

## Zotero

Zotero is a free, open-source, easy-to-use tool to help you collect, organize, annotate, cite, and share research.

It allows:

- Save references from library catalogs, research databases, and the Web
- Add PDFs, images, audio and video files, snapshots of web pages, and more
- Write annotations and attach them to citations
- Create bibliographies using most major citation styles

**Reasons to Choose Zotero (source : <https://libguides.northwestern.edu/howtochoose>)**

- If the research content is diverse, Zotero is the easiest method to gather citation records for non-PDF content.
- Zotero's single-click capture works with more databases, catalogs, and websites than Mendeley's browser extension.
- You can also enable the retrieval of PDF metadata, which allows you to create citation records just from dragging a PDF into Zotero.
- Zotero is open source and cannot be acquired by a company

In the Figure below it is shown a snapshot of zotero main page. On the left panel there are the folders in our library where we keep the papers. And on the right it is shown the current list of papers on the folder selected.

The screenshot displays the Zotero desktop application. The left sidebar shows a hierarchical library structure with folders like 'My Library', 'Group Libraries', and 'NCE-CASFER'. The main pane lists items with columns for Title, Creator, and Date. The selected item is 'Every-Day Sensors to Monitor Water Quality into Lake Erie' by Zhang et al. The right pane shows detailed information for this item, including citation key, item type, author, abstract, website title, date, URL, access date, language, rights, and dates added/modified.

## Getting started

- First of all, install zotero client : <https://www.zotero.org/download/>

- Create your account online and accept the invitation to join a group ( it was sent to your emails)

