R&D Project XML Service

About

Project summaries of ongoing or recently completed Department of Energy research projects are available for online searching in this publicly accessible database. Projects pertain to a range of R&D disciplines in energy, science, and technology. The database includes projects that DOE sponsored through a variety of funding mechanisms, including grants, contracts, or cooperative agreements. This application was developed by the Office of Scientific and Technical Information as a means for the DOE to educate and inform the general public of its R&D activities.

Getting Started

The R&D Project XML service is available from the URL:

http://www.osti.gov/rdprojects/rdxml/

Using the R&D Project XML Service

The parameters for each service are: ?CriteriaKeyword= where CriteriaKeyword is replaced by one of the criteria keywords listed below.

Criteria Keyword	
searchFor	principalInvestigatorAff
projectTitle	performanceLocationCity
projectDescription	performanceLocationZip
fiscalYear	startDateFrom
projectId	startDateTo
researchOrg	completionDateFrom
contractNumber	completionDateTo
sponsorOffice	enteredDateFrom
fundingMechanism	enteredDateTo
brCode	updateDateFrom
principalInvestigatorName	updateDateTo

Example

The URL for a search on "hydrogen" would be:

http://www.osti.gov/rdprojects/rdxml/?searchFor=hydrogen

Wildcards

Queries using wildcard operators can be performed. The asterisk (*) is used to search for words with spelling variations or contain a specified pattern of characters.

Example

The following URL will return all the items with "sustain" and any words with "sustain" as a stem in the project title.

http://www.osti.gov/rdprojects/rdxml/?projectTitle=sustain*

The URL returns the following truncated results.

```
<project_title>
SUSTAINING AND EXTENDING THE OPEN SCIENCE GRID: SCIENCE INNOVATION ON A
PETASCALE NATIONWIDE FACILITY
</project_title>

<project_title>
RESEARCH, DEVELOPMENT AND PLANNING FOR THE CENTER FOR SUSTAINABLE
ENERGY AT BRONX COMMUNITY COLLEGE
</project_title>
```

Search Requests with Spaces

Search requests with spaces should be separated by a "+".

Example

The URL for a search on the "new technology" would be:

http://www.osti.gov/rdprojects/rdxml/?searchFor=new+technology

The URL returns the following truncated result.

```
<description>
In response to a request from the Efficient Separations and Processes Crosscutting Program at DOE for
technologies to reduce the mobility of radionuclides in the environment, this program seeks to develop a
new technology which combines cation exchange and mineralization to reduce the solubility of heavy
metals (e.g., uranium) in the environment. An environmentally-acceptable chelating agent, phytic acid,
first sequesters the heavy metal ions by a cation exchange mechanism. It then slowly decomposes,
releasing phosphate which forms insoluble mineral phases with the actinides. Previous research has
established the basic principle of phosphate mineralization of actinides in different oxidation states,
identified the mineral phases, determined phytate decomposition rates and verified that actinide phytates
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decompose to produce phosphates. We have also demonstrated that calcium phytate is an effective cation exchange medium, coprecipitation mechanisms enhance stability of the solids, and the procedure has been successfully tested using soils from the Fernald site. The process has been demonstrated for plutonium isotopes, with humic materials present and with a second soil sample. Activities during fiscal year 1998 include preparation of literature reports, two final presentations, laboratory cleanup, and waste disposal.
  </description>

Search Requests with Multiple Search Terms

The Boolean AND operator is used to search for multiple terms within one field.

Example

The following URL searches fields containing both the words "hydrogen" and "oxygen" in the title.

http://www.osti.gov/rdprojects/rdxml/?searchFor=hydrogen%20AND%20oxygen

The characters %20 must be added before and after the AND operator.

The URL returns the following truncated result.

  <description>
The goal of this research program is to improve the yield and quality of coal gas for application with carbonate fuel cells. High potassium ash derived by co-gasifying biomass and coal will be investigated as an inexpensive gasification catalyst. Molten carbonate fuel cells internally reform methane (CH4) to hydrogen H2 and carbon monoxide (CO) that the cells consume electrochemically. Energy conversion efficiencies can exceed 50% with methane fuel. These fuel cells can also use coal gas produced from coal gasification as a fuel source. Successful integration of coal gasifier and carbonate fuel cell will depend on maximizing the yield of methane from the coal gas. Methane is favored thermodynamically when gasifying at high pressures, low temperatures, and low oxygen concentrations. Catalysts become important in maintaining gasification rates as reaction temperature decreases. Alkali metal compounds, especially those containing potassium, are excellent promoters of gasification reactions. Fast-growing biomass, which contains larger quantities of potassium, may prove to be an excellent source of inexpensive gasification catalyst. However, the feasibility of co-gasifying bituminous coal and biomass to exloit the catalytic properties of the potassium in the biomass has never been evaluated. The research will combine tests in a thermogravimetric analyzer and bench-scale, pressurized gasifier.
  </description>

Search Options

The table below lists various search options that can be used to sort results.

Additional Search Options	
completion_date	Sorts the data by the date the project was completed
entered_date	Sorts the data by the date the project was entered
last_update	Sorts the data by the date the project was last updated
nrows	Indicates the number of rows desired per page of results. Once this value is specified, it is retained for all other searches in the client's session. The default number of results per page is 25.
project_id	Sorts the data by project id
project_title	Sorts the data alphabetically by project title
start_date	Sorts the data numerically by the date the project started

One or more search options may be specified in the URL. Specify each as with search criteria, separated by ampersands (&).

Sorting

Results may be sorted by a number of specifications in ascending (ASC) or descending (DESC) order.

Example

The following URL performs a search for projects funded by fiscal year 2008 and sorted by start date in descending order.

 http://www.osti.gov/rdprojects/rdxml/?fiscalYear=2008&SortBy=start_date&SortOrder=DESC

Please note that specifying certain sort criteria in addition to large result page sizes may affect query performance.

Requesting Pages within Search Results

By default, a request returns only the first page of results. The page search option can return multiple pages of search results. After an initial query is performed, the XML returned will indicate a queryId value. This queryId is maintained for the duration of a search session, usually about 30 minutes of activity.

Example

If a search for "hydrogen" has already been performed with a queryId value of 13 returned in the results, then the second page of the results may be obtained with the following URL.

 http://www.osti.gov/rdprojects/rdxml/?queryId=13&page=2

More Information

For more information about OSTI's R&D Project XML Services, please visit:

http://www.osti.gov/rdprojects/information.jsp

Specific inquiries can be submitted via the R&D Project Summaries comments form.

http://www.osti.gov/rdprojects/comments.jsp