DataCite

CONNECTING RESEARCH,
ADVANCING KNOWLEDGE

Advancing Citations, Open Research, and FAIR Practices for the Academic Community and Beyond: The Essential Role of Digital Object Identifiers (DOIs)

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November 23, 2023

"2nd Research Management & Administration Symposium 2023, 23 – 24 November 2023, Xiamen University Malaysia, Sepang, Selangor, Malaysia"

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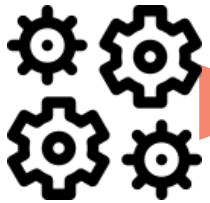
Persistent identifiers (PIDs)

PIDs

What is a persistent identifier (PID)?

https://doi.org/10.34848/GJO6SY



https://research-data.urosario.edu.co/dataset.xhtml?persistentId=doi:10.34848/GJO6SY

Unique alphanumeric string referring to a digital resource.

Always points to the same resource (a metadata representation)

DOIs for research outputs and resources
https://doi.org/10.5281/zenodo.3630248

ORCID iDs for researchers
https://orcid.org/0000-0001-6622-4910

ROR IDs for research organizations
https://ror.org/01y2jtd41

PIDs for people, places and things

DataCite

PIDs for people (researchers) include ISNI and ORCID

https://orcid.org/0000-0001-6622-4910

PID for places (research institutions) include ROR

https://ror.org/01y2jtd41

PIDs for things (research out outs and resources) include DOIs, handles, IGSN, ARK and more

https://doi.org/10.5061/dryad.708gr

PIDs for research organizations

DataCite

https://ror.org/0331wa828

Xiamen University Malaysia

ORGANIZATION TYPE

Education

OTHER NAMES

XMUM, Universiti Xiamen Malaysia

WEBSITE

http://www.xmu.edu.my/

RELATIONSHIPS

Parent Organization(s)

Xiamen University

LOCATION

Sepang (GeoNames ID 1734821)

Malaysia

OTHER IDENTIFIERS

GRID grid.503008.e

ISNI 0000 0004 7423 0677

Wikidata Q55637988

DataCite DOIs

About DataCite

We are a global community that shares a common interest: to ensure that research outputs and resources are openly available and connected so that their reuse can advance knowledge across and between disciplines, now and in the future.

As a community, we make research more effective with metadata that connects research outputs and resources–**from samples and images to data and preprints**. We enable the creation and management of persistent identifiers (PIDs), integrate services to improve research workflows, and facilitate the discovery and reuse of research outputs and resources.

Our Community

DataCite

3000+

Repositories

52

Countries

55m+

DOIs

1400+

Organizations

(October 2023)

Strategic Initiatives
It Takes a Village

In line with our mission and vision, DataCite also actively participates and leads various initiatives through collaboration with stakeholders in the community to make open science a reality.

- **Data metrics** – We help further the adoption and implementation of responsible data metrics with, for example, the Make Data Count initiative.
- **Identifier registries** – We support community-led registries of identifiers such as the Research Organization Registry (ROR).
- **Repository discovery** – We contribute to the development of repository discovery initiatives such as re3data with collaboration and financial support.

https://makedatacount.org/

https://ror.org/

https://www.re3data.org/

Types of research outputs

DataCite

DataCite DOIs are suitable for a wide range of research outputs:

1. Research datasets and collections, associated workflows, software, images, and models

2. Grey literature such as theses, dissertations, reports, unpublished conference papers, newsletters, preprint journal articles, technical standards, and specifications for which the institutional repository is the primary publication point.

Resource Types in DataCite Registry

DataCite

Dataset	16,200,197
Physical Object	14,098,123
Text	11,966,471
Image	4,137,380
Other	2,396,391
Journal Article	1,125,328
Preprint	1,115,782
Collection	977,478
Software	451,102
Audiovisual	346,942
Interactive Resource	127,466

☐ Dissertation	120,391
☐ Report	115,543
☐ Project	101,985
☐ Conference Paper	87,841
☐ Book	83,956
☐ Sound	52,004
☐ Book Chapter	34,323
☐ Event	19,157
☐ Data Paper	15,632
☐ Model	14,638
☐ Workflow	5,931
☐ Output Management Plan	3,391

PIDs for research outputs

Dataset

DataCite

DRYAD

Who we are

Data from: Towards robust evolutionary inference with integral projection models

Janeiro, M. J., University of St Andrews, University of Aveiro

Coltman, D. W.

