

OpenAIRE - Advance

Citizen Science - Webinar 30.06.2020



ELLINOGERMANIKI AGOGI







Outline (1)

- OpenAIRE Citizen Science Activities
- Activities in Schools
 - Integration with OpenAIRE services
 - 1. The seismic schools network
- Data collection, Repository (Helix), Applications
 - Hackquake 2019





Outline (2)

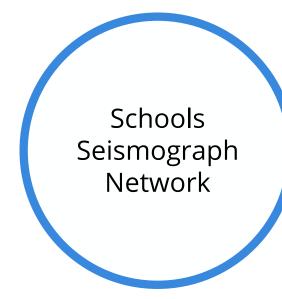
- 2. Open Schools Journal for Open Science
 - STEM focused, Template overview
 - Uploading articles on Zenodo Communities
- 2. Bringing Nobel Prize physics in classroom
 - Zenodo community
- Good practice example
- Questions





OpenAIRE Citizen Science Activities

Activities



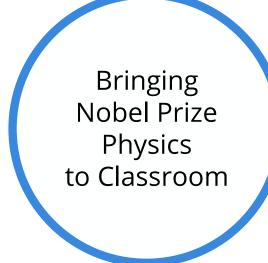
Seismic Data



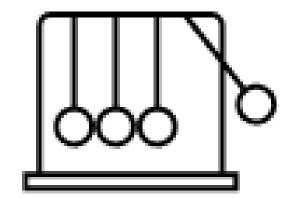


Open Science Journal





Access Research Data



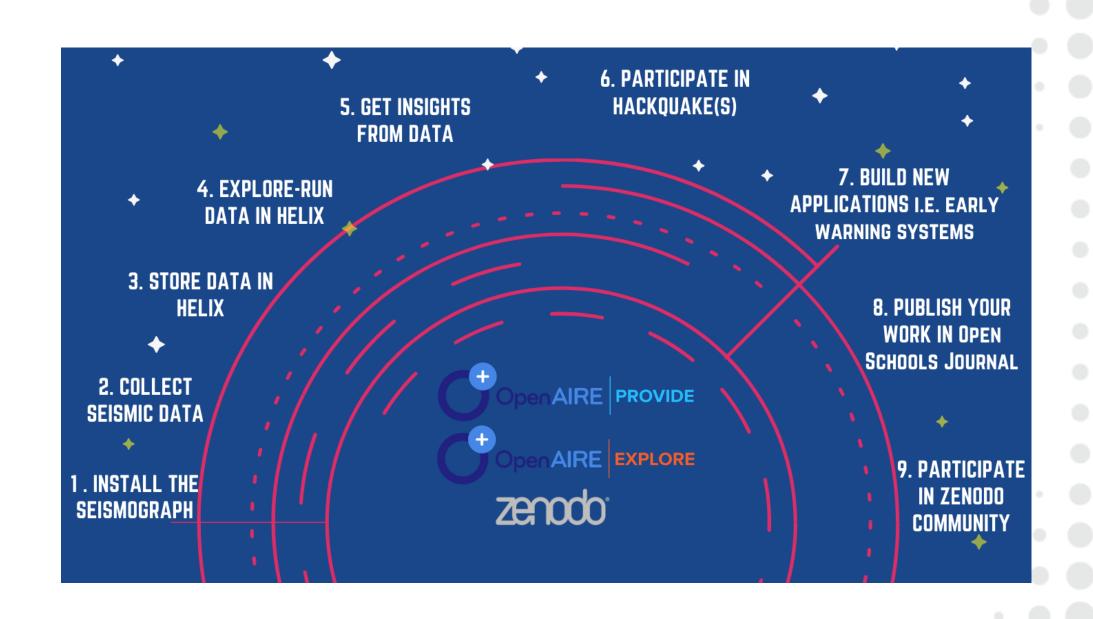




Integration with OpenAIRE Services

Journal Articles

- Assigned DOI
- Indexed on OpenAIRE
- Findability
- Accessibility
- Interoperability
- Reusage





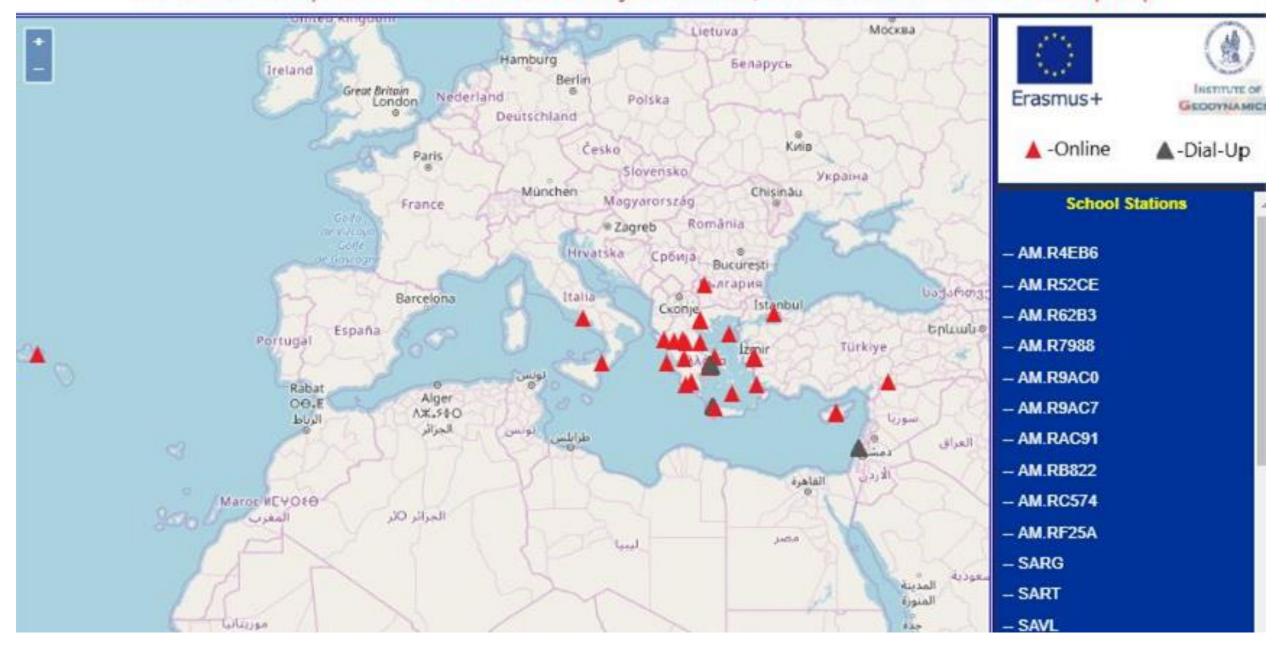


Activities in Schools-The seismic data Journey

Schools network map

https://snac.gein.noa.gr/schools-list/

Institute of Geodynamics - Erasmus SNAC Project Network, Interactive Real Time Seismicity Map

