

# NREL Publications

## **NREL Publications Database User Guide**

Updated July 2017

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## Simple Search

Use this database to search for publications by the National Renewable Energy Laboratory (NREL). It features energy-related publications from 1977 to the present.

Publications include technical reports, journal articles, conference papers, patents, presentations, books, fact sheets, and brochures.

**USAGE NOTES**

- Some journal articles may only be accessible to those with existing subscriptions. Purchasing an individual article from the journal may also be an option.
- Some NREL publications may contain outdated information. To find the latest information, we suggest refining your search by publication date.

**SEARCH TIPS**

Search by:

- Phrases in quotes, eg., "pv system prices"
- Keyword
- Last five digits of publication number

Refine search by using:

- Publication date "From" and "To"
- Facets by resource type, subject, and authors

**NREL STAFF**  
Sign in above to save items to your e-Shelf. For detailed metrics, [contact us](#).

**USER GUIDE**  
For detailed information on how to use this database, [see the user guide](#).

**CONTACT US**  
Can't find what you're looking for? Please [contact us](#).

**Guest** – search the database as a guest or **Sign in** to save queries and publications permanently  
**e-Shelf** – save favorites in the e-Shelf

**My Account** – access and manage all saved queries, publications, and personal information

**Sign in** – save records permanently and experience enhanced functionality with e-shelf and queries such as copy, paste records, and folders.

**Simple Search will search within the entire record.  
 To limit results to a certain field, use Advanced Search.**

### Using a phrase search

Use quotation marks to search for a specific phrase.	<b>EXAMPLES:</b> "solar irradiance" "net zero" "grid integration"
Searching without quotation marks will result in records containing any of your search terms.	

**Boolean operators: You can use AND, OR, NOT in your search.  
The default is AND between terms.**

## Using OR

Use OR between terms to widen search for multiple terms.

Enter OR in uppercase, otherwise the system will see it as part of your search.

EXAMPLES:

TV OR Television  
University OR College  
Photovoltaic OR PV

## Using NOT

Use NOT to exclude terms from your search.

Enter NOT in uppercase, otherwise the system will see it as part of your search.

EXAMPLES:

Film NOT Photography  
Radiation NOT Nuclear  
Stress NOT Metal

## Grouping terms

Group terms that you wish to search for together in parentheses.

Enter OR in uppercase, otherwise the system will see it as part of your search.

EXAMPLES:

(solar OR photovoltaic) grid  
(wind OR turbine) gearbox  
(algae OR ethanol) biofuel

## Using a truncation symbol

Use a truncation symbol to perform a multiple character wildcard search or find variations in word endings.

The truncation symbol is an asterisk \*.

EXAMPLES:

Behavio\*r = behavior, behaviour  
Analy\* = analysis, analyses, analyst  
Manag\* = manage, manager, management, managing

## Using a wildcard

Use a wildcard to replace a letter within a word.

The wildcard symbol is a question mark ?.

EXAMPLES:

Wom?n = woman, women  
Organi?ation = organisation, organization

## Advanced Search

The **Advanced Search** page has numerous search boxes to enable more flexible searching. Here you can also narrow your search to title, author/creator, subject, journal/conference, or producing center. You can also select publication date ranges (last year, last 2 years, last 5 years, etc.) and material type (book, journal, etc.) on the right. Use the simple search rules to search effectively.

### Refining your search

Use the drop down boxes next to your terms to refine your search. Narrow your search to a specific field (title, author/creator, and/or subject), and limit results to those which contain, exactly match, or start with your terms.

## Facets

Facets are generated on the left of the results screen from the top results in your search.

**Refine My Results**

**Resource Type**  
[Articles](#) (133)  
[Conference Paper](#) (125)  
[Technical Report](#) (121)  
[Subcontract Report](#) (97)  
[Brochure](#) (73)  
More options ▾

**Subject**  
[Ethanol](#) (160)  
[Algae](#) (72)  
[Biomass](#) (70)  
[Biomass energy](#) (55)  
[Biodiesel](#) (41)  
More options ▾

**Author/Creator**  
[Wyman, C](#) (46)  
[Schell, D](#) (41)  
[Aden, A](#) (29)  
[Tucker, M](#) (25)  
[Zhang, M](#) (25)  
More options ▾

**Publication Date**

From  To  Refine

1900 2015

More options ▾

Suggested New Searches

**by this author/creator:**  
[Wyman, C](#)  
[Schell, D](#)  
[Aden, A](#)  
[Tucker, M](#)  
[Zhang, M](#)

**on this subject:**  
[Ethanol](#)  
[Algae](#)  
[Biomass](#)  
[Biomass energy](#)  
[Biodiesel](#)

**More options** can be selected to expand each facet, and multiple selections can be made from within the pop-up menu: include and exclude as many options as desired to narrow your results.

