



Introduction to the ORCID APIs

Technical Workshop • OR2015

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Today's Topics

1. About the ORCID APIs
2. Searching & Retrieving ORCID Records
3. Getting Authenticated ORCID iDs
4. Adding Information to ORCID Records
5. Creating New ORCID Records

What is ORCID?

- Registry of unique identifiers for researchers
 - » Names are not unique!
 - » Names are not persistent!
- Hub for connecting researcher identifiers to research activities (via APIs)

ORCID Identifiers

- 16-digits

0000-0001-5727-2427

- Each identifier links to a public record

<http://orcid.org/0000-0001-5727-2427>

ORCID Records



Connecting Research
and Researchers

FOR RESEARCHERS

FOR ORGANIZATIONS

ABOUT

HELP

SIGN IN

SIGN IN

REGISTER FOR AN ORCID ID

LEARN MORE

1,370,195 ORCID iDs and counting. [See more...](#)

Sofia Maria Hernandez Garcia

ORCID ID

 orcid.org/0000-0001-5727-2427

Also known as

S. M. Garcia Sofia Maria Garcia

Other IDs

Profile system identifier: [A-123456](#)

Scopus Author ID: [56030991900](#)

Biography

Sofia Maria Hernandez Garcia is used for testing and demonstrating how ORCID records work.

▼ Employment (1)

↑↓ Sort

ORCID: Bethesda, MD, United States

2012-10 to present | (Support & Testing)

Source: Sofia Maria Hernandez Garcia

Created: 2015-01-20

▼ Funding (1)

↑↓ Sort

Grant for ORCID

Wellcome Trust (London, United Kingdom)

2014 to present | Grant



ORCID Records

- **Bio**
 - » Name(s), Country, Keywords, Websites, Biography
- **Affiliations**
 - » Education, Employment
- **Activities**
 - » Funding, Works, Peer Review Service (coming soon!)

Why ORCID APIs?

APIs allow your systems to interact with ORCID

- » Use ORCID iDs as unique identifiers in your systems
- » Pull information from ORCID into your systems
- » Push information from your system to ORCID

API	Access	Features
Public API	Free available to anyone	<ul style="list-style-type: none">• Authenticate Get a user's authenticated ORCID iD• Read (Public) Search/retrieve public data
Member API	ORCID member organizations	<ul style="list-style-type: none">• Read (Limited) Search/retrieve "limited-access" data• Add Post new items to a record• Update Edit or delete items you previously added• Create Create new ORCID records (via on-demand process)

Sandbox Test Environment

- Test versions of Registry & Public/Member APIs
- Same behavior as live environment, except:
 - » Emails only to @mailinator.com addresses
 - » Search & Link tools don't work
 - » Menu links don't work

sandbox.orcid.org/signin

ORCID API Technologies

- **REST** Interact via HTTP calls
- **OAuth** Authorization process
- **XML/JSON** Data exchange formats

ORCID API Tools

- **Web Browser** Chrome/Firefox preferred
- **Plain Text Editor** Notepad++, TextEdit, etc
- **Software Capable of Making HTTP Requests**
 - » Desktop apps (cURL)
 - » Online Tools (Google OAuth Playground, hurl.it)
 - » Your Own Web Application (Java, Ruby, Python, PHP, etc)

Public API: Searching & Retrieving ORCID Records

Create a Sandbox User Account

sandbox.orcid.org/signin

- Click Register for an ORCID iD
- Use an @mailinator.com address
- Visit mailinator.com to verify your email

Accessing the APIs

- To Access the APIs, you'll need credentials
 - » **Client ID** APP-F6TMYF4I9CVYMSNE
 - » **Client Secret** f40a4c7d-2306-44f1-b8af-a0e464e2bc37
- **Public API**
 - » Register through your ORCID user account
- **Member API**
 - » Register at orcid.org/content/register-client-application

Get Public API Credentials

- sandbox.orcid.org/my-orcid → Developer Tools



FOR RESEARCHERS	FOR ORGANIZATIONS	ABOUT	HELP	SIGN OUT	
MY ORCID RECORD	ACCOUNT SETTINGS	DEVELOPER TOOLS	MANAGE MEMBERS	ADMIN PAGE	LEARN MORE

37,636 ORCID iDs and counting. [See more...](#)

ORCID Staff



Developer tools

ORCID ID



NOTE: This section is intended for software developers who plan to incorporate ORCID iDs into their systems. If you arrived here by mistake, you can go back to your [ORCID record](#).

