Accelerating your research by utilizing research data

Data Citation Index on the Web of Science

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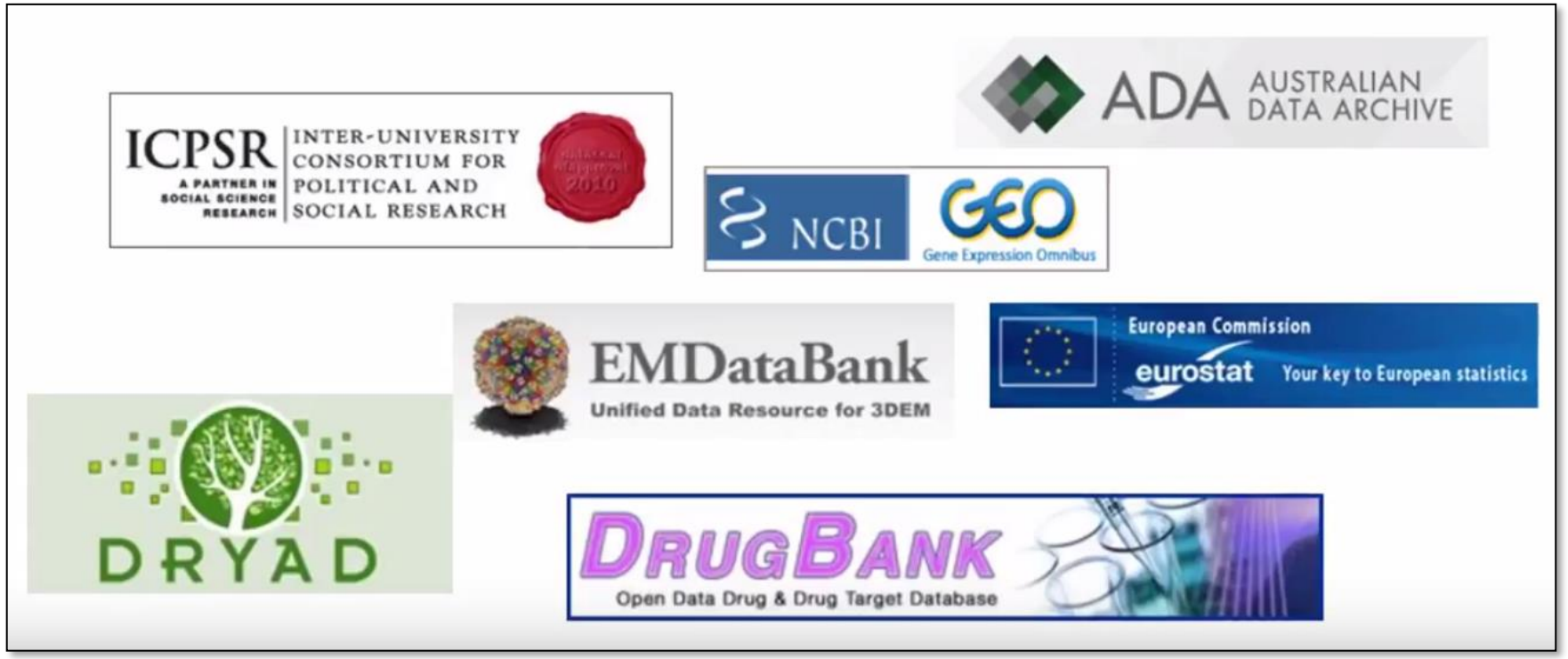
Data Citation Index

Why is it needed?

There is an ever-increasing need for access to digital research data,
with demand coming from both researchers and funding agencies.