Festa-Bianchet, M., University of Alberta

Pelletier, F., University of Alberta

Morrissey, M. B., University of St Andrews

Publication date: December 3, 2021

Publisher: Dryad

https://doi.org/10.5061/dryad.708gr

Citation

Janeiro, M. J. et al. (2021), Data from: Towards robust evolutionary inference with integral projection models, Dryad, Dataset, https://doi.org/10.5061/dryad.708gr

PIDs for research outputs

ETDs

DataCite

Theoretical Investigation of Monolayer C6N3 as Anode Material for Li-, Na-, and K-Ion Batteries

Files

Bushra Alharbi Thesis.pdf (1.01 MB)
Bushra Alharbi - MS Thesis Result .pdf (460.48 KB)
Final Approval Form – 183043, Bushra Alharbi, M.Sc. Thesis.pdf (131.39 KB)

Type

Thesis

Authors

Alharbi, Bushra

Advisors

Schwingenschlögl, Udo

Committee Members

Abstract

Lithium-ion batteries (LIBs) are widely applied in a variety of applications such as mobile phones, laptop chargers, and electric vehicles. Thanks to a high energy density of about 120 to 220 Wh kg-1, LIBs are used for a long time, however, the present technology is unable to satisfy the increasing energy storage requirements. Therefore, increasing the energy density of LIBs to improve the performance is very important. Because of that the specific capacity and operation voltage of the anode and cathode materials determine the energy density, improving these two parameters is the key point. This can be achieved in two ways, one being the optimization of the electrode materials of existing LIBs, both cathode and anode, the other is the development of new battery systems to replace LIBs, potassium-ion batteries (KIBs) and sodium-ion batteries (NIBs) are examples of such new systems. In any case, the selection of the electrode materials is crucial.

With a rapid development of two-dimensional (2D) materials, leading directly to an increase interest in exploring 2D materials in order to serve as possible electrode materials, based on their unique 2D structures, large conductivity, and most importantly, wide specific surface area. Among them lays graphene-like carbon-nitride materials with lightweight properties. These materials have collected spotlights in multiple fields that are concerned with energy harvesting and storage. The metallic monolayer C6N3 is a very recently discovered member in this family, which is chemically, mechanically, dynamically, and thermodynamically stable through the first-principal calculations.

In this work, we investigate the monolayer C6N3 performance as a potential and promising foundation for the anode material of LIBs/NIBs/KIBs. According to our theoretical investigation, the metallic monolayer C6N3 should be an effective anode material for the LIBs/NIBs/KIBs, which combines high specific capacity and low average open-circuit voltage.

