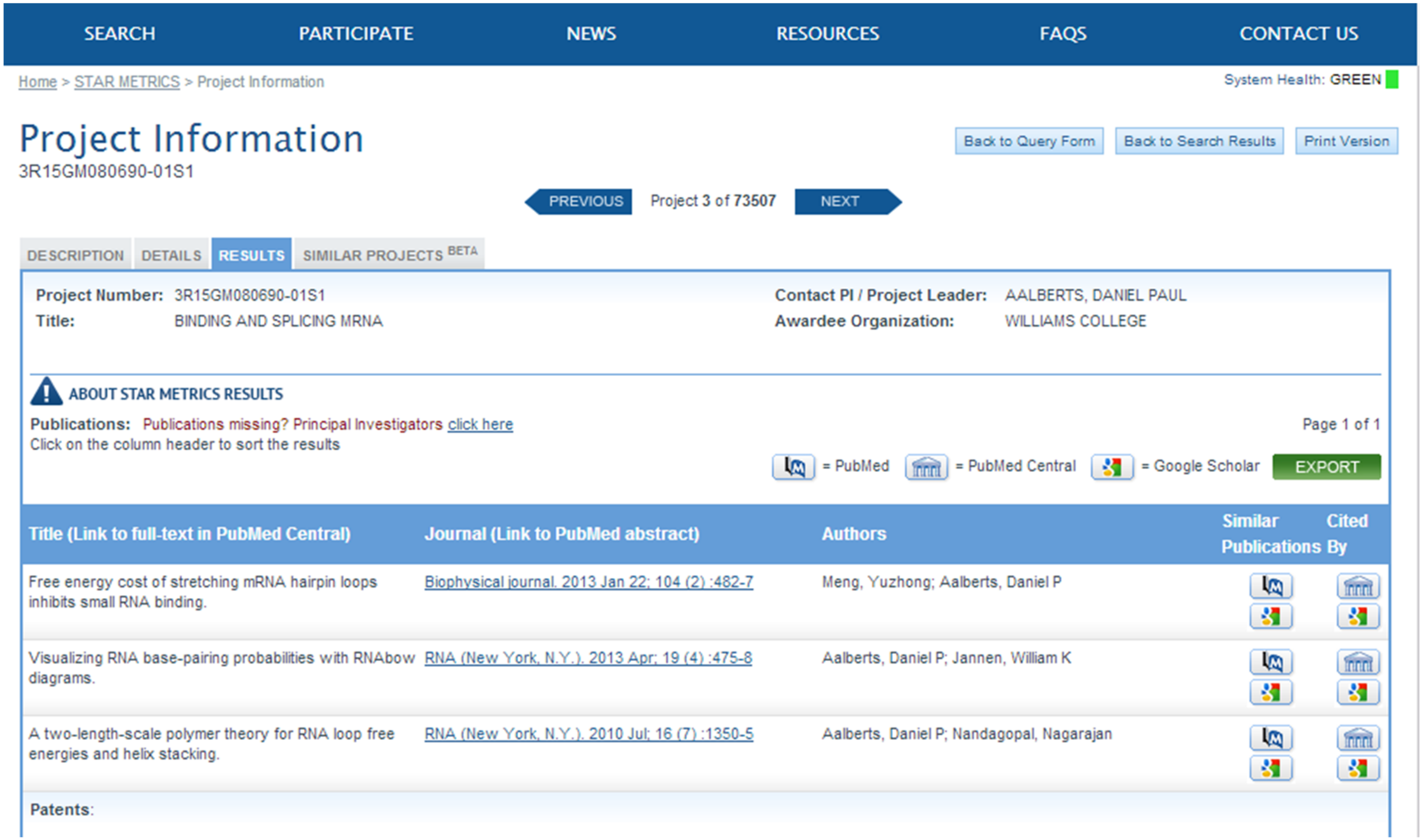
Agency:

NATIONAL INSTITUTES OF HEALTH

Project Funding Information for 2009:

Total Funding: $79,200

Results



SEARCH
PARTICIPATE
NEWS
RESOURCES
FAQS
CONTACT US

Home > STAR METRICS > Project Information

System Health: GREEN 🟩

Project Information

3R15GM080690-01S1

Back to Query Form
Back to Search Results
Print Version
PREVIOUS

Project 3 of 73507

NEXT
DESCRIPTION
DETAILS
RESULTS
SIMILAR PROJECTS BETA

Project Number: 3R15GM080690-01S1

Title: BINDING AND SPLICING MRNA

Contact PI / Project Leader: AALBERTS, DANIEL PAUL

Awardee Organization: WILLIAMS COLLEGE

ABOUT STAR METRICS RESULTS

Publications: Publications missing? Principal Investigators click here

Click on the column header to sort the results

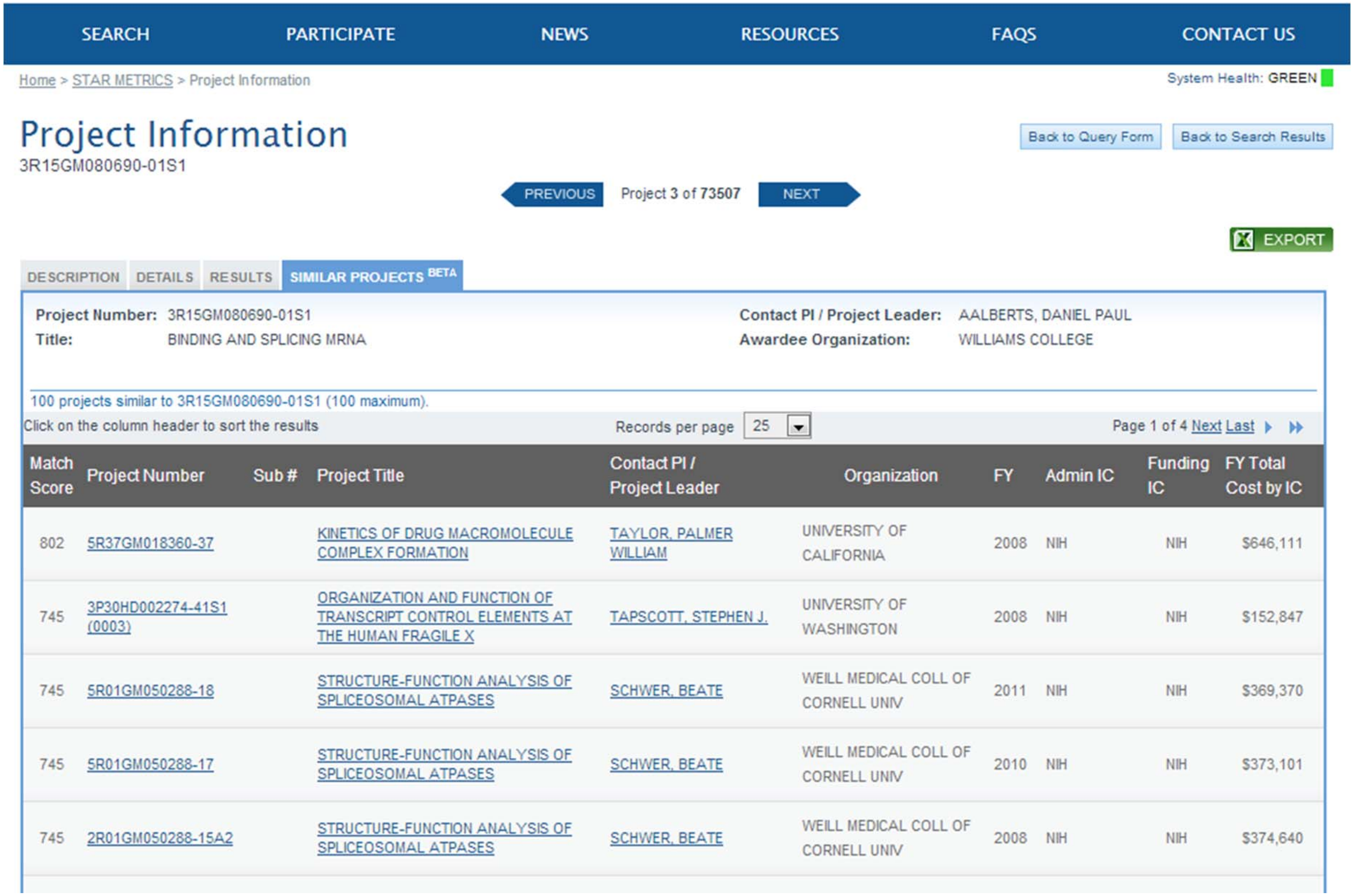
Page 1 of 1

= PubMed = PubMed Central = Google Scholar

Title (Link to full-text in PubMed Central)	Journal (Link to PubMed abstract)	Authors	Similar Publications	Cited By
Free energy cost of stretching mRNA hairpin loops inhibits small RNA binding.	Biophysical journal. 2013 Jan 22; 104 (2) :482-7	Meng, Yuzhong; Aalberts, Daniel P		
Visualizing RNA base-pairing probabilities with RNAbow diagrams.	RNA (New York, N.Y.). 2013 Apr; 19 (4) :475-8	Aalberts, Daniel P; Jannen, William K		
A two-length-scale polymer theory for RNA loop free energies and helix stacking.	RNA (New York, N.Y.). 2010 Jul; 16 (7) :1350-5	Aalberts, Daniel P; Nandagopal, Nagarajan		

Patents:

Similar Projects


SEARCH
PARTICIPATE
NEWS
RESOURCES
FAQS
CONTACT US
Home > STAR METRICS > Project Information
System Health: GREEN 🟩
Back to Query Form
Back to Search Results
PREVIOUS
NEXT