**Refine Search**

Include	Exclude	Subject
<input type="checkbox"/>	<input type="checkbox"/>	Biomass energy (29)
<input type="checkbox"/>	<input type="checkbox"/>	Algae (24)
<input type="checkbox"/>	<input type="checkbox"/>	Ethanol (20)
<input type="checkbox"/>	<input type="checkbox"/>	Biomass (15)
<input type="checkbox"/>	<input type="checkbox"/>	Biodiesel (11)
<input type="checkbox"/>	<input type="checkbox"/>	Microalgae (10)
<input type="checkbox"/>	<input type="checkbox"/>	Cellulosic ethanol (9)
<input type="checkbox"/>	<input type="checkbox"/>	ALGAL (8)
<input type="checkbox"/>	<input type="checkbox"/>	BIOFUEL (6)
<input type="checkbox"/>	<input type="checkbox"/>	Methanol (6)
<input type="checkbox"/>	<input type="checkbox"/>	BIOCHEMICAL (5)
<input type="checkbox"/>	<input type="checkbox"/>	ADVANCED BIOFUELS (5)
<input type="checkbox"/>	<input type="checkbox"/>	ALGAL BIOFUELS (5)
<input type="checkbox"/>	<input type="checkbox"/>	PRETREATMENT (4)
<input type="checkbox"/>	<input type="checkbox"/>	Lipids (4)
<input type="checkbox"/>	<input type="checkbox"/>	CRADA (4)
<input type="checkbox"/>	<input type="checkbox"/>	AQUATIC SPECIES PROGRAM (4)
<input type="checkbox"/>	<input type="checkbox"/>	ALTERNATIVE FUELS (4)
<input type="checkbox"/>	<input type="checkbox"/>	Gasification (3)

Continue Cancel

Select a date range for your results: **Creation Date** is the same as Publication Date, and in the **More options** pop-up, you can select a date range and see the number of results per range.

**Refine Search**

Include	Exclude	Creation Date
<input type="checkbox"/>	<input type="checkbox"/>	Before 1985 (114)
<input type="checkbox"/>	<input type="checkbox"/>	1985 To 1991 (118)
<input type="checkbox"/>	<input type="checkbox"/>	1992 To 1998 (258)
<input type="checkbox"/>	<input type="checkbox"/>	1999 To 2006 (150)
<input type="checkbox"/>	<input type="checkbox"/>	After 2006 (255)

### Suggested new searches:

Suggests the most prolific authors/creators of subject matter related to your current search, and related subject terms.

## Search Tips

The NREL Publications Database contains information about publications developed or written by NREL staff and subcontractors since 1977. This section offers some tips and tricks to help locate resources – whether searching a known subject or starting from scratch.

### Search for a specific author

Authors are often credited differently across different types of publications and citations vary throughout the database. The most common inconsistency is when authors are credited with a second/middle initial.

Records in the NREL Publications Database contain the names exactly as they appear on the documents themselves. To maximize results for specific authors, search using this format:

“LastName FirstInitial”	EXAMPLE: “Smith, A”
This will result in all pubs authored by LastName, including those where the author is credited with first initial only and those with a second initial as well.	

To locate publications solely by the first initial, excluding any containing a middle initial, use this format:

“FirstInitial LastName”	EXAMPLE: “A Smith”
This will limit results to first initial only. This is useful, for example, if you are trying to differentiate between a John Smith and a John R. Smith.	

**NOTE:** Outreach publications (fact sheets, brochures, etc.) generally do not have credited authors. Unless an author is specifically credited on the document itself, no author is listed in the database. To locate this type of resource, search by title, keyword, or publication date.

### Search for a specific topic/subject area/keyword

By selecting the **in subject** limiter, search will return results that contain and/or exactly match the search term.

in subject	▼	is (exact)	▼	Natural gas
Any	▼	contains	▼	

Once you are viewing search results, browse subject terms in individual records and select them to view all publications associated with each term.