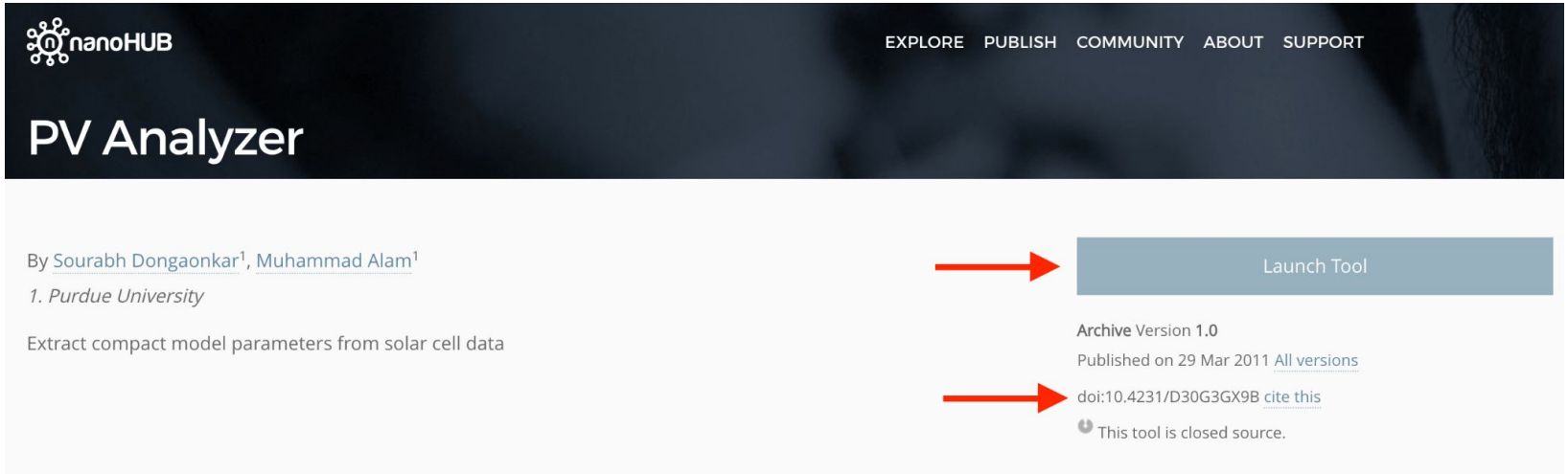
DOI

10.25781/KAUST-RU5AJ

PIDs for research outputs

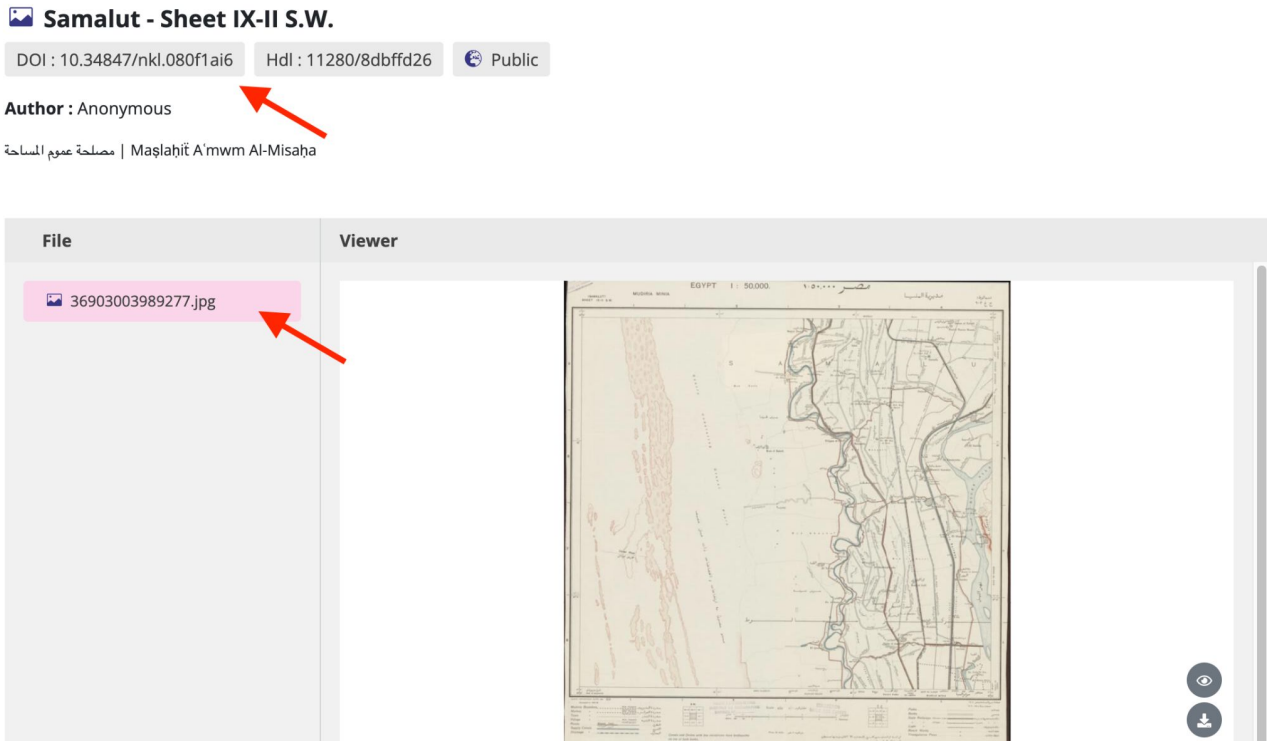
Software

DataCite



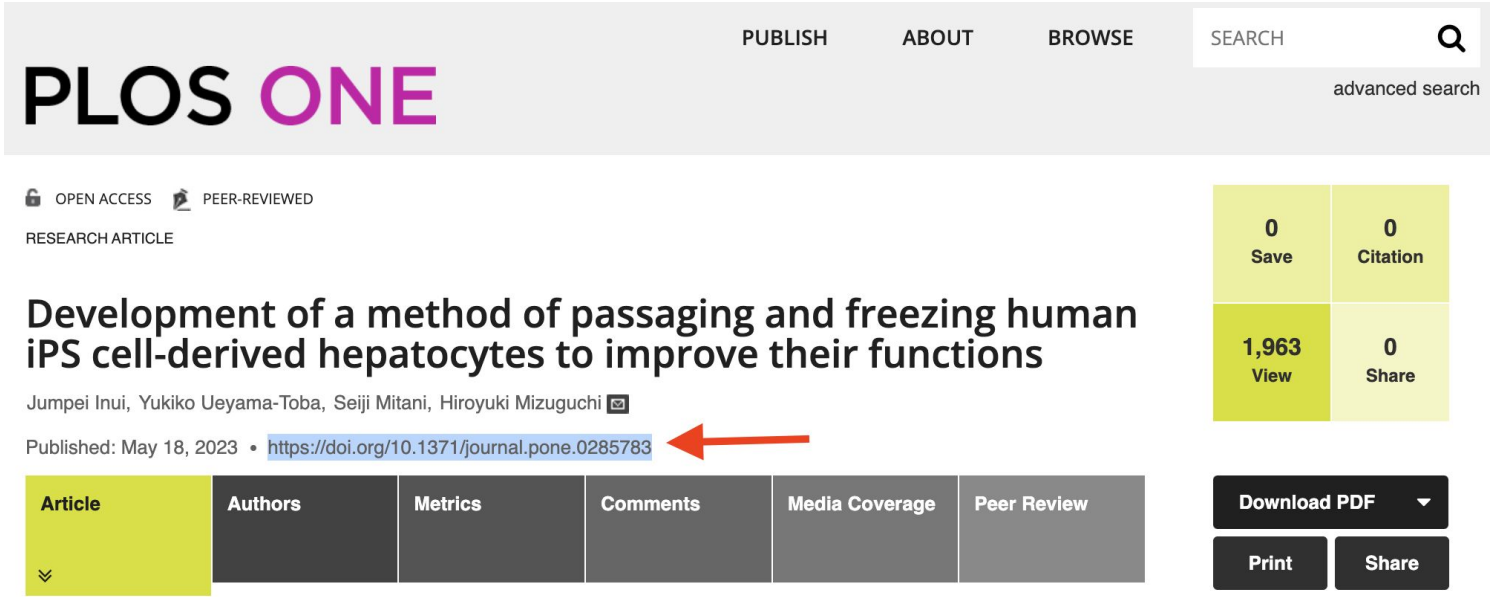
PIDs for research outputs

Theses



PIDs for research outputs

Journal article



FAIR Principles and PIDs

FAIR Principles

DataCite

scientific data

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nature > scientific data > comment > article

Open Access | Published: 15 March 2016

The FAIR Guiding Principles for scientific data management and stewardship

Mark D. Wilkinson, Michel Dumontier, IJsbrand Jan Aalbersberg, Gabrielle Appleton, Myles Axton, Arie Baak, Niklas Blomberg, Jan-Willem Boiten, Luiz Bonino da Silva Santos, Philip E. Bourne, Jildau Bouwman, Anthony J. Brookes, Tim Clark, Mercè Crosas, Ingrid Dillo, Olivier Dumon, Scott Edmunds, Chris T. Evelo, Richard Finkers, Alejandra Gonzalez-Beltran, Alasdair J.G. Gray, Paul Groth, Carole Goble, Jeffrey S. Grethe, ... Barend Mons + Show authors

Scientific Data **3**, Article number: 160018 (2016) | Cite this article

610k Accesses | **6015** Citations | **2128** Altmetric | Metrics

Download PDF

Associated Content

Collection

Scientific data

Collection

Metadata quality

Sections | References

Abstract

Making research data FAIR
With PIDs

DataCite

Findable
(Meta)data are assigned a globally unique and persistent identifier

Accessible
(Meta)data are retrievable via an identifier using a standardized protocol
Metadata are accessible, even when the data are no longer available

Interoperable
(Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.