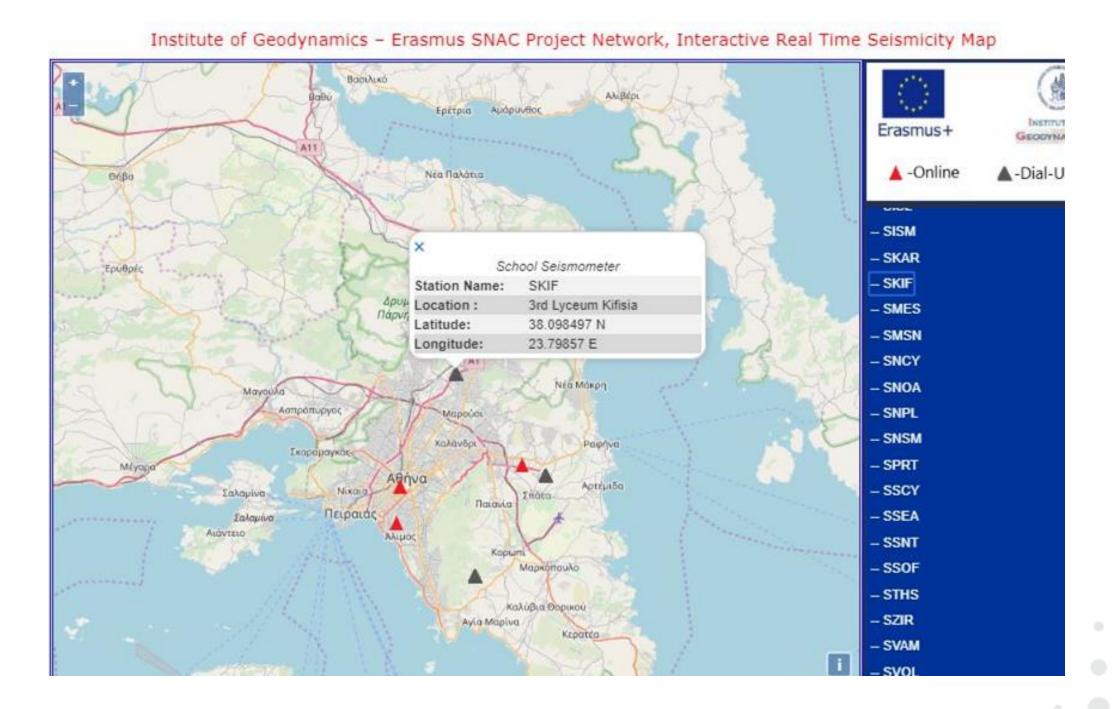






Interactive real time seismicity map

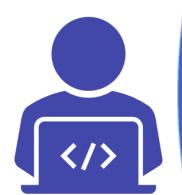


















Data Collection

Schools List

https://snac.gein.noa.gr/schools-list/

Station	Latitude	Longitude	Location	Seismometer	Connection (online links are clickable)
AM R4EB6	37972797	23.717412	NOA Athens	Raspberry-Shake	Online
AM R52CE	38.403472	27.099504	Izmir Ozel Turk College	Raspberry-Shake	Online
AM.R62B3	35.893095	27.292027	10 Gel Ko "Ipokrateio"	Raspberry-Shake	Online
AM.R7988	38.469212	27.071702	Izmir Istek Schools	Raspberry-Shake	Online
AM R9AC0	38.874091	025.274719	Gymnasio Moudrou, Limnos	Raspberry-Shake	Online
AM RgAC7	37.047949	37294710	Gazianted TED College	Raspberry-Shake	Online
AM RAC91	39.542492	21.772128	70 Gymnasio Trikalwn	Raspberry-Shake	Online
AM RB822	38.386	27:18:16	Izmir, Turkey	Raspberry-Shake	Online
AM RC574	40.729765	23.000861	40 Gymnasio Lagkada, Lykeiakes Takseis	Raspberry-Shake	Online
AM RF25A	38.3807	21.7984	Ekpaideuthria Panou, Nafpaktos	Raspberry-Shake	Online
SARG	38.178628	20.485415	Lyceum Argostoli, Kefalonia	TC1	Online
SART	39.475	21.075	Gymnasium Agnanta Arta	TCi	Online





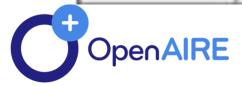


SNAC ERASMUS Online Stations Status

Last Update: (Day,Time -UTC-): 339, 13:47:4

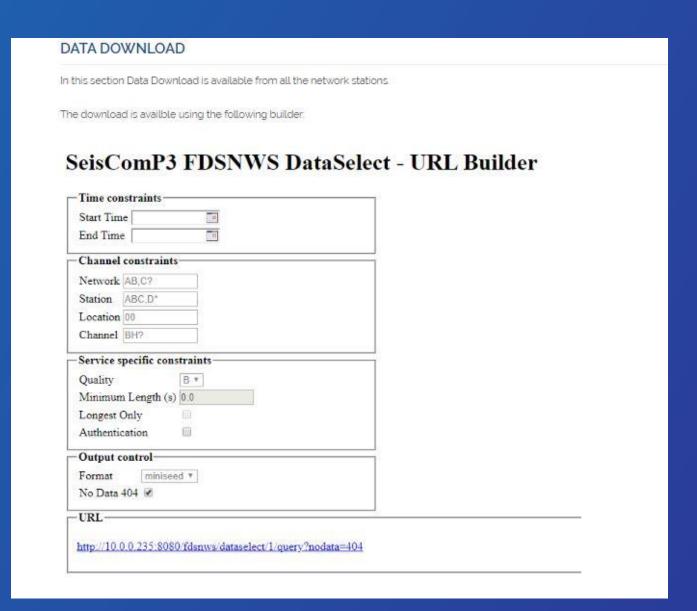
Click on each station status to see its real time plotting.

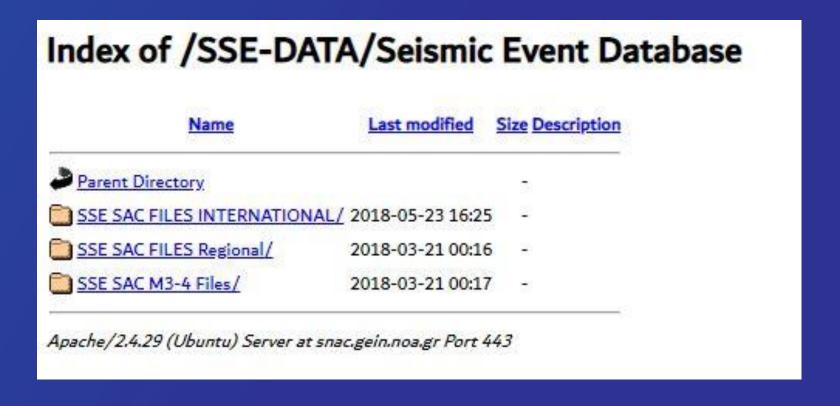
Name	Network	Status	(Day, Hour)	(Day, Hour)
SARG	HL	Station is OK	339, 13:47:04	0, 0:0:0
SART	HL	Station is OK	339, 13:46:59	0, 0:0:5
SAZR	HL	Station is delaying	339, 13:41:59	0, 0:5:5
SAVL	HL	Station is OK	339, 13:46:55	0, 0:0:9
SIGU	HL	Station is OK	339, 13:46:53	0, 0:0:11
SINST	HL	Station is OK	339, 13:47:00	0, 0:0:4
SISM	HL	Station is OK	339, 13:46:55	0, 0:0:9
SKAR	HL	Station is OK	339, 13:46:53	0, 0:0:11
SMES	HL	Station is delaying	339, 08:11:04	0, 5:36:0