**PR** ☆ U.S. Electric Power Futures: Preliminary Results (Presentation). NREL (National Renewable Energy Laboratory)  
A Lopez; J Logan; T Mai 2012  
NREL/PR-6A20-55826  
● Online access

[View Online](#) [Details](#)

**Title:** U.S. Electric Power Futures: Preliminary Results (Presentation). NREL (National Renewable Energy Laboratory)  
**Author:** A Lopez; J Logan; T Mai  
**Subjects:** REEDS; CAPACITY EXPANSION; Natural gas; CLEAN ENERGY STANDARD  
**Description:** This presentation shows key findings of an effort to simulate the evolution of the U.S. power sector under a number of policy and technology scenarios using the Regional Energy Deployment System (ReEDS) Model.  
**Creation Date:** 2012  
**Format:** 22 pp.  
**Source:** NREL Publications Database

Use the facets on the left to include or exclude additional subject terms related to your search results. Choose as many or few as desired from the pop-up menu.

NREL Publications

in subject is (ex) Any ▼ contain

Search Clear

rss Add page to e-Shelf

Show only Full Text Online (203)

Refine My Results  
Resource Type  
Technical Report (39)  
Brochure (37)  
Subcontract Report (26)  
Books (5)  
Conference Paper (4)  
More options ▼

Subject  
Natural gas (98)  
CNG (48)  
Compressed natural gas (42)  
CLEAN CITIES (38)  
INDUSTRIAL ENERGY EFFICIENCY (36)  
DOE (34)  
BIODIESEL (33)  
Propane (27)  
INDUSTRIAL TECHNOLOGIES PROGRAM (ITP) (26)  
NATURAL GAS SAVING TIPS (26)  
INDUSTRIAL STEAM SYSTEMS (26)  
U.S DEPARTMENT OF ENERGY (26)  
STEAM SYSTEM IMPROVEMENTS (26)  
ITP BESTPRACTICES (26)  
MONEY AND ENERGY SAVING TIPS (26)  
ITP STEAM BESTPRACTICES (25)  
Ethanol (25)  
ALTERNATIVE FUELS (18)  
Fuel switching (17)  
Liquefied natural gas (17)

Continue Cancel

Description: This presentation shows key findings of an effort to simulate the evolution of the U.S. power sector under a number of policy and technology scenarios using the Regional Energy Deployment System (ReEDS) Model.  
Creation Date: 2012  
Format: 22 pp.  
Source: NREL Publications Database

**TP** ☆ Opportunities for Synergy Between Natural Gas and Renewable Energy in the Electric Power and Transportation Sectors  
A Lee; O Zinaman; J Logan 2012  
NREL/TP-6A50-56324  
● Online access

By selecting the **in the title** limiter, search will return results that contain, exactly match, and/or start with the search term. This is an effective way to locate specific series of publications, such as the Island Energy Snapshot series, NREL Highlights fact sheets, and *Continuum Magazine*.

in the title	contains	Continuum Magazine
Any	contains	

## Search by publication number

NREL publication numbers are comprised of several elements:

### EXAMPLE: NREL/TP-5000-63267

- A prefix denoting whether the document was published by NREL, or earlier in the lab's history when it was the Solar Energy Research Institute (SERI)
- A lettered code denoting the document type (TP = technical report, SR = subcontract report, FS = fact sheet, etc.)
- A number representing which NREL research center authored the document (5000 = National Wind Technology Center, 6A20 = Strategic Energy Analysis, 5K00 = Materials Science, etc.)
- A publication number, generally five digits.

If you know the number of the publication you're looking for, search for either the entire publication number or the last part of the string (63267 in the example above).

## Search by DOE number

Documents published by DOE's Golden Field Office are assigned publication numbers comprised of several elements:

### EXAMPLE: DOE/GO-102015-4619

- A prefix denoting the Golden Field Office's involvement
- A numeric code representing the calendar year the document was published
- A four-digit publication number.

If you know the number of the publication you're looking for, search for either the entire publication number or the last part of the string (4619 in the example above).

## Start and end date

The Advanced Search section allows you to search a publication date range. Please note that results tend to improve when searching within specific years instead of specific days. For more exact ranges, including quarterly or annual metrics, contact Publication Services for assistance.

The screenshot shows the search interface with the following elements:

- Two search criteria fields, each with a dropdown menu set to "Any" and a "contains" operator dropdown.
- A "Publication Date:" dropdown menu set to "Any year".
- A "Material Type:" dropdown menu set to "All items".
- A "Language:" dropdown menu set to "Any language".
- "Start Date:" and "End Date:" fields, each consisting of three dropdown menus for "Day", "Month", and "Year". These two date fields are circled in red.
- Buttons for "Search", "Clear", and "Simple Search" at the bottom.