### **Synchronize libraries:**

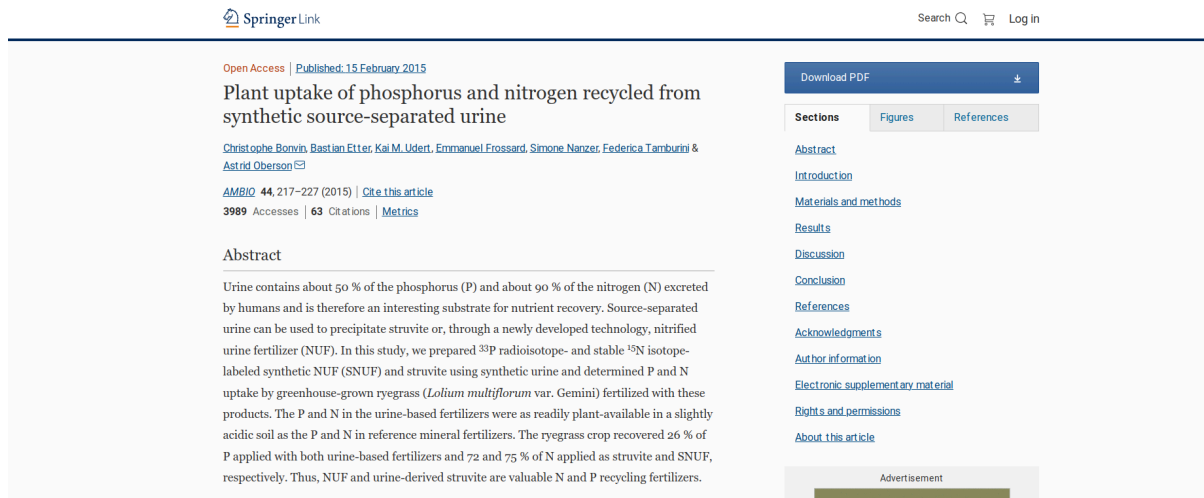
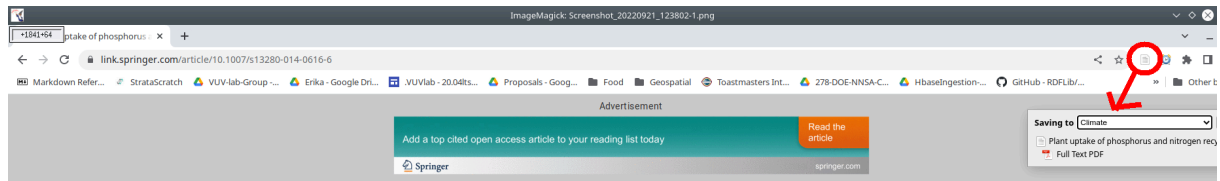
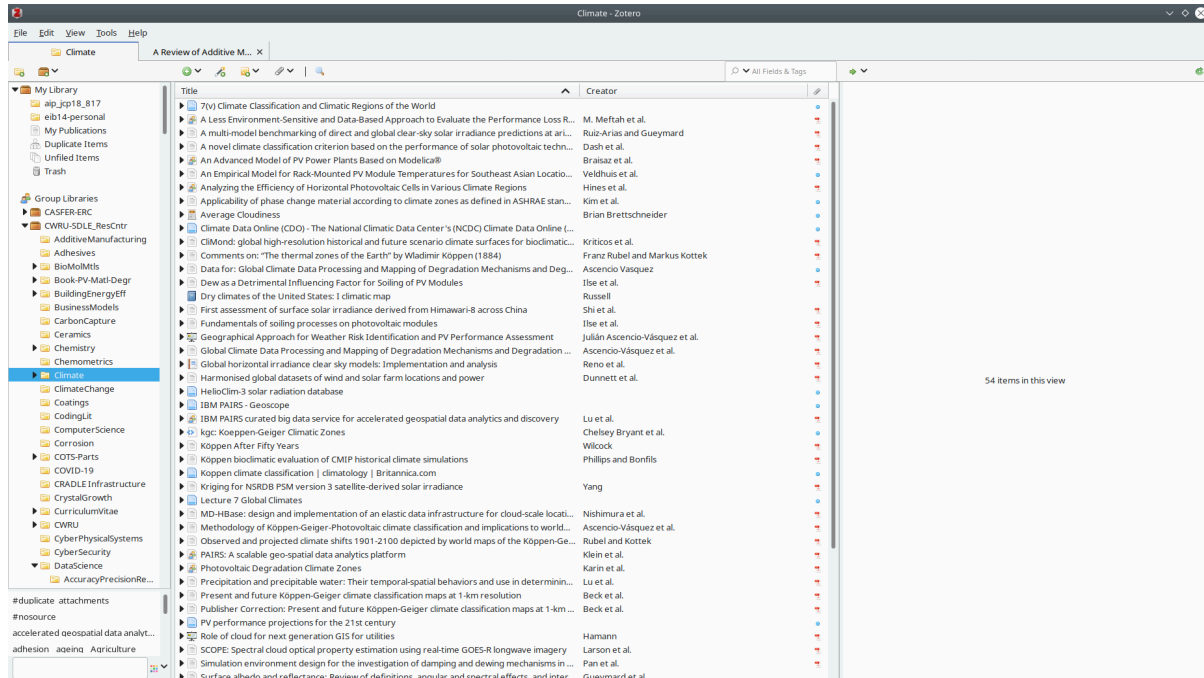
- The first time you use zotero or any time you need to synchronize a new library do on zotero client: Edit > Preferences> Sync > Settings> Choose Library
- Select the library you want to synchronize and ok. It will take some time depending on how large the library is

### **Getting citations from papers on zotero**

- Select the item in the collection you want to cite
- Right click on the mouse
- Select “ create bibliography from item” ,
- Choose the citation style in the window that will pop up and ok
- Paste it in on your document or where you want the citation to be