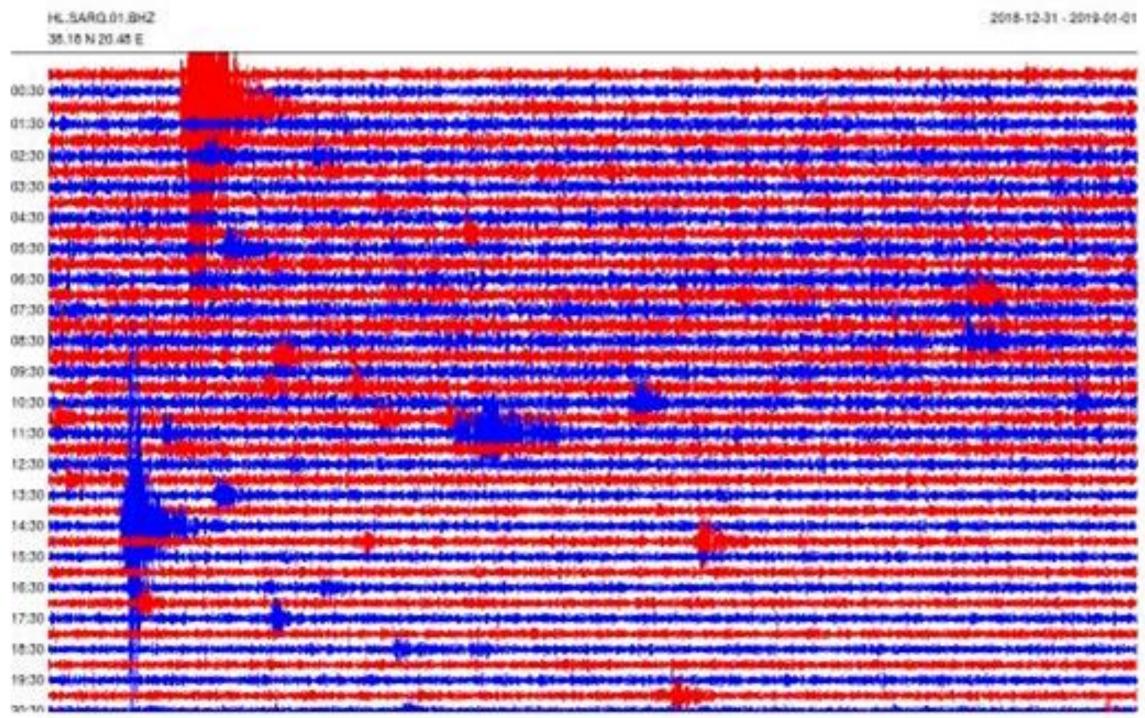


Raw data





Visualization





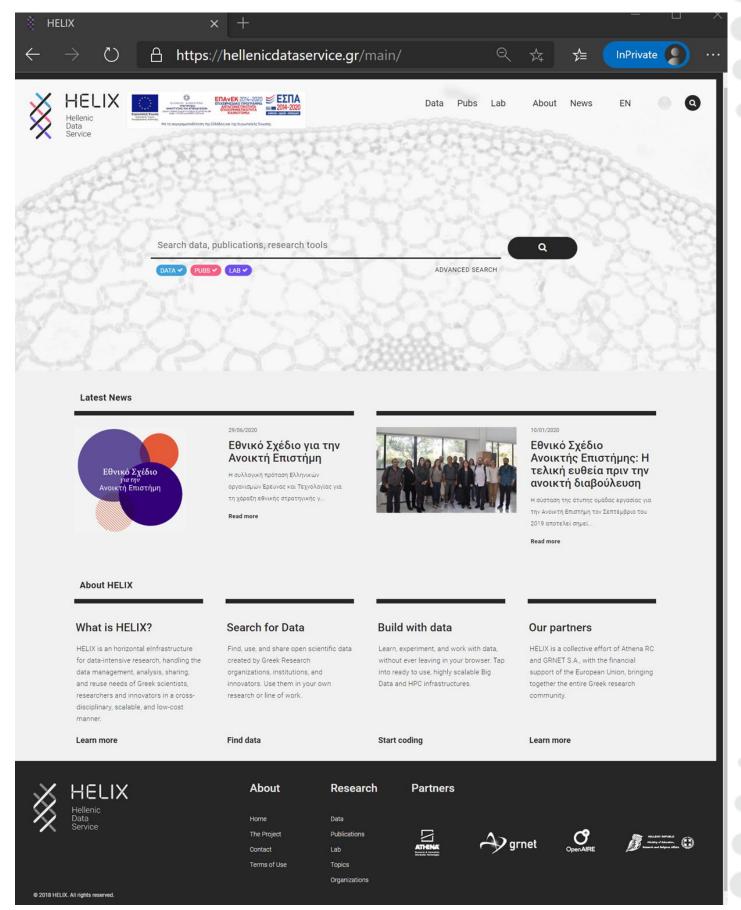


Seismic data in HELIX

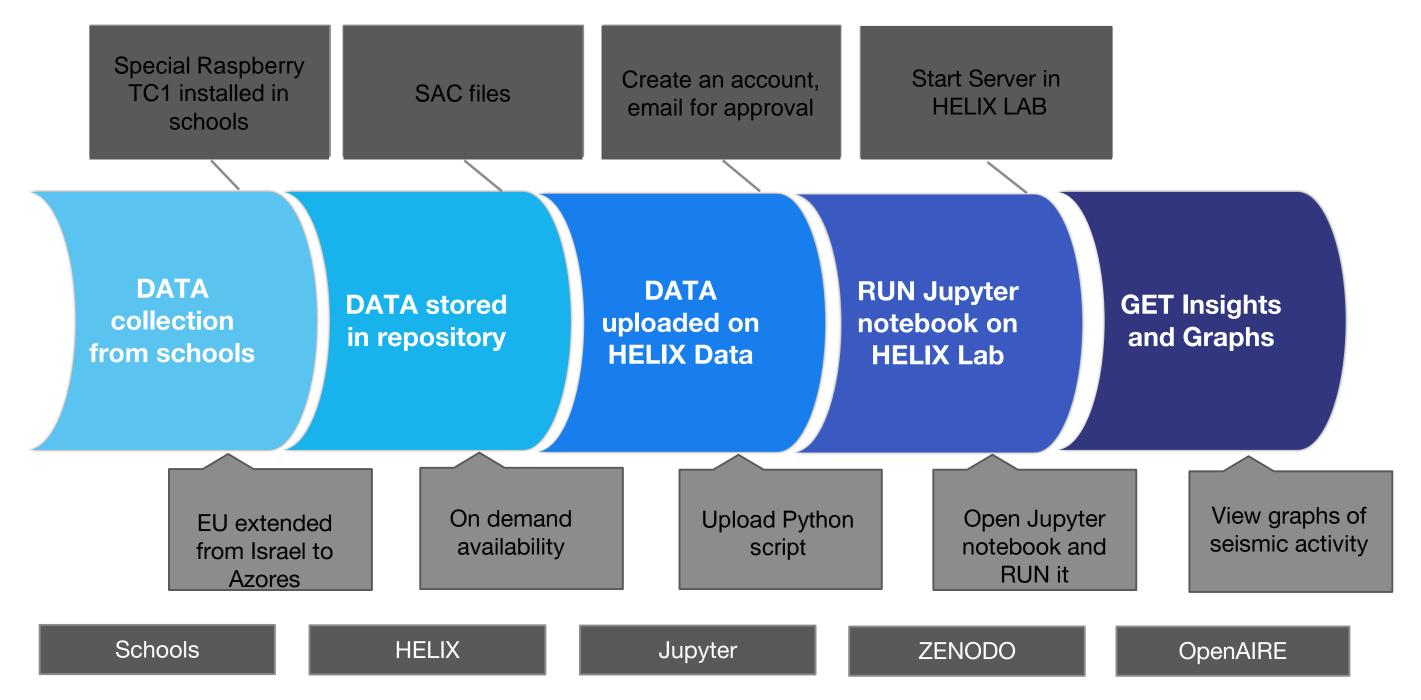
What is Helix

HELIX the Hellenic Data Service, is the national e-Infrastructure in support of data-intensive research, handling the data management, analysis, sharing, and reuse needs of Greek scientists, researchers and innovators in a cross-disciplinary, scalable, and low-cost manner.





Step by Step process





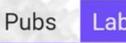




















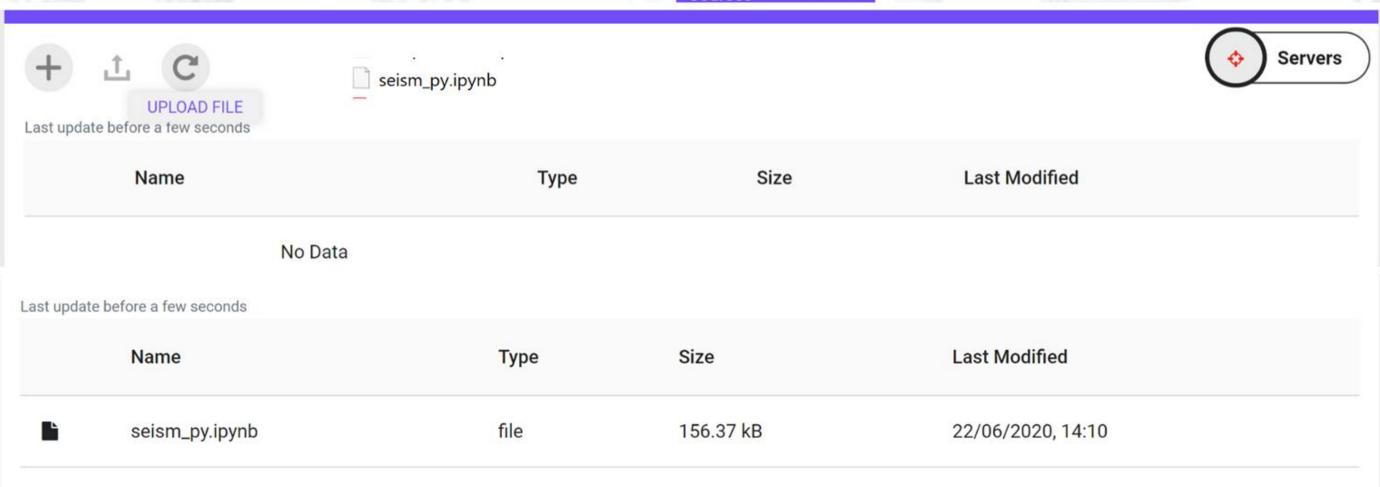


My Files Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης

My Courses

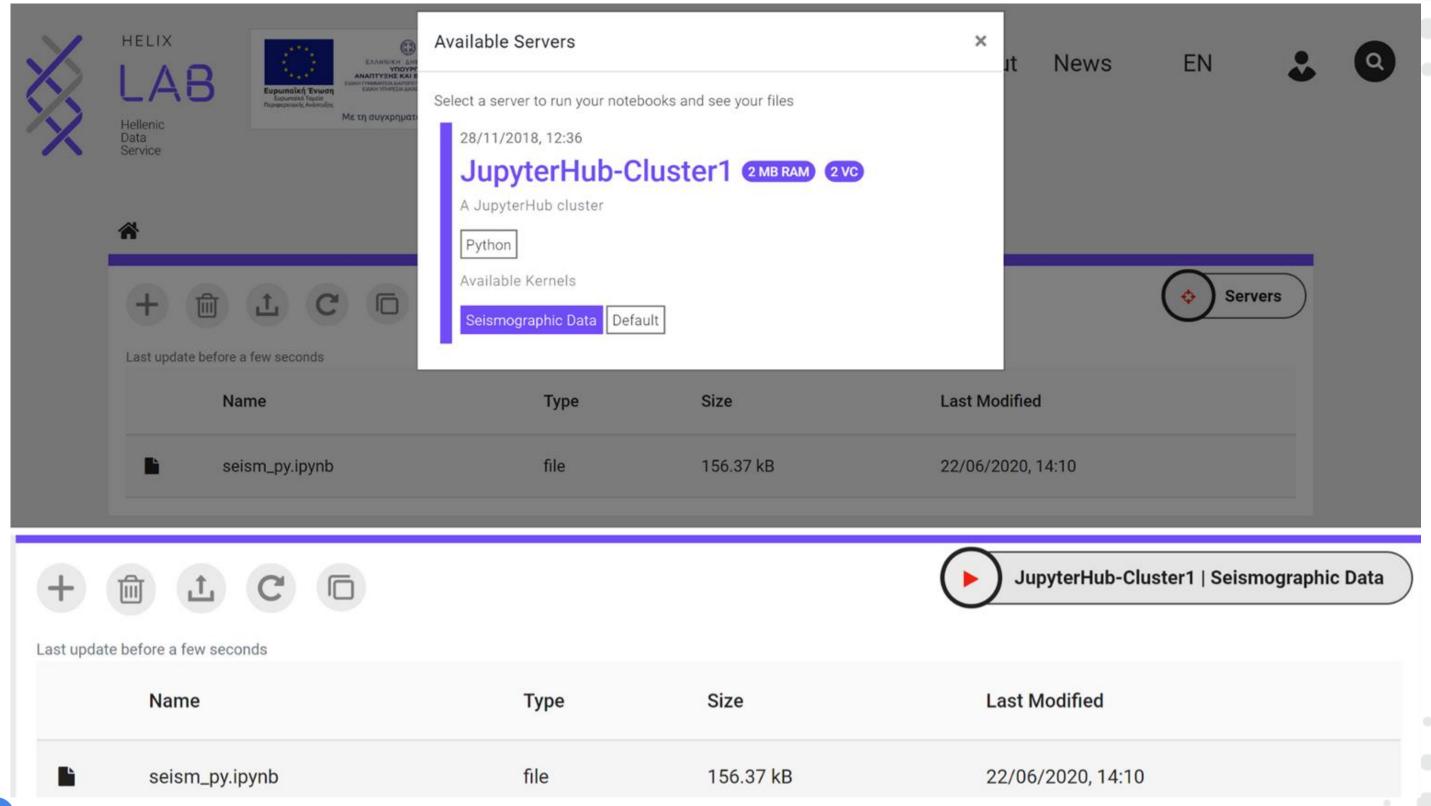
Guides

Courses













Access Jupyter notebook



Sign in with hellenicdataservice.gr





Run seismic data script on Jupyter

```
dirs = \{\}
           for r_, d_, f_ in os.walk(path):
               if r not in dirs:
                   dirs[r] = []
                   for file in f :
                       if '.sac' in file:
                          dirs[r_].append(file)
In [5]: ► sacs = {}
           for dir_ in dirs:
               if len(dirs[dir_]) == 0:
                   continue
               dir_name = dir_.split(os.sep)[-1]
               sacs[dir name] = []
               for file in dirs[dir ]:
          list(sacs.keys())
     Out[6]: ['201909 140424',
               '20170612_122838',
              '20170712_170950',
              '20181025_225449',
              '20190719_111315']
          Select event
 In [19]:  event = list(sacs.keys())[1]
             event
    Out[19]: '20170612_122838'
```