EXPORT
DESCRIPTION
DETAILS
RESULTS
SIMILAR PROJECTS BETA

Project Information

3R15GM080690-01S1

Project 3 of 73507

Project Number: 3R15GM080690-01S1
Title: BINDING AND SPLICING MRNA
Contact PI / Project Leader: AALBERTS, DANIEL PAUL
Awardee Organization: WILLIAMS COLLEGE

100 projects similar to 3R15GM080690-01S1 (100 maximum).

Click on the column header to sort the results

Records per page 25

Page 1 of 4 Next Last

Match Score	Project Number	Sub #	Project Title	Contact PI / Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC
802	5R37GM018360-37		KINETICS OF DRUG MACROMOLECULE COMPLEX FORMATION	TAYLOR, PALMER WILLIAM	UNIVERSITY OF CALIFORNIA	2008	NIH	NIH	$646,111
745	3P30HD002274-41S1 (0003)		ORGANIZATION AND FUNCTION OF TRANSCRIPT CONTROL ELEMENTS AT THE HUMAN FRAGILE X	TAPSCOTT, STEPHEN J.	UNIVERSITY OF WASHINGTON	2008	NIH	NIH	$152,847
745	5R01GM050288-18		STRUCTURE-FUNCTION ANALYSIS OF SPLICEOSOMAL ATPASES	SCHWER, BEATE	WEILL MEDICAL COLL OF CORNELL UNIV	2011	NIH	NIH	$369,370
745	5R01GM050288-17		STRUCTURE-FUNCTION ANALYSIS OF SPLICEOSOMAL ATPASES	SCHWER, BEATE	WEILL MEDICAL COLL OF CORNELL UNIV	2010	NIH	NIH	$373,101
745	2R01GM050288-15A2		STRUCTURE-FUNCTION ANALYSIS OF SPLICEOSOMAL ATPASES	SCHWER, BEATE	WEILL MEDICAL COLL OF CORNELL UNIV	2008	NIH	NIH	$374,640

Level II Next Steps

- Incorporate user feedback
- Update with FY 2013 data + USDA
- Release to the public (search tool and data)
- Add links to SciENcv profiles
- Incorporate research results
  - Publications
  - Patents
  - RPPR products
  - SciENcv data