Reusable
(Meta)data are richly described with a plurality of accurate & relevant attributes

Making research data FAIR
With PIDs

DataCite

The first step in (re)using data is to find them. Metadata and data should be easy to find for both humans and computers. Machine-readable metadata are essential for automatic discovery of datasets and services, so this is an essential component of the FAIRification process.

PID

Findable

(Meta)data are assigned a globally unique and persistent identifier

Making research data FAIR
With PIDs

DataCite

Once the user finds the required data, she/he/they need to know how they can be accessed, possibly including authentication and authorisation.

PID

Accessible

(Meta)data are retrievable via an identifier using a standardized protocol
Metadata are accessible, even when the data are no longer available

Making research data FAIR
With PIDs

DataCite

The data usually need to be integrated with other data. In addition, the data need to interoperate with applications or workflows for analysis, storage, and processing.

PID

Interoperable

(Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.

Making research data FAIR
With PIDs

DataCite

The ultimate goal of FAIR is to optimise the reuse of data. To achieve this, metadata and data should be well-described so that they can be replicated and/or combined in different settings.

PID

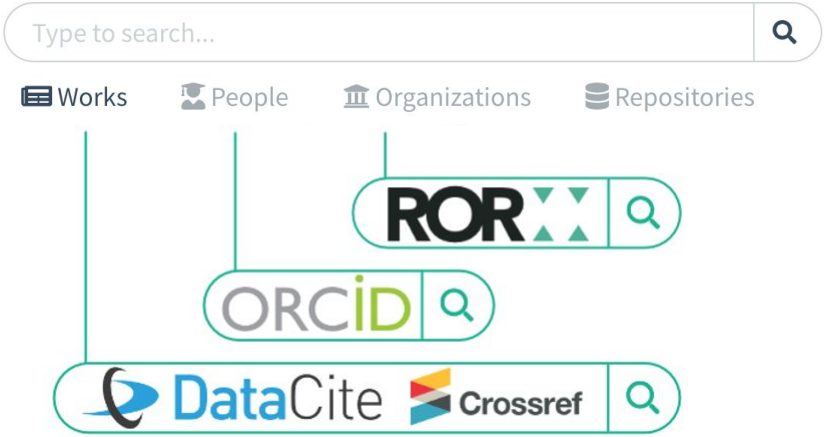
Reusable

(Meta)data are richly described with a plurality of accurate & relevant attributes

Connecting research

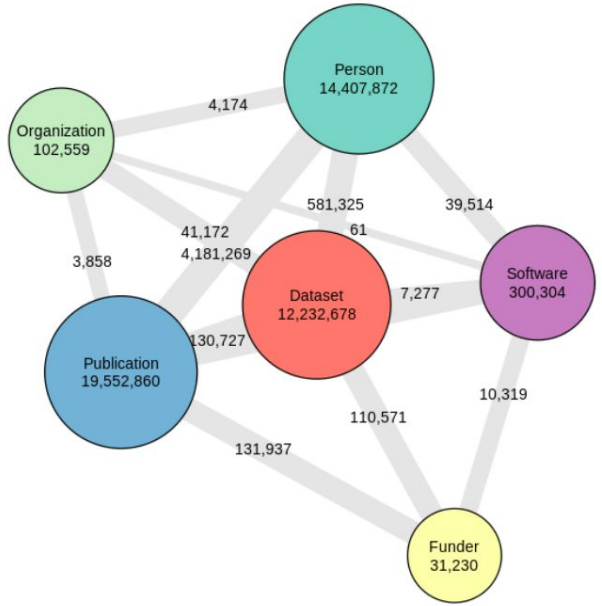
Find and connect research

Find the research with DataCite Commons
commons.datacite.org



The PID Graph

Number of nodes and connections (August 2022)



Find a dataset

DataCite

DataCite Commons

comparative analysis of the S-locus and nuclear SSR

Pages Support Sign In

Works People Organizations

2 Works

Publication Year

- 2012 2

Work Type

- Dataset 1
- Text 1

License

- CC0-1.0 1

Language

- English 1

Registration Agency

- Crossref 1
- DataCite 1

Data from: Impact of negative frequency-dependent selection on mating pattern and genetic structure: a comparative analysis of the S-locus and nuclear SSR loci in Prunus lannesiana var. speciosa