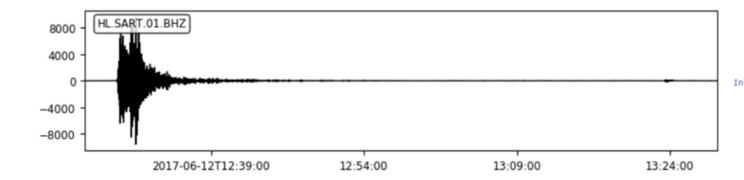




Visualization of seismic data on Jupyter

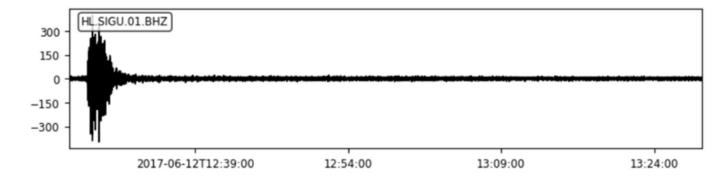
2017-06-12T12:26:37.991975 - 2017-06-12T13:28:38.003432

Gymnasium Agnanta Arta, Greece

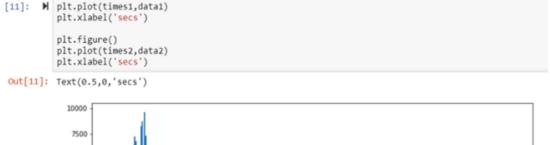


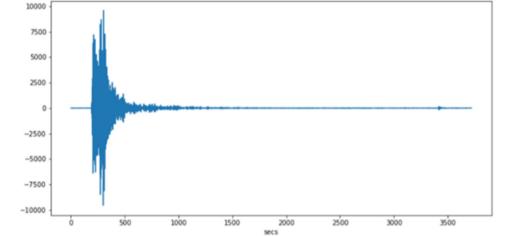
2017-06-12T12:26:38.020323 - 2017-06-12T13:28:37.985473

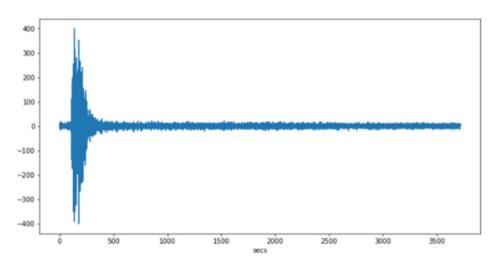
3rd Gymnasium Igoumenitsa, Greece



Distance of two cities: 107 Km











Hacquake 2019



"The world, the very emblem of all that is solid, has moved beneath our feet like a crust over a fluid."

- Charles Darwin





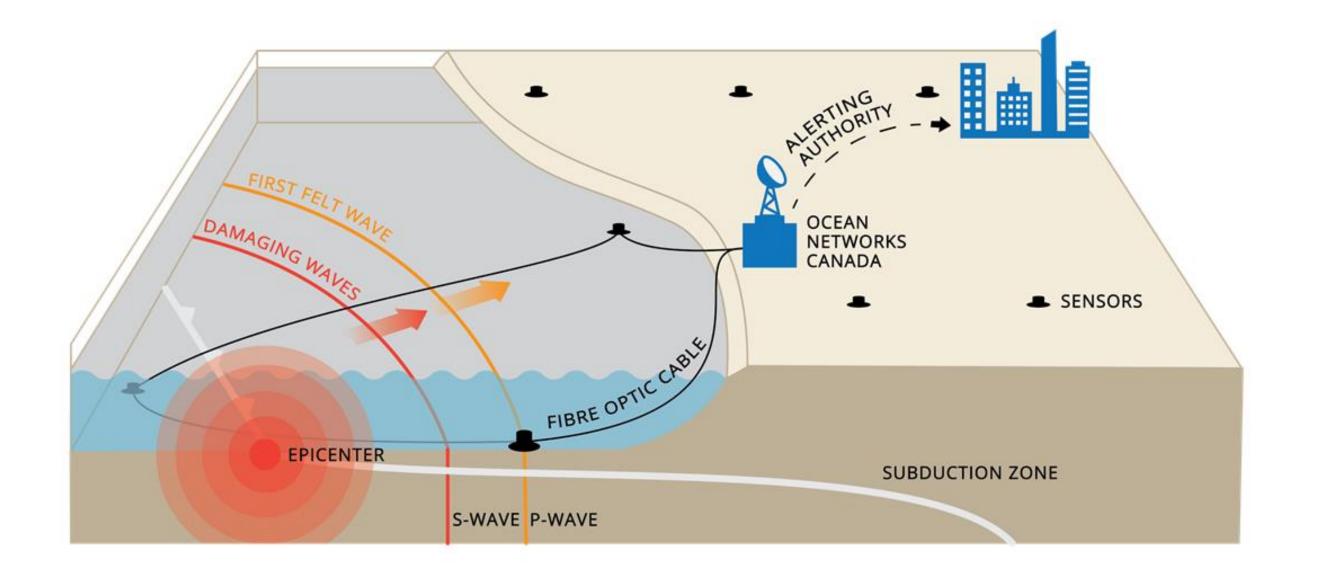








Early warning systems



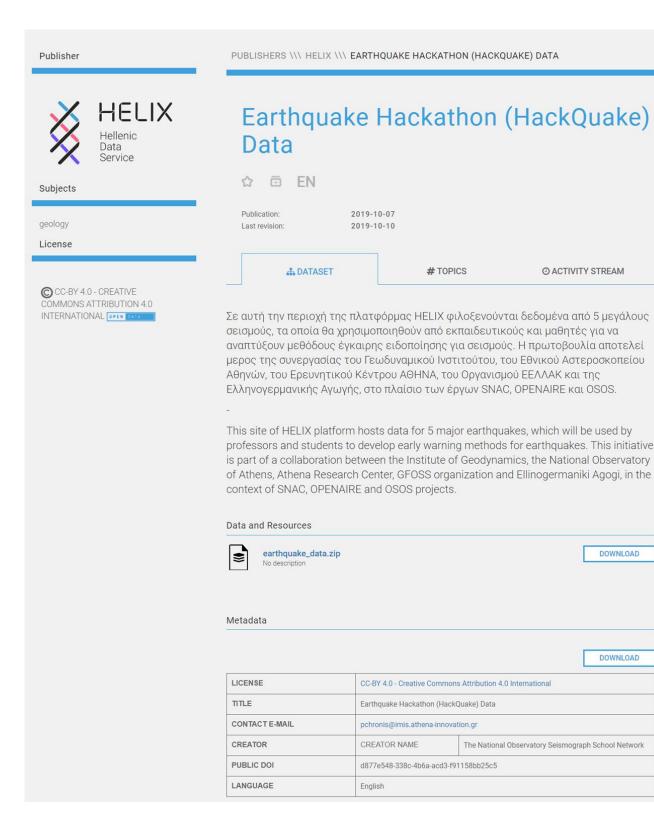




Hackquake data

Publicly available via HELIX

https://data.hellenicdataservice.gr/e n/dataset/f4dfd3fc-42ee-4a60-91a6-3e32af449654