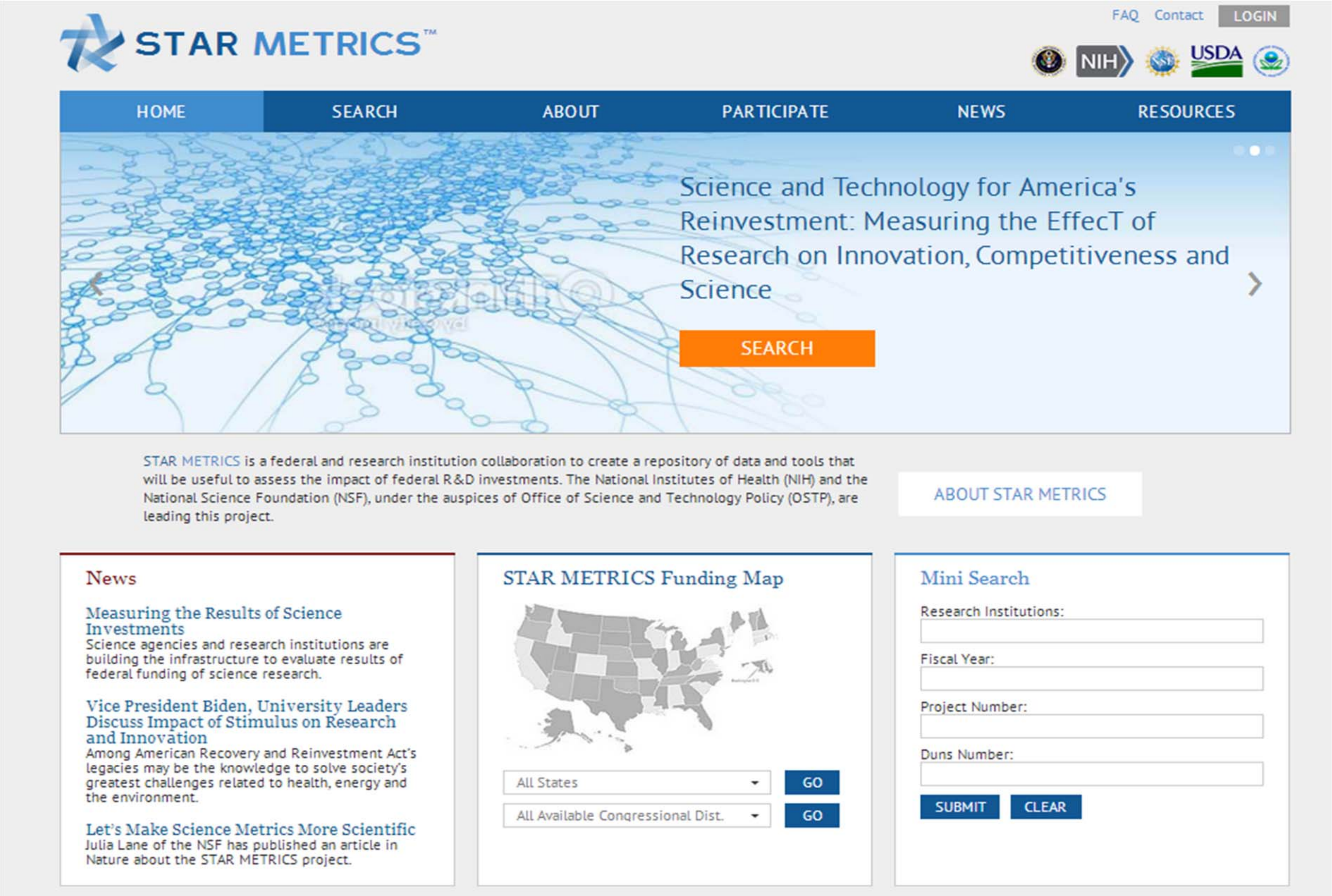
Website

- Finalized design concepts for the STAR METRICS website redesign
- Development of a responsive website

Redesigning Website

- Simple yet modern, clean and organized
- Updated content (in progress)
- Responsive and adaptive to all type of devices using different screen resolutions.
- The user-interface of the institutional pages is re-aligned for easy access to the quarterly reports and data requests.

Homepage


FAQ
Contact
LOGIN
STAR METRICS™
NIH
USDA
HOME
SEARCH
ABOUT
PARTICIPATE
NEWS
RESOURCES
SEARCH
ABOUT STAR METRICS
All States
GO
All Available Congressional Dist.
GO
SUBMIT
CLEAR

Science and Technology for America's Reinvestment: Measuring the EffecT of Research on Innovation, Competitiveness and Science

STAR METRICS is a federal and research institution collaboration to create a repository of data and tools that will be useful to assess the impact of federal R&D investments. The National Institutes of Health (NIH) and the National Science Foundation (NSF), under the auspices of Office of Science and Technology Policy (OSTP), are leading this project.