Retrieving a Record

- Get any user's full ORCID record
- Public data only
 - » Name/ORCID iD + w/privacy set to “everyone”
- XML or JSON format

Google OAuth Playground

developers.google.com/oauthplayground/

Searching Records

- Return all records with matches in publicly-visible data
 - » Keyword: Search entire record
 - » Fielded: Search specific fields
- Returns bio section of matching records - use separate API call to view entire record

Searching Records

Base URL:

```
http://pub.sandbox.orcid.org/v1.2/  
search/orcid-bio/?q
```

Searching Records

Fielded Search Fields

- » ORCID iD
- » Names
- » Email Address
- » Work Titles
- » External Identifiers
- » Creation/Last Modified Dates

Public API: Getting Authenticated ORCID iDs

“Authenticated” ORCID iDs

- Users typing in ORCID iDs = Great Sadness :(
- “Authenticated” = prompt user to log into ORCID;
your systems receive iD automagically via OAuth

OAuth

- Standard protocol used across the Web
- Allows users to share *some* account info across sites without sharing *all* info (ie: passwords)
- OAuth process:
 - » Prompt user to log into ORCID (link/button)
 - » Get Authorization Code
 - » Exchange Authorization Code for ORCID iD

Back to the Playground!

developers.google.com/oauthplayground/

Member API: Adding Information to ORCID Records

Accessing the Member API

- **New credentials needed!**
 - » For this workshop, see label on your printed handout
 - » For future, register at:
orcid.org/content/register-client-application

Access Tokens

- Users control their records
- Permission needed in order to edit
- Permission granted via OAuth Access Token
 - » 8623f26a-41b5-433f-be2f-b7865020c71a

Access Tokens

- Same OAuth process as for Authenticated iDs:
 - » Prompt user to log into ORCID (link/button)
 - » Get Authorization Code
 - » Exchange Authorization Code for Access Token

Scopes

- Scopes = Actions you can take on a user's ORCID record
 - » Read record
 - » Add works
 - » Update works
 - » Etc...
- Access Tokens can only be used for scopes that you have requested permission for