Events

Hackquake 1 (2019)

Goals

Inform students and teachers

Educate teachers as trainers

Demonstrate the Data Journey from capture to visualizations & applications

Hackquake 2 (2020)

Goals

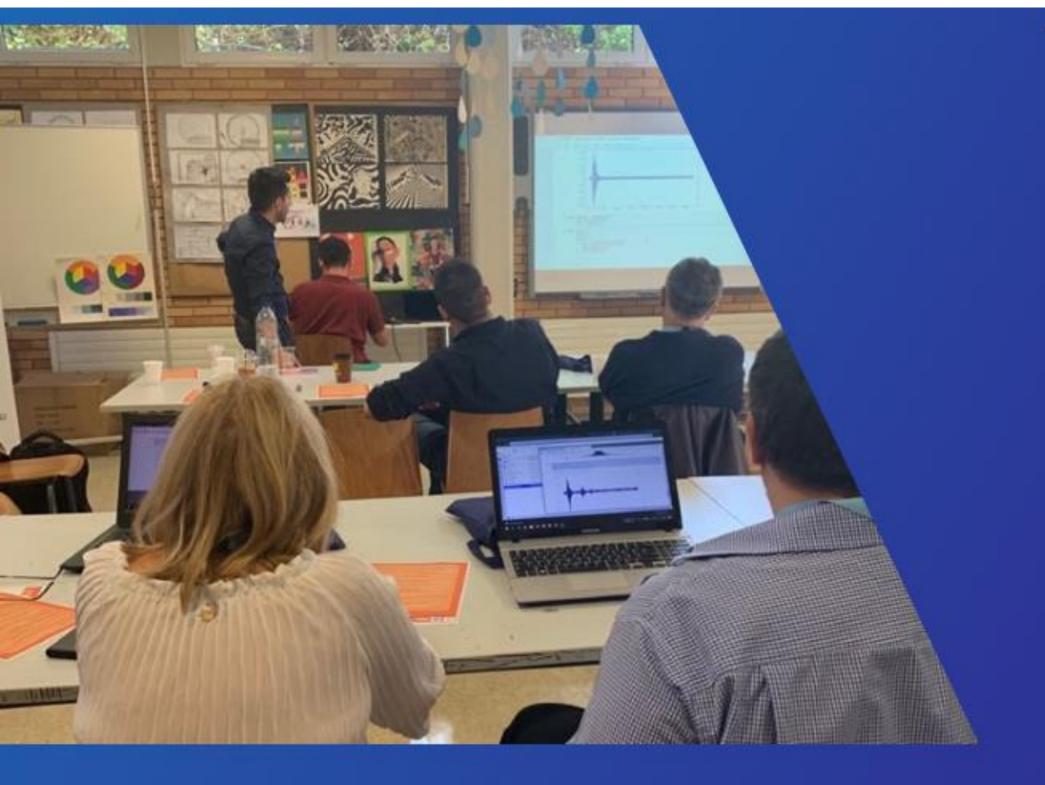
Broad invitation to school teams

Teams composition; students and teachers

Challenge teams to create applications









HACKQUAKE 2019

Citizen Science Data in Education



Publishing students research

The Journal

An international scientific Journal from students to students

https://ejournals.epublishing.ekt.g r/index.php/openschoolsjournal/in dex



Open Schools Journal for Open Science





Journal in numbers

217 Users

128 Authors

91 Reviewers



published items

new issues till the end of July 2020

>100 new articles





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Example article





Views: 33 Downloads: 22



How to cite

Jacques Backyard

A. Ferreira, I. Raposo, L. Fernandes

DOI: https://doi.org/10.12681/osj.23411

Abstract

From a letter to the School's director "What I think about my school", students identified problems and designed a project in order to have direct intervention in the solution. Under the theme "Biodiversity", the project aimed to create an "edible garden" at school and involved different activities: planting trees, identifying the existing ones, growing vegetables, composting and collecting rainwater for irrigation, where some of them. The construction of the gardens respected the underground life and the planting was done taking into account the intercropping of plants. Whenever possible, the project was linked to the students' curriculum. The project also had an artistic aspect: students and elderly people graffitied one of the walls next to the vegetable gardens, taking advantage of an autarchy project entitled "Active aging".

Keywords

Biodiversity; biotic interactions; climate change; material cycle; natural resources

Full Text:

PDF















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Archives























Vol 1, No 2 (2019)



Template and Instructions



Supported languages

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Abstract

Instructions: The abstract should present the concept in a way that is accessible to students 10-18 years old. In this paragraph please provide basic-level introduction to the field your research relates to; a brief description of the background and rationale of your work; a statement of the main conclusions (introduced by the phrase 'Here we show' or its equivalent); and finally, 2-3 sentences putting the main findings into more general context. The text of the summary section should be in 12-point normal Calibri. The summary should be no longer than **150 words**.





Open Schools Journal for Open Science Certificate of Reviewing

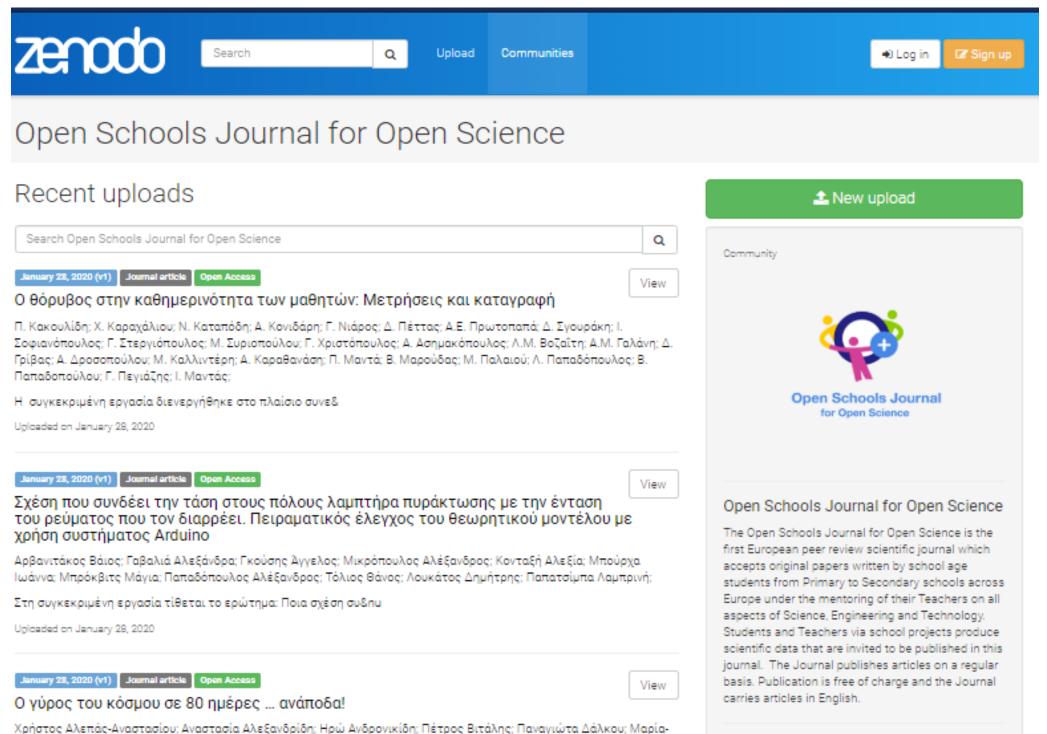
Awarded month, year to
SUSANNE RESCH
In recognition of the Review made for the Journal