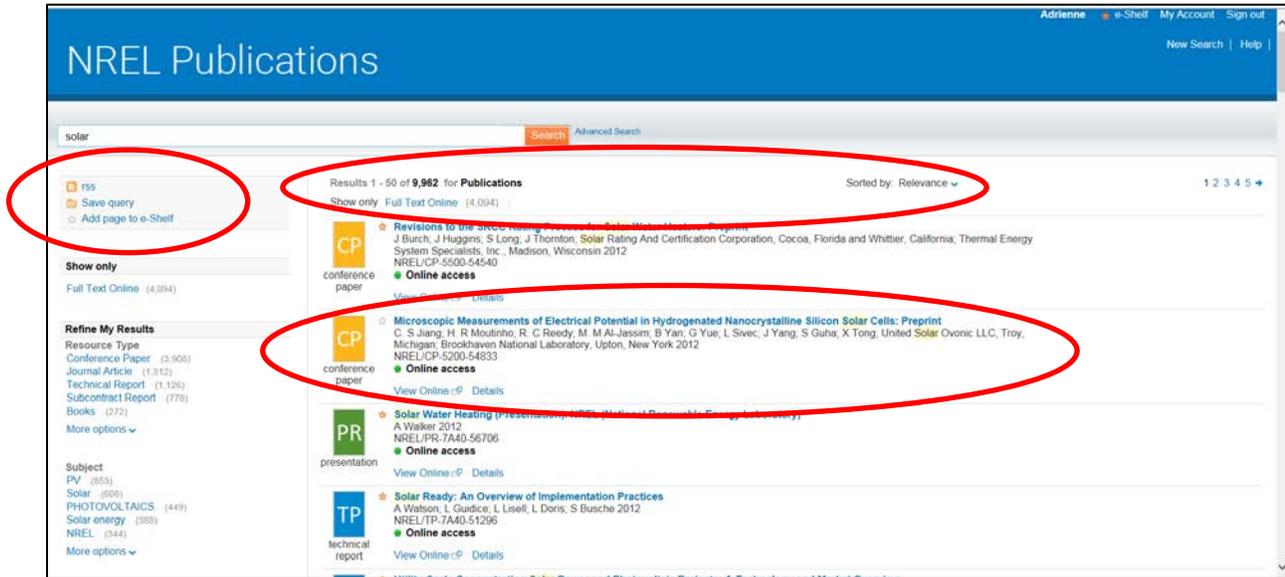
## Search for a specific center's publications

To locate publications authored or co-authored by a certain center, select producing center from the advanced search dropdown and enter the center number in the search field.

## Metrics and reports

If you need specialized metrics data, please contact [Publication Services](#) for assistance.

## Search Example



Searching by Solar, using Simple Search, the above results are given.

 [rss](#)

 [Save query](#)

 [Add page to e-Shelf](#)

**RSS** – view feed of news topics related to your search.

**Save query** – save your search query by clicking here. Access saved queries by clicking My Account in upper right, then choosing Queries tab. Note: you must be logged in to save queries.

**Add page to e-Shelf** – click here to add all results either temporarily or login and save it permanently to “e-Shelf” in top right corner. OR click on star for single publication, and the record will be saved automatically in the e-Shelf. Access saved results in e-Shelf at top right corner.