Work XML

<http://git.io/vIT19>

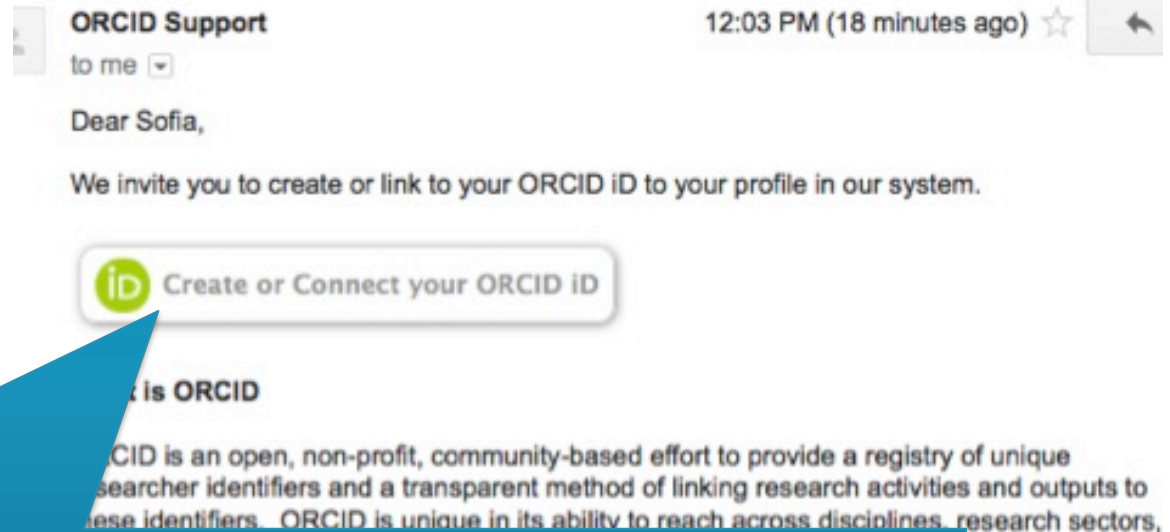
- » Sample Work
- » Sample Work Updated

Member API: Creating New ORCID Records

Create-on-Demand Process

- Create new records and get read/write permission in one step
- Users who have an existing ORCID iD can send their ORCID iD to your system & grant permission

I. Prompt users to click a link/button with your Authorization URL



[https://orcid.org/oauth/authorize?
client_id=0000-0003-2996-8827&response_type=code&
scope=/orcid-profile/read-limited&redirect_uri=https://yoursite.org](https://orcid.org/oauth/authorize?client_id=0000-0003-2996-8827&response_type=code&scope=/orcid-profile/read-limited&redirect_uri=https://yoursite.org)

2. Users directed to ORCID registration/signin form

- » Users create new record and grant read/write permission in one step
- » Users who already have an ORCID iD can sign into their account to grant permission

ORCID
ORCID Test Client 2
has asked for the following access to your ORCID Record

Add education or employment
Add works
Read your ORCID record
Update your biographical information

Allow this permission until I revoke it.
You may revoke permissions on your account settings page. Unchecking this box will grant permission this time only.

This application will not be able to see your ORCID password, or other private info in your ORCID Record. [Privacy Policy](#).

Already have an ORCID ID? [Sign In](#).

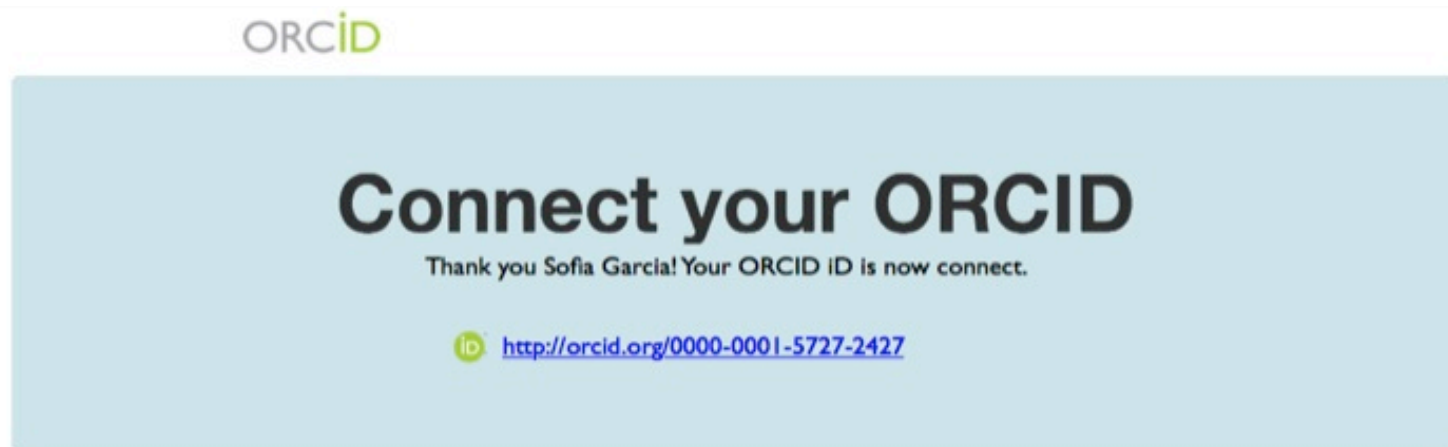
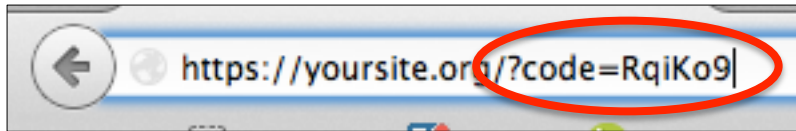
First name *
Last name
Email *
Re-enter email *
Password *
Confirm password *