The editor of Open Schools Journal for Open Science Eugenia Kypriotis, Ellinogermaniki Agogi

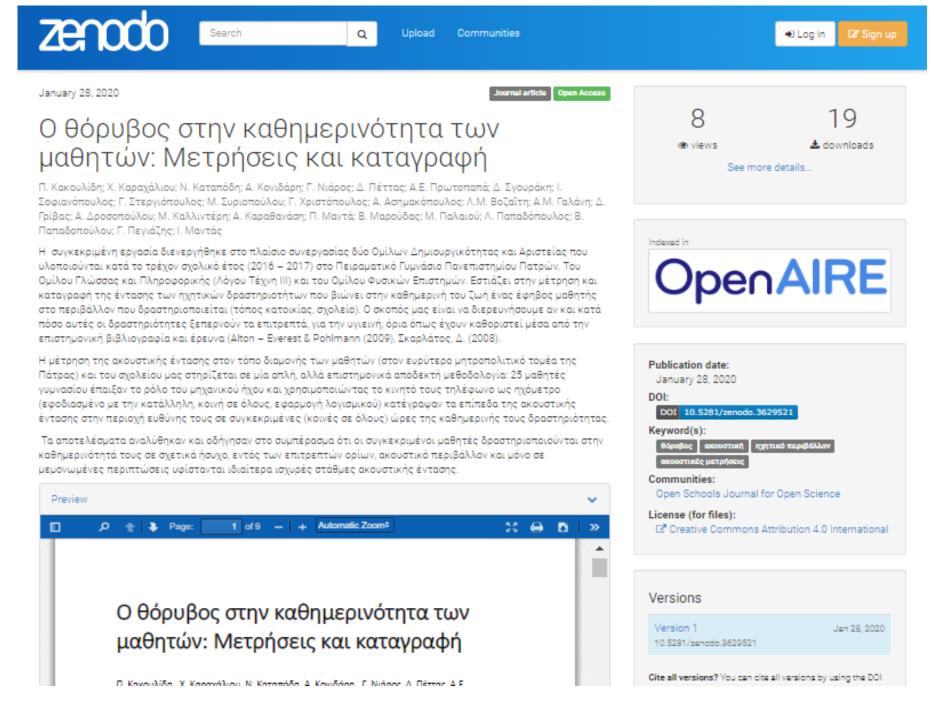


OSJ on Zenodo

Zenodo Community



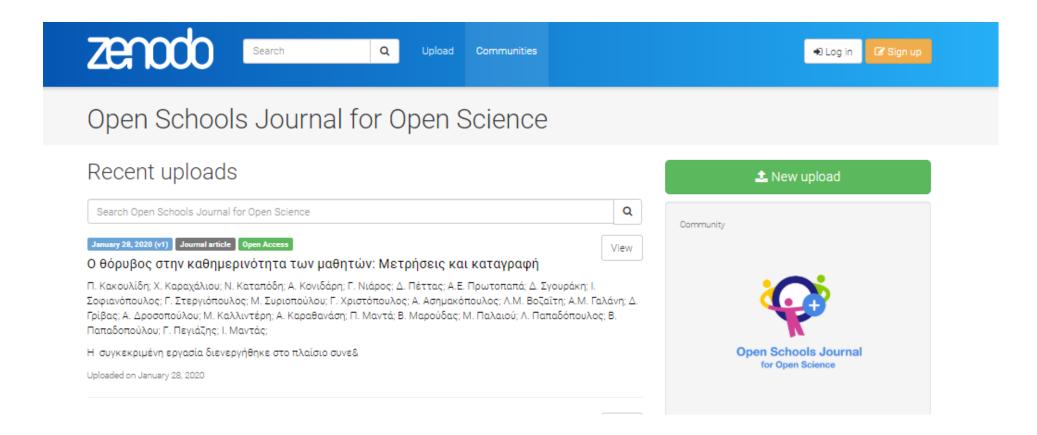
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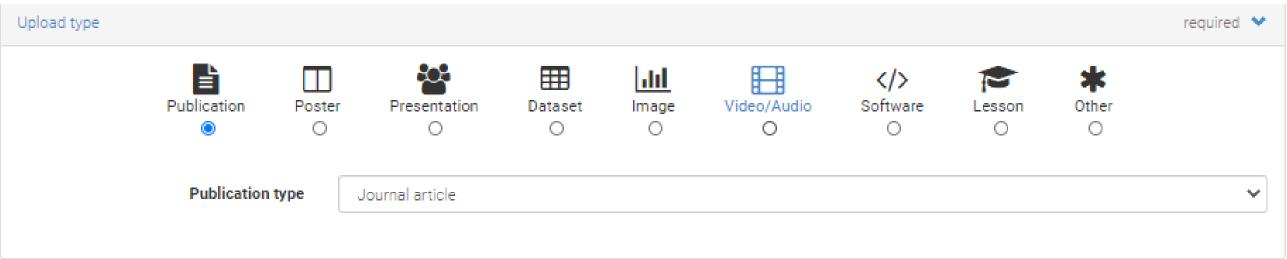






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Contributors References Journal Conference Book/Report/Chapter Thesis Subjects