### **Saving papers from the browser to zotero:**

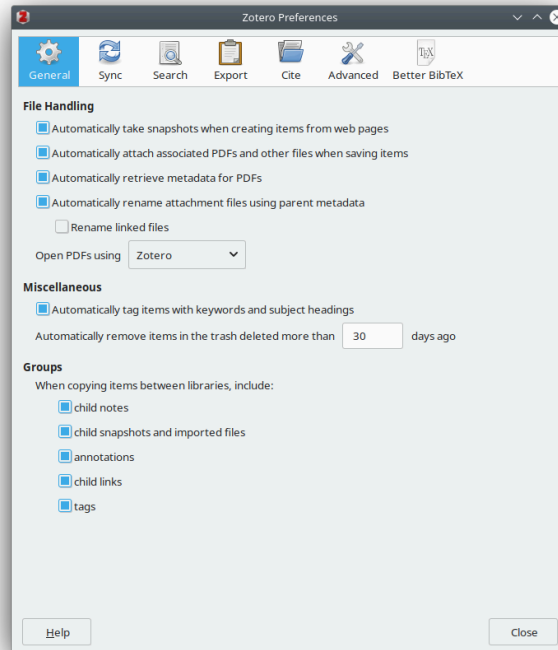
- Download the zotero extension for firefox or chrome(  
<https://www.zotero.org/download/connectors>)
- Open zotero ( zotero needs to be open and the folder where you want to save the paper must be selected - see first figure below) and click on the zotero extension on chrome or firefox on the main page of the paper you want to include and a small window will pop up ( see second Figure) and just hit enter - the paper will be saved on that zotero folder.



## Using zotero in LaTeX

- Install better bitex for zotero
- Download the .xpi file (<https://github.com/retorquere/zotero-better-bibtex/releases>)
- In the main menu go to Tools > Add-ons
- Select 'Extensions'

- Click on the gear in the top-right corner and choose 'Install Add-on From File...'
- Choose .xpi that you've just downloaded, click 'Install'
- Restart Zotero
- If you do it correctly you will see an better bitex icon on the top right ( in edit<preferences)



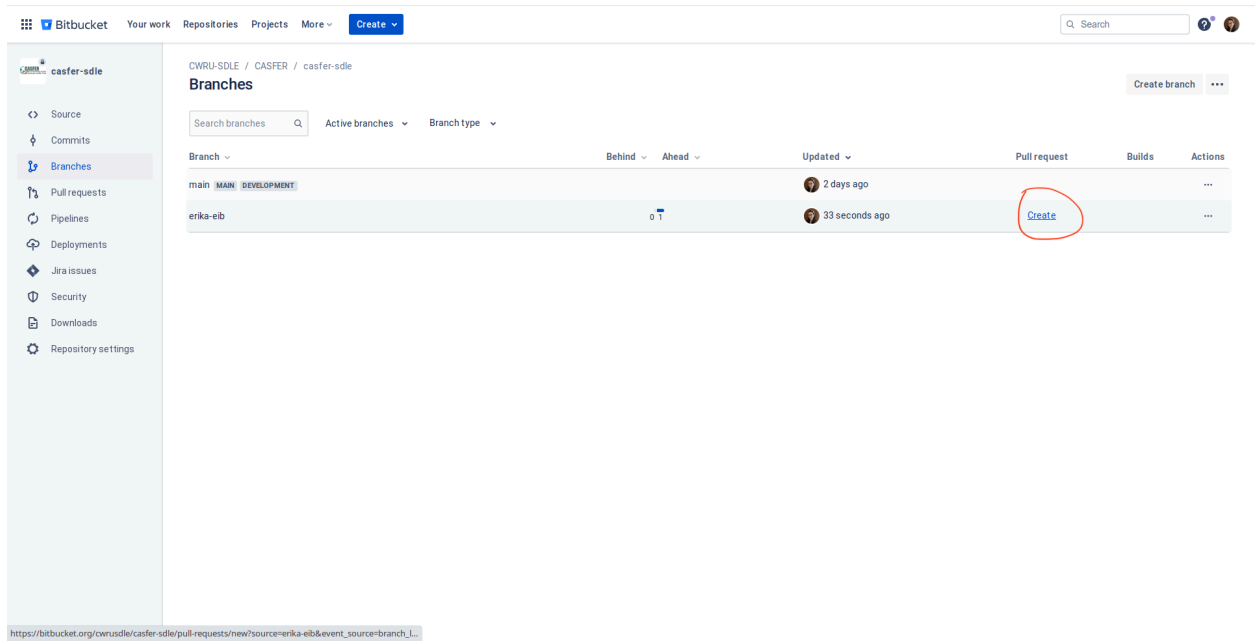
- To get references, select the paper ( preferably not the pdf directly, as in the figure below).
- Go in "Edit" → "Copy as Better BibTeX"
- Paste it on the .bib file in your latex working directory