Default privacy for new research activities (Works, Affiliations, Funding, etc)

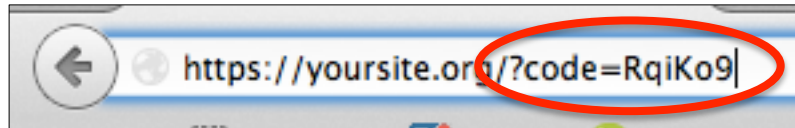
Notification Email
 Send me notifications about changes to my ORCID Record.
 Send me information about events ORCID is sponsoring and ORCID news.

Terms of Use *
 I consent to the [privacy policy](#) and [conditions](#) of use, including public access and use of all my data that are marked Public.

3. Users taken to a page on your site (Redirect URI); OAuth Authorization Code appended to URL



4. Your system captures Authorization Code & exchanges for Access Token



```
curl -i -X POST -d 'client_id=0000-0002-9189-9909&client_secret=719b5c31-5681-4dce-a317-ff1bc1e94277&grant_type=authorization_code&code=GU0yrC&redirect_uri=https://developers.google.com/oauthplayground' 'https://api.qa.orcid.org/oauth/token' -k
```

```
HTTP/1.1 200 OK
```

```
{  
  "access_token": "0a3ac65f-f8a7-4257-b605-aff0ab37d464",  
  "token_type": "bearer",  
  "refresh_token": "16d75d2d-bb75-4087-8a01-685e5f03faf8",  
  "expires_in": 631138518,  
  "scope": "/orcid_profile/read-limited",  
  "orcid": "0000-0003-4153-0078"}  
}
```

5. Your system stores Access Tokens and ORCID iDs

Researcher Database

Name

Sofia Maria Hernandez Garci

ORCID iD

<http://orcid.org/0000-0001>

ORCID Access Token

2201874e-f239-4779-a56f

Faculty ID

6. Use stored Access Tokens to read from/write to ORCID records (now or later – valid 20 yrs)

- » Read information from the user's ORCID record and copy it into your system
- » Add information from your system to the user's ORCID record - affiliations, works, etc
- » Update the user's ORCID record when new information is available in your system
- » Update your system when new information is added to the user's ORCID record

Try it out!

orcid-create-on-demand.herokuapp.com

Authorization URL

Base URL:

```
https://sandbox.orcid.org/  
oauth/authorize?
```


Authorization URL

Required Parameters:

```
https://sandbox.orcid.org/oauth/authorize?  
client_id=APP-F6TMYF419CVYMSNE&  
scope=/orcid-works/create%20/orcid-works/  
update&  
response_type=code&  
redirect_uri=https://developers.google.com/  
oauthplayground
```

Authorization URL

Optional Parameters

- » Pre-fill registration/signin form (name, email)
- » Specify language
- » Show signin form vs registration form

Authorization URL

Optional Parameters:

```
https://sandbox.orcid.org/oauth/authorize?  
client_id=APP-F6TMYF419CVYMSNE&  
scope=/orcid-works/create%20/orcid-works/update&  
response_type=code&  
redirect_uri=https://developers.google.com/  
oauthplayground&  
family_names=Orcidson&  
given_names=Orc&  
email=orcidson@mailinator.com
```

Resources

- Examples/Workflow Guides: members.orcid.org
- Technical Documentation: members.orcid.org/api
- API Users Group
groups.google.com/forum/#!forum/orcidapiusers
- Technical Webinars: members.orcid.org/eventlist
- ORCID Support: support@orcid.org

THANK YOU!