Kato Shuri, Teruyoshi Nagamitsu, Hiroyoshi Iwata, Yoshihiko Tsumura, Yuzuru Mukai, K Michiharu, K Saika & K Junko
Version 1 of Dataset published 2012 in DRYAD

Mating processes of local demes and spatial genetic structure of island populations at the self-incompatibility (S-) locus under negative frequency-dependent selection (NFDS) were evaluated in Prunus lannesiana var. speciosa in comparison with nuclear simple sequence repeat (SSR) loci that seemed to be evolutionarily neutral. Our observations of local mating patterns indicated that male-female pair fecundity was influenced by not only self-incompatibility, but also various factors such as kinship, pollen production and flowering synchrony. In spite of the mating bias caused by these factors, the NFDS effect on changes in allele frequencies from potential mates to mating pollen was detected at the S-locus but not at the SSR loci although the changes from adult to juvenile cohorts were not apparent at any loci. Genetic differentiation and isolation-by-distance over various spatial scales were smaller at the S-locus than at the SSR loci, as expected under the NFDS. All ele sharing distributions among the populations also had a unimodal pattern at the S-locus, indicating the NFDS effect except for alleles unique to individual populations probably due to isolation among islands, although this pattern was not exhibited by the SSR loci. Our results suggest that the NFDS at the S-locus has an impact on both the mating patterns and the genetic structure in the P. lannesiana populations studied.

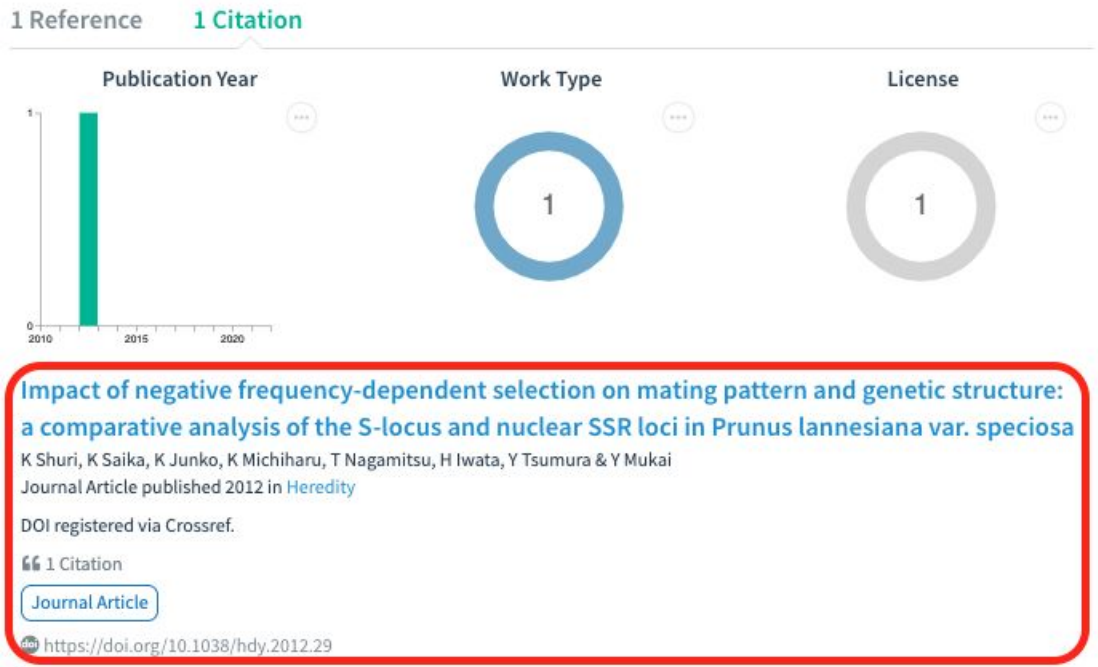
DOI registered April 17, 2012 via DataCite.

