



Energy Materials Network
U.S. Department of Energy



HydroGEN
Advanced Water Splitting Materials

Zotero – H2awsm Group

Author Name – Jason Youngstrom, NREL

Date – 11/15/2018

Venue - Webinar





- Cloud-based bibliographic management
 - Synchronized desktop and cloud clients
 - Extensions for Firefox and Chrome
 - Shared groups
 - Custom file structure
 - Custom and metadata tagging
 - Notes capabilities
 - Easy entry
 - From Firefox and Chrome items are saved in the open folder
 - Items can be saved using DOI in the desktop client



- H2 AWSM Zotero group

<http://bit.ly/H2awsms>

- Invitation only. Email Jason.Youngstrom@nrel.gov for an invitation
- Invitations were originally sent out on 3/15/18



Zotero Web Client (Firefox)

Home > Groups > H2awsm > Library > Publications Photoelectrochemistry (PEC)

Library

- Publications LTE
- Publications Photoelectrochemistry (PEC)**
- Publications Solar Thermochemical (STCH)
- Resources HTE
- Resources LTE
- Resources PEC
- Resources STCH
- Trash

Tags

Accelerated ... Activation I... Active corro... Activity

AEM alkaline aluminum cur... Anode electr...

anodic disso... Anodic oxida... Barium cerat...

Barium zirco... Baselines Benchmarked Benchmarking

Bipolar plat... Bipolar plat... Catalyst coa... Catalyst deg...

Catalyst sta... Catalytic la... Cation conta... Cell failure

Characteriza... Chemicals

[More Refresh](#)

[Subscribe to this feed](#)

Title	Creator	Year	Date Added
Self-optimizing, highly surface-active layered metal dichalc...	Liu et al.	2017	4/18/2018 4:34 PM
Integrating Ab Initio Simulations and X-ray Photoelectron Sp...	Pham et al.	2018	3/1/2018 1:05 PM
Solar Water Oxidation by an InGaN Nanowire Photoanode with a...	Chu et al.	2018	3/1/2018 1:04 PM
Assessing the role of hydrogen in Fermi-level pinning in cha...	Varley et al.	2018	3/15/2018 2:53 PM
Low-Cost, Efficient, and Durable H2 Production by Photoelect...	Muzzillo et al.	2018	7/19/2018 4:33 PM

1 to 5 of 5



Zotero Desktop (Mac)

Synchronize the desktop with the cloud using this button



The screenshot shows the Zotero Desktop application interface. On the left is a sidebar with a folder tree. The main area displays a list of publications with columns for Title, Creator, and Date. On the right is a detailed view of a selected publication.

Title	Creator	Date
Low-Cost, Efficient, and Durable H2 Production by Photoelectrochemical Water Splitting with CuGa3Se5 Photocatho...	Muzzillo et al.	June 13, 2018
Assessing the role of hydrogen in Fermi-level pinning in chalcopyrite and kesterite solar absorbers from first-princip...	Varley et al.	March 7, 2018
Solar Water Oxidation by an InGaN Nanowire Photoanode with a Bandgap of 1.7 eV	Chu et al.	February 9, 2018
Integrating Ab Initio Simulations and X-ray Photoelectron Spectroscopy: Toward A Realistic Description of Oxidized ...	Pham et al.	January 4, 2018
Self-optimizing, highly surface-active layered metal dichalcogenide catalysts for hydrogen evolution	Liu et al.	2017

Info	Notes	Tags	Related
Item Type	Journal Article		
Title	Solar Water Oxidation by an InGaN Nanowire Photoanode with a Bandgap of 1.7 eV		
Author	Chu, Sheng		
Author	Vanka, Srinivas		
Author	Wang, Yichen		
Author	Gim, Jiseok		
Author	Wang, Yongjie		
Abstract	The performance of overall solar water spli...		
Publication	ACS Energy Letters		
Volume	3		
Issue	2		
Pages	307-314		
Date	February 9, 2018		m d y
Series Title			
Series Text			
Journal Abbr	ACS Energy Lett.		
DOI	10.1021/acsenerylett.7b01138		
Short Title			
URL	https://doi.org/10.1021/acsenerylett.7b01...		
Accessed			
Archive			
Library Catalog	ACS Publications		
Date Added	3/1/2018, 1:04:09 PM		
Modified	3/1/2018, 1:04:09 PM		

The H2awsm group is organized by technology, with folders for:

- publications by group members
- benchmark resources
- Items that have not be filed appear in the unfiled items folder



Adding Items by Browser Extensions

The screenshot shows a web browser window with the ScienceDirect article page for "Stability of nanostructured iridium oxide electrocatalysts during oxygen evolution reaction in acidic environment". A red arrow points to the WILD browser extension icon in the browser's toolbar. The page content includes:

- ScienceDirect** logo and navigation links (Journals & Books, Jason Youngstrom, etc.)
- Download PDF and Export buttons
- Search ScienceDirect and Advanced search options
- Article title: **Stability of nanostructured iridium oxide electrocatalysts during oxygen evolution reaction in acidic environment**
- Journal: **Electrochemistry Communications**, Volume 48, November 2014, Pages 81-85
- Authors: Serhiy Cherevko, Tobias Reier, Aleksandar R. Zeradjanin, Zarina Pawolek, Peter Strasser, Karl J.J. Mayrhofer
- DOI: <https://doi.org/10.1016/j.elecom.2014.08.027>
- Open Access status: Under a Creative Commons license
- Highlights:
 - In-situ dissolution analysis by ICP-MS coupled to an electrochemical flow cell
 - Quantification of dissolved iridium catalyst and titanium support during OER
 - Activity and stability of electrocatalyst depend on nature of Ir oxide species.
 - There is no simple relationship between activity for OER and stability.
- Recommended articles section with links to "Effect of temperature on the activities and stability..." and "Advances in electrocatalysts for oxygen evolution..."
- Citing articles (71) and Article Metrics (Exports-Saves: 2, Readers: 263)
- Citations (Citation Indexes: 71)
- PLUMX logo and View details link
- Feedback button