News

Measuring the Results of Science Investments
Science agencies and research institutions are building the infrastructure to evaluate results of federal funding of science research.

Vice President Biden, University Leaders Discuss Impact of Stimulus on Research and Innovation
Among American Recovery and Reinvestment Act's legacies may be the knowledge to solve society's greatest challenges related to health, energy and the environment.

Let's Make Science Metrics More Scientific
Julia Lane of the NSF has published an article in Nature about the STAR METRICS project.

STAR METRICS Funding Map

Mini Search

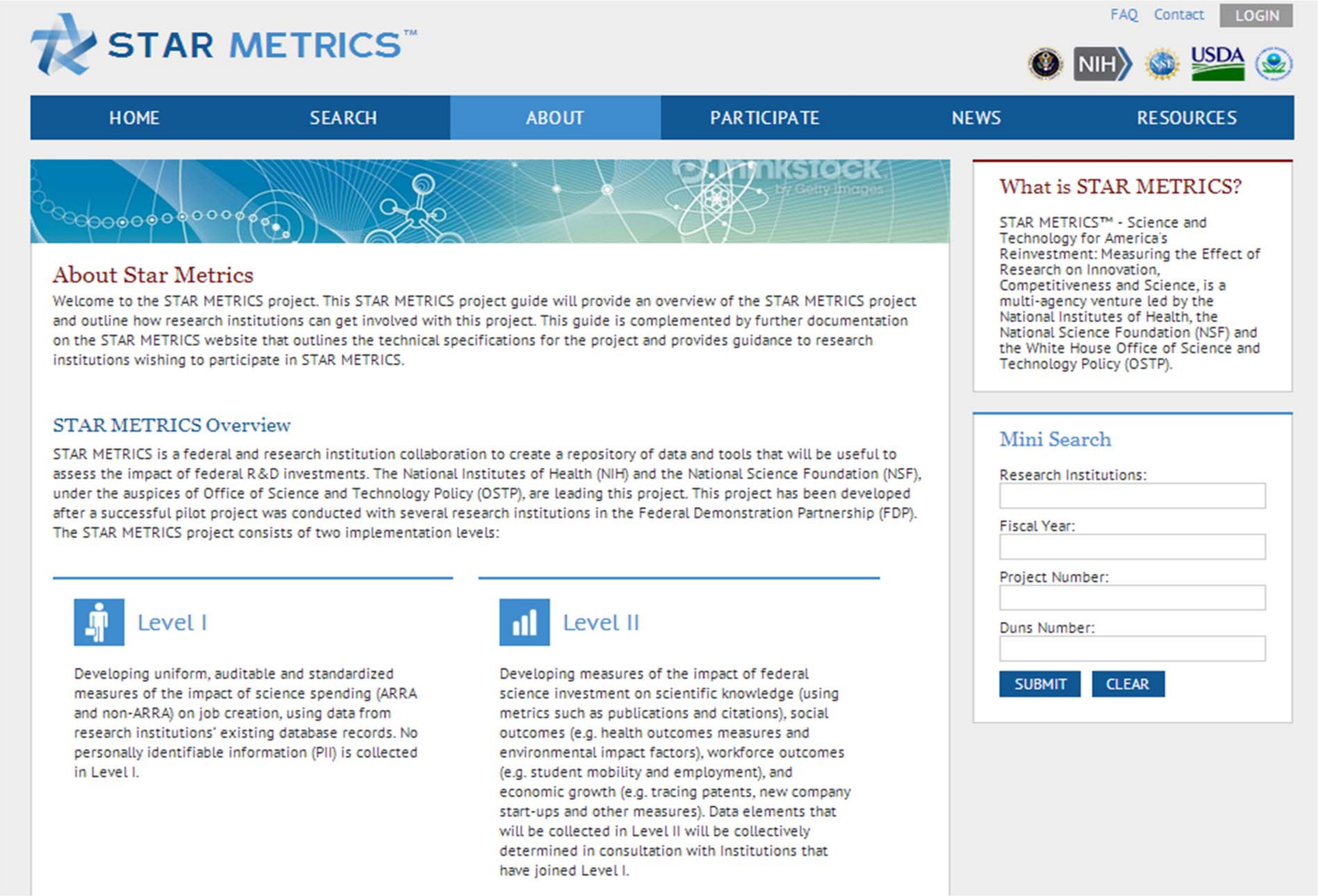
Research Institutions:

Fiscal Year:

Project Number:

Duns Number:

Interior Page



About Star Metrics

Welcome to the STAR METRICS project. This STAR METRICS project guide will provide an overview of the STAR METRICS project and outline how research institutions can get involved with this project. This guide is complemented by further documentation on the STAR METRICS website that outlines the technical specifications for the project and provides guidance to research institutions wishing to participate in STAR METRICS.

STAR METRICS Overview

STAR METRICS is a federal and research institution collaboration to create a repository of data and tools that will be useful to assess the impact of federal R&D investments. The National Institutes of Health (NIH) and the National Science Foundation (NSF), under the auspices of Office of Science and Technology Policy (OSTP), are leading this project. This project has been developed after a successful pilot project was conducted with several research institutions in the Federal Demonstration Partnership (FDP). The STAR METRICS project consists of two implementation levels:

Level I

Developing uniform, auditable and standardized measures of the impact of science spending (ARRA and non-ARRA) on job creation, using data from research institutions' existing database records. No personally identifiable information (PII) is collected in Level I.

Level II

Developing measures of the impact of federal science investment on scientific knowledge (using metrics such as publications and citations), social outcomes (e.g. health outcomes measures and environmental impact factors), workforce outcomes (e.g. student mobility and employment), and economic growth (e.g. tracing patents, new company start-ups and other measures). Data elements that will be collected in Level II will be collectively determined in consultation with Institutions that have joined Level I.

What is STAR METRICS?

STAR METRICS™ - Science and Technology for America's Reinvestment: Measuring the Effect of Research on Innovation, Competitiveness and Science, is a multi-agency venture led by the National Institutes of Health, the National Science Foundation (NSF) and the White House Office of Science and Technology Policy (OSTP).