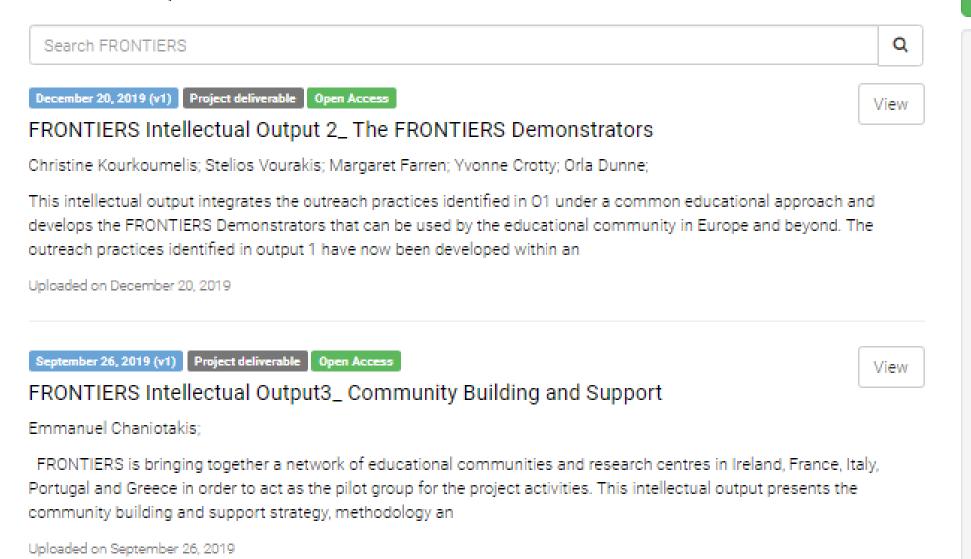




Nobel Prize Physics on Zenodo

Frontiers Zenodo community

Recent uploads



📤 New upload

Community



FRONTIERS

The FRONTIERS project, funded under the
Erasmus+ funding scheme, brings together
expertise from frontier scientific research and
educational research in formal and informal science
learning, along with user communities across
Europe, in order to demonstrate how Nobel Prize
winning science can be systematically integrated in
the school curriculum

This community will host project outputs, datasets, applications, educational and teacher training material developed or utilized by the FRONTIERS consortium in cutting edge science and aims to contribute in the further dissemination of modern science in K12 education.



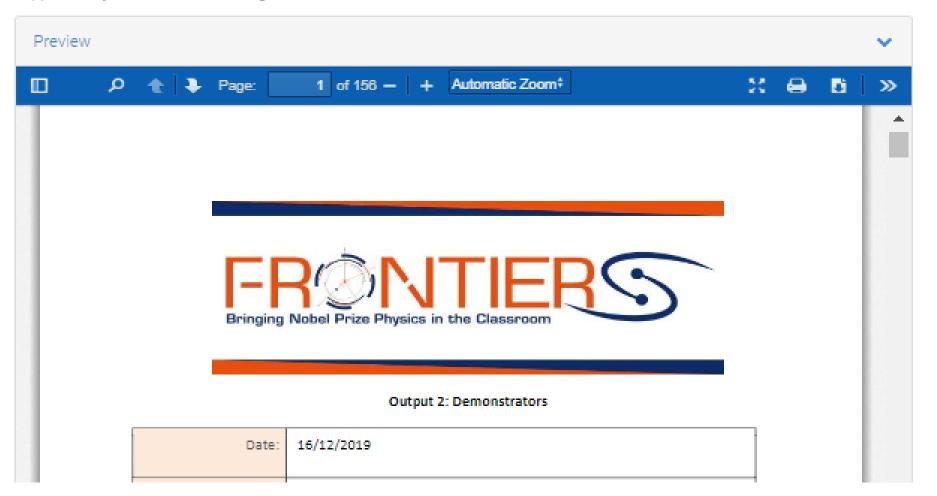


December 20, 2019 Project delivers

FRONTIERS Intellectual Output 2_ The FRONTIERS Demonstrators

Christine Kourkoumelis; Stelios Vourakis; Margaret Farren; Yvonne Crotty; Orla Dunne

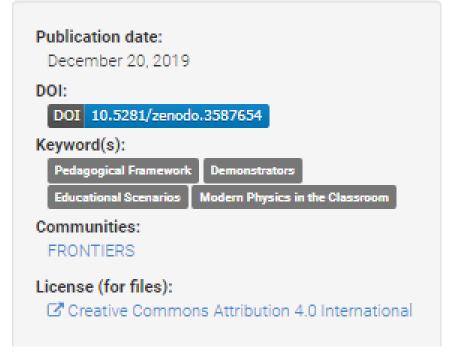
This intellectual output integrates the outreach practices identified in O1 under a common educational approach and develops the FRONTIERS Demonstrators that can be used by the educational community in Europe and beyond. The outreach practices identified in output 1 have now been developed within an inquiry based pedagogical framework and are supported by interactive technologies.





Open Access









Good practice example

New discovery!

Κυνήγι Εξωπλανητών

Ανδρέας Βατίστας, Βατίστας, Θανάσης Βασίλαινας Βασίλαινας, Εμμέλεια Βουτιέρου, Φωτεινή-Μαρία Δραβίλλα, Γιώργος Καλπαξής, Ρένια Μενέγου, Παναγιώτης Views: 64 Downloads: 41 Μιχάλαινας, Ιάσονας Παυλόπουλος, Δήμητρα Πίνα, Θωμάς Πιτσαργιώτης, Γιώργος Τσακίρης, Στέλιος Φραγκουδάκης, Δρ. Σωτήριος Τσαντίλας

DOI: https://doi.org/10.12681/osj.22398

Abstract

Από το 2009 το διαστημικό τηλεσκόπιο Kepler καταγράφει τις μικρές ελαττώσεις (εκλείψεις) στο φως μακρινών αστέρων που οφείλονται στη διάβαση (transit) πλανητών από μπροστά τους. Σκοπός μας είναι να εντοπίσουμε πλανήτες σε τροχιά γύρω από μακρινά άστρα από τα δεδομένα της αποστολής Kepler, χρησιμοποιώντας τη Μέθοδο των Διαβάσεων με τη βοήθεια δύο προγραμμάτων που έχει γράψει η ομάδα μας σε γλώσσα C. Εφόσον εντοπιστούν και επιβεβαιωθούν οι διαβάσεις, προχωρούμε στην ανάλυση των χαρακτηριστικών του πλανήτη: Ακτίνα, κλίση, απόσταση από το αστέρι, και κυρίως αν βρίσκεται στη λεγόμενη «κατοικήσιμη ζώνη» πράγμα που θα κάνει δυνατή τη διατήρηση ζωής. Λόγω του πολύ μικρού μεγέθους των πλανητών σε σχέση με το αστέρι τους, ο εντοπισμός αυτός είναι εξαιρετικά δύσκολος. Παρόλα αυτά έχουμε ήδη εντοπίσει έναν τέτοιο εξωπλανήτη σε τροχιά γύρω από τον αστέρα ΚΙΟ 1432789 τα χαρακτηριστικά του οποίου ανέλυσε η ομάδα μας για πρώτη φορά.

Since 2009, Kepler Space Telescope has been recording small reductions (eclipses) in the light of distant stars due to the transit of planets in front of them. Our goal is to detect planets in orbit around distant stars from Kepler's mission data, following the Reading Method using two programs written by our team in programme language C. If the readings are detected and confirmed, we proceed to their analysis. characteristics of the planet: Ray, inclination, distance from the star, and especially if it is in the so-called "habitable zone" which will make it possible to maintain life.

However, we have already identified such an exoplanet in orbit around the star KIC 1432789, the characteristics of which our team analyzed for the first time.







Eugenia Kypriotis,

ekypriotis@ea.gr, Ellinogermaniki Agogi

Androniki Pavlidou,

niki.pavlidou@athenarc.gr, Athena Research Center

OpenAIRE-Advance Citizen Science Webinar | June 30 2020 OpenAIRE-Advance receives funding from the EU Horizon 2020 Grant Agreement No.777541



Any questions?