1 Citation 103 Views 16 Downloads

Dataset English

https://doi.org/10.5061/dryad.7c425

Bring citations to the surface



Support recognition

DataCite

Data from: Impact of negative frequency-dependent selection on mating pattern and genetic structure: a comparative analysis of the S-locus and nuclear SSR loci in Prunus lannesiana var. speciosa

https://doi.org/10.5061/dryad.7c425

1 Citation · 118 Views · 16 Downloads

Add to ORCID Record

Download Metadata

Description | Creators | Registration

Kato Shuri	Forestry and Forest Products Research Institute
Teruyoshi Nagamitsu	Forestry and Forest Products Research Institute
Hiroyoshi Iwata	University of Tokyo
Yoshihiko Tsumura	Forestry and Forest Products Research Institute
Yuzuru Mukai	Gifu Univ
K Michiharu	Kyoto Un
K Saika	Tokyo In
K Junko	Gunma U

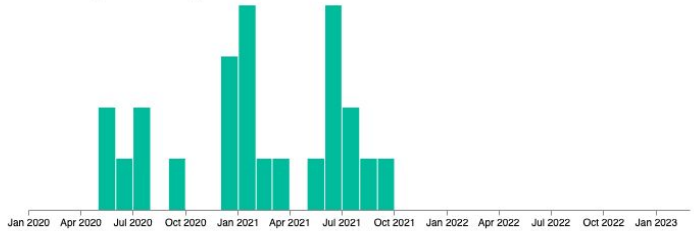
Cite as

Shuri, K., Nagamitsu, T., Iwata, H., Tsumura, Y., Mukai, Y., Michiharu, K., Saika, K., & Junko, K. (2012). *Data from: Impact of negative frequency-dependent selection on mating pattern and genetic structure: a comparative analysis of the S-locus and nuclear SSR loci in Prunus lannesiana var. speciosa* (Version 1) [Data set]. Dryad. https://doi.org/10.5061/DRYAD.7C425

APA

118 Views | 16 Downloads

118 views reported since publication in 2012.



Organizations – citations and use

World Agroforestry Centre https://ror.org/01kmz4383

2,915	29	1,116	262
Works	**Citations**	**Views**	**Downloads**

Founded 1978

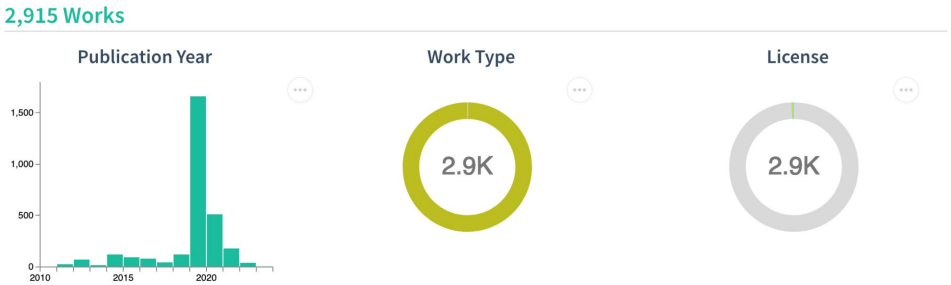
Links
Homepage
Wikipedia
Twitter

Other Identifiers
GRID grid.435643.3
Crossref Funder ID 10.13039/501100015769
ISNI 0000000099721350
Wikidata Q1362380

Geolocation
1° 14' 11.67" S36° 49' 08.4216" W

Kenya | Nonprofit | DataCite Consortium Organization

https://ror.org/01kmz4383



DOIs for research outputs

DataCite

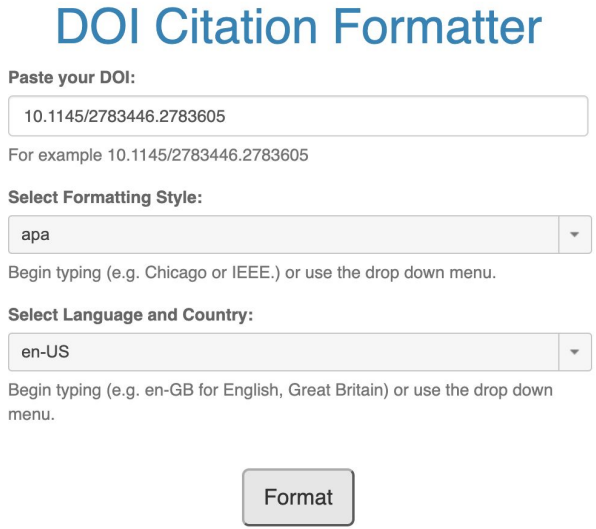
Different **research outputs** should be **registered** with DOIs such as journal articles, samples, protocols, datasets, dissertations, software, ...