## Search results

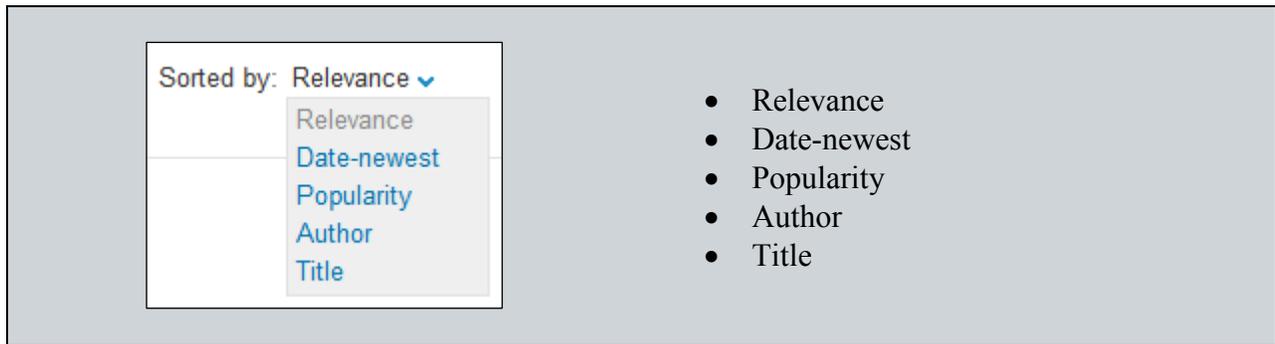


### Show only

Full Text Online: Limit to electronic or online only listing

## Sort by

Click Sorted by for additional list sorting options:



The screenshot shows a 'Sorted by: Relevance' dropdown menu with the following options: Relevance, Date-newest, Popularity, Author, and Title. To the right of the menu is a bulleted list of these same options.

- Relevance
- Date-newest
- Popularity
- Author
- Title

## Publication record

Click the publication title, publication icon, View Online, or Link to Resource to download publication.



The screenshot shows a publication record for 'Revisions to the SRCC Rating Process for Solar Water Heaters: Preprint'. The following elements are circled in red:

- The 'CP conference paper' icon.
- The publication title: 'Revisions to the SRCC Rating Process for Solar Water Heaters: Preprint'.
- The 'View Online' link.
- The 'Actions' dropdown menu.
- The 'Link to Resource' link in the 'Links' section.

The record includes the following details:

- Title:** Revisions to the SRCC Rating Process for Solar Water Heaters: Preprint
- Author:** J Burch; J Huggins; S Long; J Thornton; Solar Rating And Certification Corporation, Cocoa, Florida and Whittier, California; Thermal Energy System Specialists, Inc., Madison, Wisconsin
- Subjects:** Solar water heaters; RATINGS; SOLAR WATER HEATER MODELS; ANALYTICAL TESTING
- Description:** In the United States, annual performance ratings for solar water heaters are computed with component-based simulation models driven by typical meteorological year weather and specified water draw. Changes in the process are being implemented to enhance credibility through increased transparency and accuracy. Changes to the process include using a graphical rather than text-based model building tool, performing analytical tests on all components and systems.

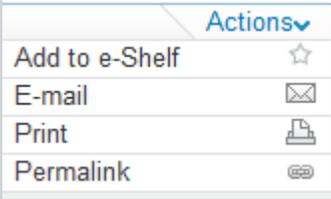
## Detailed view

Click Details for information such as title, author, subjects, description (abstract), creation (publication) date, format (pages), and source.

Authors (including non-NREL co-authors' affiliations) and subjects are clickable: locate other publications with those attributes by clicking them.

## Actions

Click Actions at right to view drop-down of these options:

	<ul style="list-style-type: none"><li>• <b>Add to e-Shelf</b> – login to add to your e-Shelf</li><li>• <b>E-mail</b> – email this citation</li><li>• <b>Print</b> – print record</li><li>• <b>Permalink</b> – generate a permanent URL link for this record</li></ul>
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## Check holdings

This means the publication may not be readily available online. Contact the library for a copy at 303-275-4215 or [library@nrel.gov](mailto:library@nrel.gov).

	☆ <b>Solar Technical Assistance Team (Fact Sheet). S</b> 2012 DOE/GO 102012-3689
fact sheet	<b>● Check holdings</b>
	<a href="#">Details</a>

## Using e-Shelf

The screenshot shows the NREL Publications Database interface. At the top, a search bar contains the term 'solar'. Below the search bar, there are tabs for 'e-Shelf', 'Queries', and 'My Account'. The 'e-Shelf' tab is active, displaying a 'Basket (7)' folder. A table lists items in the basket:

Type	Author	Title	Added
abstract	H L Chum	Renewable Energy and Climate Change. Abstract No. IEC-36	05/22/15
conference paper	J Burch, J Huggins, S Long, J Thornton, Solar Rating And Certificati...	Revisions to the SRCC Rating Process for Solar Water Heaters...	05/22/15
technical report	M Mendelsohn, T Lowder, B Canavan	Utility-Scale Concentrating Solar Power and Photovoltaic Projects...	06/08/15
conference paper	B Stafford, M Coddington, R Butt, S Solomon, G Wiegand, C Wagne...	Design and Performance of Solar Decathlon 2011 High Penetrati...	06/08/15
presentation	A Walker	Solar Water Heating (Presentation). NREL (National Renewabl...	06/08/15
technical report	A Watson, L Guidice, L Lisell, L Doris, S Busche	Solar Ready: An Overview of Implementation Practices	06/08/15
conference paper	R Pwko, L Roose, K Orwig, M Matsuura, D Corbus, M Schuerger, G...	Hawaii Solar Integration Study. Solar Modeling Developments an...	06/08/15