## **Making changes and pushing to bitbucket**

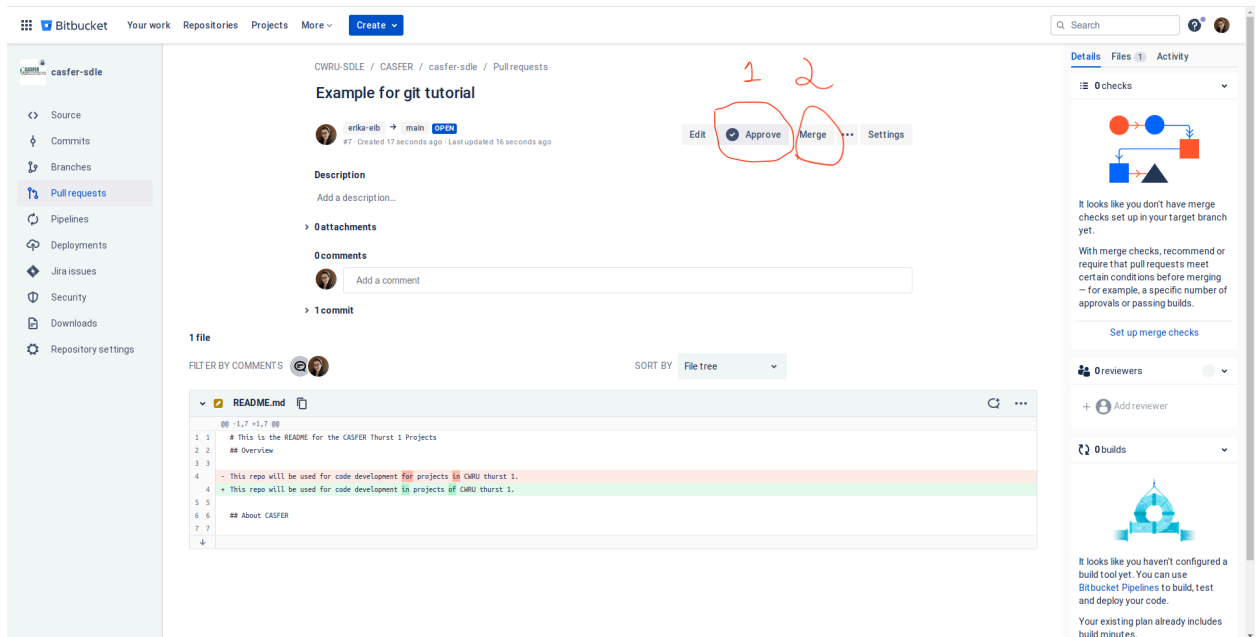
Once you finish the work on your branch it is time to update your remote. The commands are the following:

- ***git checkout 'your branch'*** → To make sure you are on your branch
- ***git add --all*** → It adds the changes made in the working directory to the staging area
- ***git commit -m 'make a meaningful commit message'*** → It captures the current state of the code and saves it. It is used to save all changes of the project
- ***git push*** → it sends the commits ( saved changes in the code) to the remote repository

1. Now go to bitbucket and there will be a pull request (as in the figure)



2. Click in create > create pull request and you will be directed for the following page:



3. Go in, “approve” and after merge\*.

\* Usually the owner of a senior person is responsible to evaluate the work done by the branch and decide if the merging request will be accepted or not, in our case we approve and merge ourselves.