VALUE

discoverable, accessible, citable, reusable

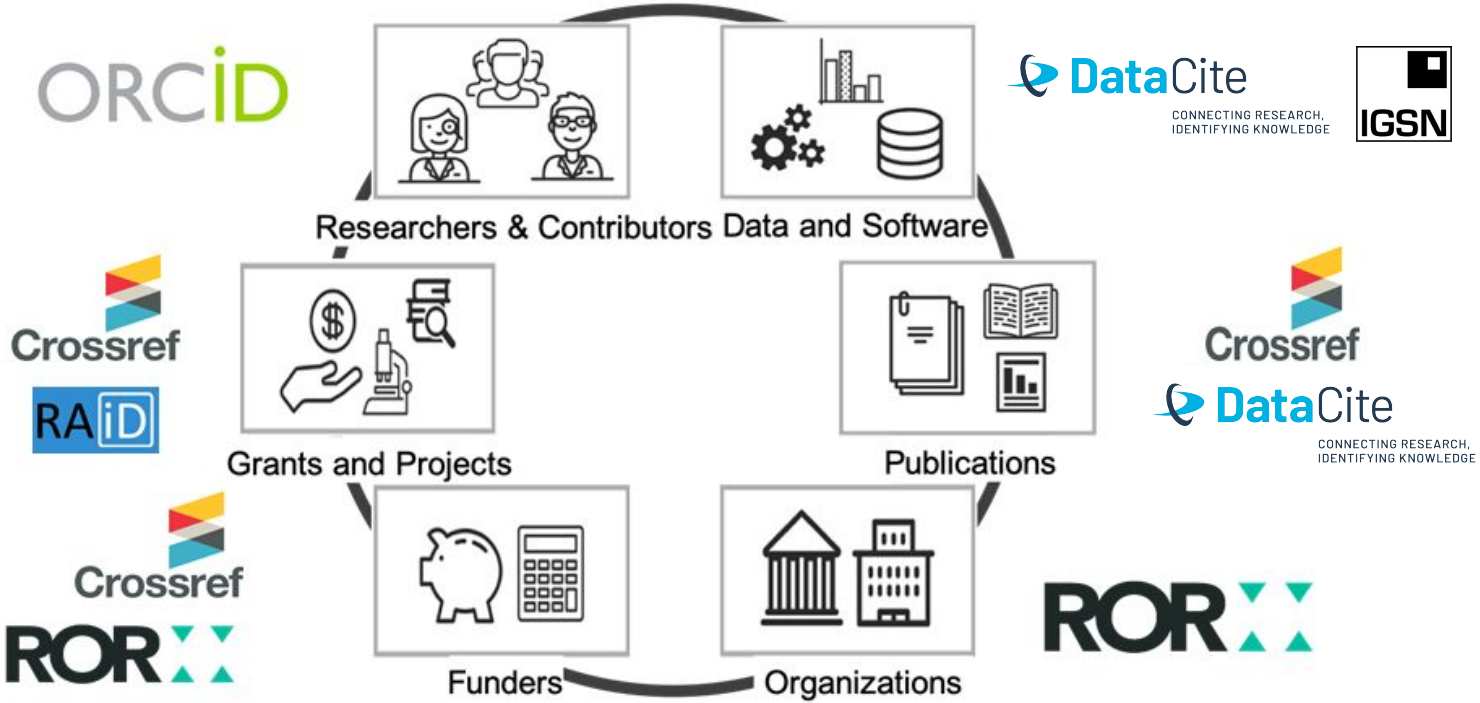
Retrieving DOI Metadata

DataCite



https://citation.crosscite.org/

Persistent Identifier (PIDs)



Persistent Identifiers

DataCite

Implementing PIDs in research workflows can enhance the visibility and accessibility of research outputs within the **Open Research** framework. This practice promotes more **transparency, collaboration and trust** in the research ecosystem.

Thank you!
Questions?

DataCite

CONNECTING RESEARCH,
IDENTIFYING KNOWLEDGE

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