Below the table, details for the selected item are shown:

**Renewable Energy and Climate Change. Abstract No. IEC-36**  
 H. L. Chum 2012  
 NREL/AB-4A00-56368  
 Check holdings

**Title:** Renewable Energy and Climate Change. Abstract No. IEC-36  
**Author:** H. L. Chum  
**Description:** The Intergovernmental Panel on Climate Change issued the Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN) at <http://srren.ipcc-wg3.de/> (May 2011 electronic version, printed form ISBN 978-1-107-60710-1, 2012). More than 130 scientists contributed to the report.\* The SRREN assessed existing literature on the future potential of renewable energy for the mitigation of climate change within a portfolio of mitigation options including energy conservation and efficiency, fossil fuel switching, RE, nuclear and carbon capture and storage (CCS). It covers the six most important renewable energy technologies - bioenergy, direct solar, geothermal, hydropower, ocean and wind, as well as their integration into present and future energy systems. It also takes into consideration the environmental and social consequences associated with these technologies, the cost and strategies to overcome technical as well as non-technical obstacles to their application and diffusion.  
**Creation Date:** 2012

e-Shelf allows you to save and organize items that you find during your session. To access e-Shelf, click the e-Shelf link at the top of the page.

### *Saving items to e-Shelf*

When you select the **Star** icon for an item in the search results, the system highlights the icon and adds the item to the **Basket** folder in e-Shelf. **NOTE:** You must sign in to save items in e-Shelf for future sessions.

### *Removing items from e-Shelf*

To remove an item and all of its copies in the various folders in e-Shelf, select the highlighted **Star** icon next to the item in the search results. If you do not want to delete all copies of an item in e-Shelf, you must remove each copy directly from e-Shelf.

### *Viewing items saved in e-Shelf*

To view items that are saved in e-Shelf, click the e-Shelf link at the top of the page. From the list of items, click the item that you want to display.

### Managing folders

From the e-Shelf tab, you can perform the following operations on folders:

Button	Description
	Create folder – add a new folder under the selected folder.
	Rename folder – rename the selected folder.
	Copy folder – copy the selected folder into memory. The original folder will not be changed or deleted.
	Paste folder – paste the last folder placed into memory into the selected folder.
	Delete folder – delete the selected folder from basket.

### Managing Items

From the e-Shelf tab, you can perform the following operations on items:

Button	Description
	Cut items – cut the selected items and to place them into memory.
	Copy items – copy the selected items into memory.
	Paste item – paste the last items placed into memory into the current folder.
	Delete items – delete the selected items.
email	Email items – email the selected items.
Print	Print items – print the selected items.
	Save items – select an option (such as Push to EasyBib) from the Save pull-down list and then click this button to save the selected items.
	Add note – add a note to an item.
	Modify note – modify an item's note.

## Why Should I Sign In?

When you sign into the Publications Database, you are able to do the following:

- **Set preferences for your current and future sessions.** You can set your preferences to reflect the way you usually search, and save them for future sessions.
- **Permanently add items you found and queries you submitted.** Save publications to your e-Shelf and save results queries for future use.
- **Set alerts for your queries.** You can set a query to become an alert, that is, to run automatically and send you email notifications once it locates new items answering your search criteria.
- **Use library services.** You can benefit from library services such as requesting or recalling items.

## Why Should I Sign Out?

You should sign out so that your searches remain private and your personal settings and account are not tampered with by anyone.

## Personal Settings

My Account enables you to view the contents of your e-Shelf, saved queries, and personal account settings.

You can tailor the user interface so that it reflects the way you usually search. For example, you can specify the default language, the maximum numbers of search results per page, your default email address, and your cell phone number. To set your preferences, click the **Personal Settings** option on the left side of My Account. Note: To keep your settings for future sessions, you must sign in and save your preferences.

## Contact

For questions or help with the NREL Publications Database, contact Publication Services.

[publications@nrel.gov](mailto:publications@nrel.gov)