Sensors - Zotero

File Edit View Tools Help

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Sensors

My Library

- aip\_jd18\_B17
- eib14-personal
- My Publications
- Duplicate Items
- Unfiled Items
- Trash

Group Libraries

- CASFER-ERC
  - CASFER-KeyArticles
  - Climate
    - Albedo
    - KSC2.1
    - COTS-Parts
    - DataScience
    - Decarbonization
    - Gov-Reports
    - NCE-CASFER
    - Polky
    - ProcessControl
    - Sensors**
    - T1-ModelSense-Control
    - T2-Benefication
    - T3-NBF-Production
    - Waste-Streams
    - Water-Fields
    - Duplicate Items
    - Unfiled Items
    - Trash
  - CWRU-SDLE\_ResCntr
    - AdditiveManufacturing
    - Adhesives
    - BioMolMts
    - Book-PV-Mat-Degr
    - BuildingEnergyEff
    - BusinessModels
    - CarbonCapture
    - Ceramics

#duplicate\_attachments

detection limit

phosphatase alkaline

Self-assembled monolayers (SAM)

Title

- A Guide to Chicago's Array of Things Initiative
- Carbon Nanotube Chemical Sensors
- Delin 2011 Imaging-optode measurements of ammonium distribution in soil after different manure a...
- Geostatistics for Identifying and Reducing Artifacts in Rainfall Grids from Doppler Radar Data
- Heavy metals detection in river water with cantilever nanobiosensor**
- Huang 2019 Real time in situ monitoring of nitrogen dynamics in waste water using ion selective mem...
- Liu 2020 Research on sewage monitoring and water quality with wireless sensors.pdf
- Ma 2021 In situ measurement of ammonium in wast water using fiber optic.pdf
- National Weather Service Flood Forecast Needs: Improved Rainfall Estimates
- Nutrient and Sulfate Variations along the Maumee River, Ohio, USA
- Sekhar 2020 J ECS.pdf
- Sekhar\_2020\_J\_Electrochem\_Soc\_167\_027548.pdf

Creator

- Sean Thornton
- Schroeder et al.
- Yarus et al.
- Rigo et al.
- Sarah Jamison
- Howard and Lopez

Info Notes Tags Related

Citation Key: **rigoHeavyMetalsDetection2020**

Item Type Journal Article

Title Heavy metals detection in river water with cantilever nanobiosensor

Author Rigo, Aline Andressa

Author Cezaro, Alana Marie De

Author Muenchen, Daniela Kunkel

Author Martinazzo, Janine

Author Manzoli, Alexandra

Author Steffens, Juliana

Author Steffens, Clarice

Abstract Heavy metals can be highly toxic depending on the dose and the chemical form. In this context, sensing devices such as nanobiosensors have been presented as a promising tool to monitor contaminants at micro and nanoscale. In this work, cantilever nanobiosensors with phosphatase alkaline were developed and applied to detect heavy metals (Pb, Ni, Cd, Zn, Co, and Al) in river water. The nanobiosensor surface was functionalized by the self-assembled monolayers (SAM) technique using 16-mer captohexadecanoic acid, N-(3-dimethylaminopropyl)-N'-ethylcarbodiimide (EDC) and N-hydroxysuccinimide (NHS), and phosphatase alkaline enzyme. The sensing layer deposited on the cantilever surface presented a uniform morphology, at nanoscale, with 80 nm of thickness. The nanobiosensor showed a detection limit in the ppb range and high sensitivity, with a stability of fifteen days. The developed cantilever nanobiosensor is a simple tool, suitable for the direct detection of contaminants in river water.

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Archive