Mini Search

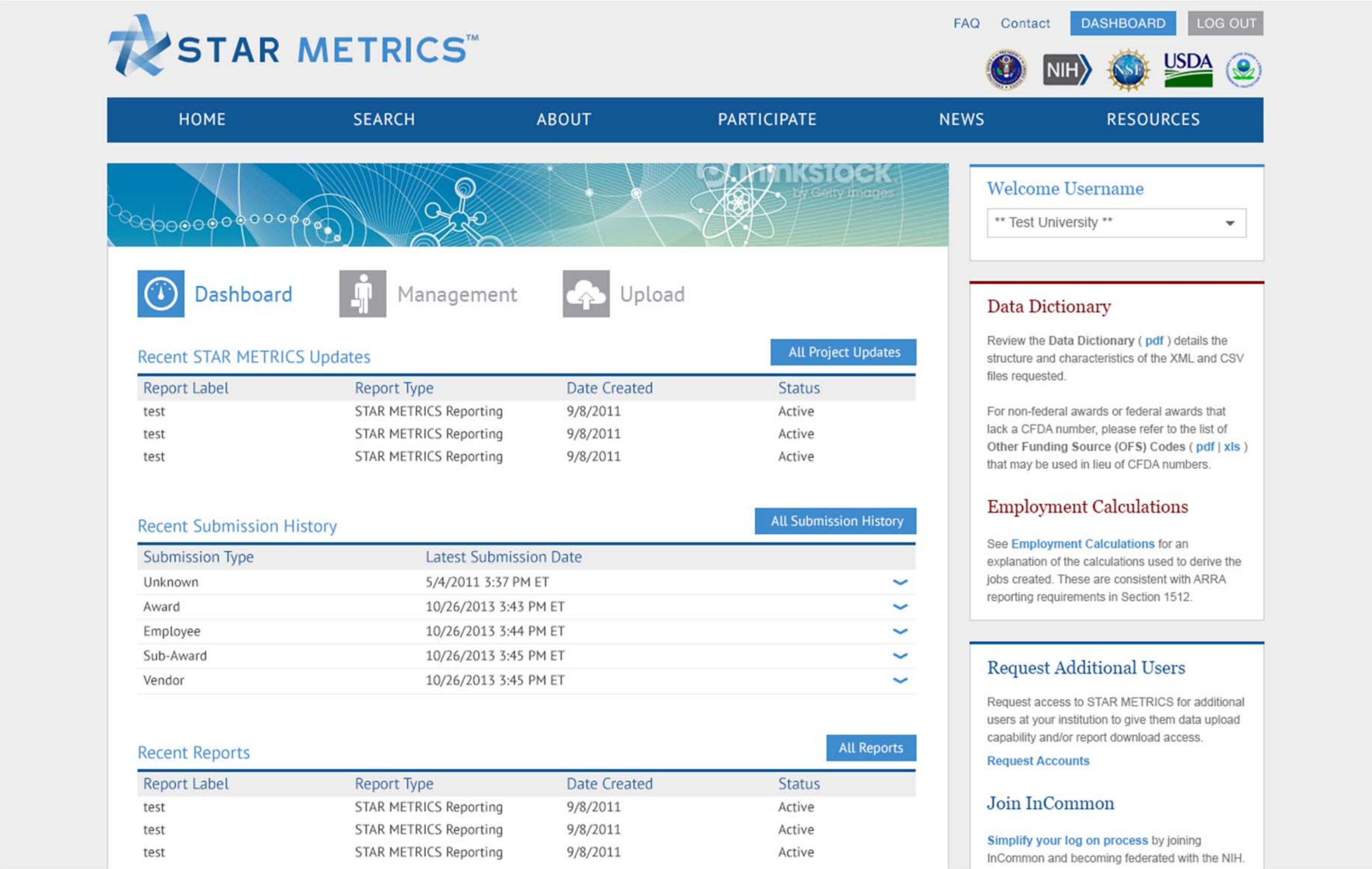
Research Institutions:

Fiscal Year:

Project Number:

Duns Number:

Institution Page


STAR METRICS™
FAQ
Contact
DASHBOARD
LOG OUT
NIH
USDA
HOME
SEARCH
ABOUT
PARTICIPATE
NEWS
RESOURCES
thinkstock by Getty Images
Dashboard
Management
Upload
All Project Updates
All Submission History
All Reports

Welcome Username

** Test University **

Recent STAR METRICS Updates

Report Label	Report Type	Date Created	Status
test	STAR METRICS Reporting	9/8/2011	Active
test	STAR METRICS Reporting	9/8/2011	Active
test	STAR METRICS Reporting	9/8/2011	Active

Recent Submission History

Submission Type	Latest Submission Date
Unknown	5/4/2011 3:37 PM ET
Award	10/26/2013 3:43 PM ET
Employee	10/26/2013 3:44 PM ET
Sub-Award	10/26/2013 3:45 PM ET
Vendor	10/26/2013 3:45 PM ET

Recent Reports

Report Label	Report Type	Date Created	Status
test	STAR METRICS Reporting	9/8/2011	Active
test	STAR METRICS Reporting	9/8/2011	Active
test	STAR METRICS Reporting	9/8/2011	Active

Data Dictionary

Review the **Data Dictionary** (pdf) details the structure and characteristics of the XML and CSV files requested.

For non-federal awards or federal awards that lack a CFDA number, please refer to the list of **Other Funding Source (OFS) Codes** (pdf | xls) that may be used in lieu of CFDA numbers.

Employment Calculations

See **Employment Calculations** for an explanation of the calculations used to derive the jobs created. These are consistent with ARRA reporting requirements in Section 1512.

Request Additional Users

Request access to STAR METRICS for additional users at your institution to give them data upload capability and/or report download access.

Request Accounts

Join InCommon

Simplify your log on process by joining InCommon and becoming federated with the NIH.

NIH National Institutes of Health
Office of Extramural Research

Acknowledgments

- STAR METRICS Executive Committee
- STAR METRICS Interagency Working Group

- NIH DATA Systems

Logo

STAR METRICS™