Adding Items by DOI

Zotero

Q All Fields & Tags

Title	Creator	Date
Low-Cost, Efficient, and Durable H2 Production by Photoelectrochemical Water Splitting with CuGa3Se5 Photocathode...	Muzzillo et al.	June 13, 2018
Thermodynamic modeling of the hybrid sulfur (HyS) cycle for hydrogen production	Kaur et al.	March 25, 2018
Assessing the role of hydrogen in Fermi-level pinning in chalcopyrite and kesterite solar absorbers from first-principles	Varley et al.	March 7, 2018
Communication: The electronic entropy of charged defect formation and its impact on thermochemical redox cycles	Lany	February 16, 2018
Solar Water Oxidation by an InGaN Nanowire Photoanode with a Bandgap of 1.7 eV	Chu et al.	February 9, 2018
Solar Water Oxidation by an InGaN Nanowire Photoanode with a Bandgap of 1.7 eV	Chu et al.	February 9, 2018
Integrating Ab Initio Simulations and X-ray Photoelectron Spectroscopy: Toward A Realistic Description of Oxidized ...	Pham et al.	January 4, 2018
Evaluating Hydrogen Evolution and Oxidation in Alkaline Media to Establish Baselines	Alla and Pivovar	01/01/2018
Giant onsite electronic entropy enhances the performance of ceria for water splitting	Naghavi et al.	12/2017
Design of a pilot scale directly irradiated, high temperature, and low pressure moving particle cavity chamber for me...	Singh et al.	11/2017
Redox thermodynamics and phase composition in the system SrFeO 3-6 — SrMnO 3-6	Vieten et al.	10/2017
Exploring the Redox Behavior of La0.6Sr0.4Mn1-xAlxO3 Perovskites for CO2-Splitting in Thermochemical Cycles	Sastre et al.	9/2017
Self-optimizing, highly surface-active layered metal dichalcogenide catalysts for hydrogen evolution	Liu et al.	2017-09
Development of the hybrid sulfur cycle for use with concentrated solar heat. I. Conceptual design	Gorensek et al.	August 17, 2017
A novel CeO2-xSnO2/Ce2Sn2O7 pyrochlore cycle for enhanced solar thermochemical water splitting	Ruan et al.	08/2017
H2 O splitting via a two-step solar thermochemical cycle based on non-stoichiometric ceria redox reactions: Ther...	Schieber et al.	07/2017
Standardized Benchmarking of Water Splitting Catalysts in a Combined Electrochemical Flow Cell/Inductively Couple...	Spanos et al.	June 2, 2017
Quality Assurance of Solid Oxide Fuel Cell (SOFC) and Electrolyser (SOEC) Stacks	Lang et al.	05/30/2017
Solar thermochemical splitting of water to generate hydrogen	Rao and Dey	2017-05-18
Thermodynamic assessment of an electrically-enhanced thermochemical hydrogen production (EETHP) concept for ...	Babiniec et al.	05/2017
Renewable energy carriers derived from concentrating solar power and nonstoichiometric oxides	McDaniel	04/2017
Low-Cost and Durable Bipolar Plates for Proton Exchange Membrane Electrolyzers	Lettenmeier et al.	2017-03-15
A piezomicrobalance system for high-temperature mass relaxation characterization of metal oxides: A case study of ...	Simons et al.	03/2017
Anodic Behavior of the Aluminum Current Collector in Imide-Based Electrolytes: Influence of Solvent, Operating Tem...	Meister et al.	February 22, 2017
Materials for Proton Exchange Membrane water electrolyzer bipolar plates	Lædre et al.	February 2, 2017
A Decade of Solid Oxide Electrolysis Improvements at DTU Energy	Hauch et al.	01/11/2017
Electrochemical Hydrogen Compression: Efficient Pressurization Concept Derived from an Energetic Evaluation	Suermann et al.	01/01/2017
Understanding the Current-Voltage Behavior of High Temperature Solid Oxide Fuel Cell Stacks	Lang et al.	01/01/2017
Characterizing Voltage Losses in an SO2 Depolarized Electrolyzer Using Sulfonated Polybenzimidazole Membranes	Garrick et al.	01/01/2017
Critical Review—Identifying Critical Gaps for Polymer Electrolyte Water Electrolysis Development	Babic et al.	01/01/2017
A comparative overview of hydrogen production processes	Nikolaïdis and Poullikkas	01/2017
Vacuum pumping options for application in solar thermochemical redox cycles – Assessment of mechanical-, jet- an...	Brendelberger et al.	01/2017
Thermochemical CO ₂ splitting using double perovskite-type Ba ₂ Ca _{0.66}	Mulmi et al.	2017
Solar thermochemical splitting of CO ₂ into separate streams of CO and O ₂ with high sel...	Marxer et al.	2017
Self-optimizing, highly surface-active layered metal dichalcogenide catalysts for hydrogen evolution	Liu et al.	2017
Perovskite oxides – a review on a versatile material class for solar-to-fuel conversion processes	Kubicek et al.	2017
Thermodynamics of paired charge-compensating doped ceria with superior redox performance for solar thermoche...	Hoes et al.	2017
Solar photochemical-thermal water splitting at 140 °C with Cu-loaded TiO ₂	Docao et al.	2017
Applications and limitations of two step metal oxide thermochemical redox cycles; a review	Bulfin et al.	2017

248 items in this view



Adding Notes and Tags

The screenshot shows the Zotero application window. On the left is a sidebar with a folder tree. The main pane displays a table of publications. The selected publication is 'Communication: The electronic entropy of charged defect formation and its impact on thermochemical redox cycles' by Lany, Stephan, dated February 16, 2018. On the right, the 'Info' tab is active, showing detailed metadata for the article. A red arrow points to the 'Notes' tab in this panel.

Title	Creator	Date
Communication: The electronic entropy of charged defect formation and its impact on thermochemical redox cycles	Lany	February 16, 2018

- **Notes allow you to add comments on articles that are seen by all group members. Replies appear separately, allowing for ongoing commentary**
- **Tags are useful for search and sorting. Add tags for the technology (i.e. LTE) and organization (i.e. NREL)**
- **Searches are performed in the folder that is currently active. If you wish to search the entire collection select the H2awsm folder.**



Microsoft Word Integration

Use the Add/Edit Citation button while you write to add citations from Zotero

Then search your Zotero database to find the citation you are looking for

The screenshot illustrates the workflow for adding citations from Zotero to a Microsoft Word document. In the Word ribbon, the 'Add/Edit Citation' button is highlighted with a red arrow. This button is used to search the Zotero database for a specific citation. The search results are displayed in the Zotero window, where the top result, 'Evaluating Hydrogen Evolution and Oxidation in Alkaline Media to Establish Baselines' by Aia and Pivovar (2018), is highlighted. A second red arrow points from the search bar to this highlighted result, indicating the selection of the citation to be added to the document.



Follow-up

Jason.Youngstrom@nrel.gov

Zotero downloads and documentation:

<https://www.zotero.org/>