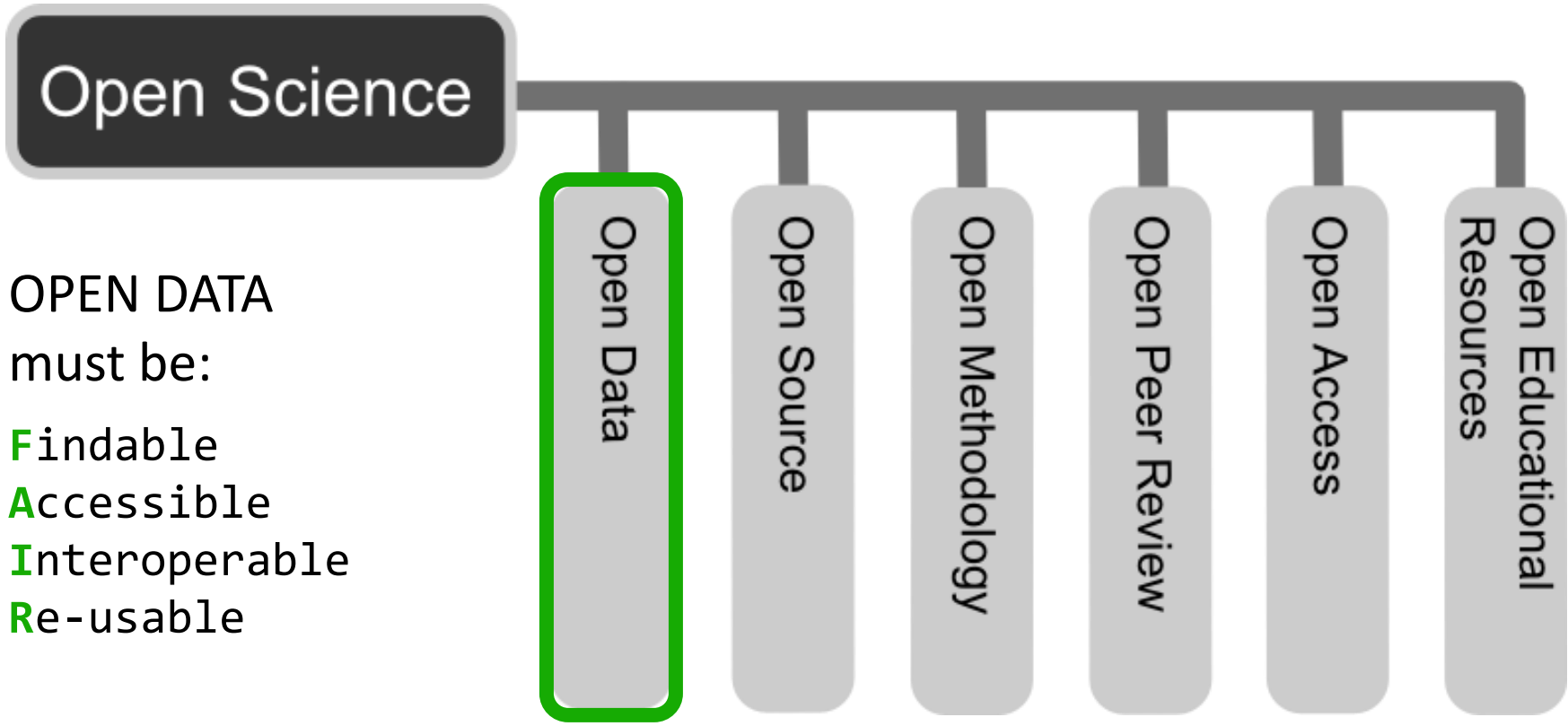


There are numerous Data Repositories but they vary in their structure and their search capabilities.
So there is the need for a standard search tool.

Data Citation Index

Promoting Open Science

One of the key blocks in the Open Science model is Open Data



OPEN DATA must be:

Findable
Accessible
Interoperable
Re-usable

The Data Citation Index is assisting researchers with each of these

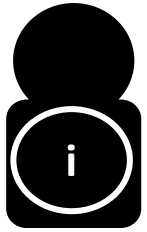
443 repositories	12M+ datasets	1.4M Data studies

Data Citation Index

The Data Citation Index makes it easy to bring research data into your workflow.

Researchers

- **Save time** spent looking for data by searching across content from **over 440** repositories in one place.
- **Track citations to the data and software you have deposited.**
- **12M+ million data sets indexed**
- Provides data studies from **1900-present**



Librarians

- **Promote the value and importance of sharing data** & following the best data management practices**.**
- **Provide a trusted reference** for faculty unsure of where to deposit data.

Master Repository List

eurostat
Your key to European statistics

DRYAD

JGI Genome Portal

DRUGBANK

PANGAEA.
Data Publisher for Earth & Environmental Science

hmdb
The Human Metabolome Database

ADA AUSTRALIAN DATA ARCHIVE

Clarivate™

*Statistics as of Jjnuary 1st 2022

Repository Selection & Evaluation

Publishing Standards

Persistence and Stability
Funding Statements
Peer Review
Age of material
Metadata & links to the literature

Editorial Content

Emerging topics
Active fields

International Diversity

Among Authors, Editors, Data Producers & Deposited Data.

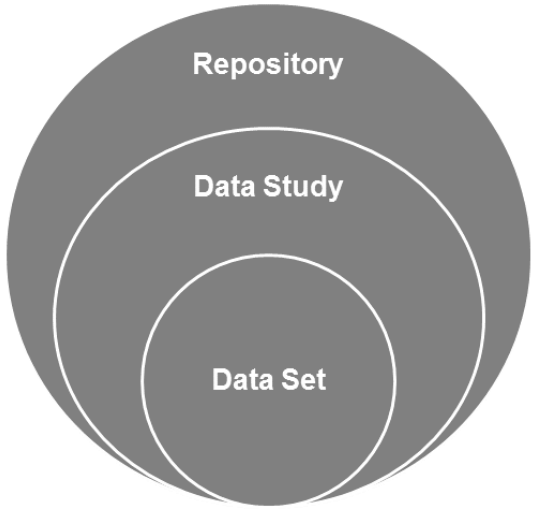
Data Citations

References that cite the data
References cited by the data

The Repository Selection Process explained

Data Citation Index

Document types in DCI

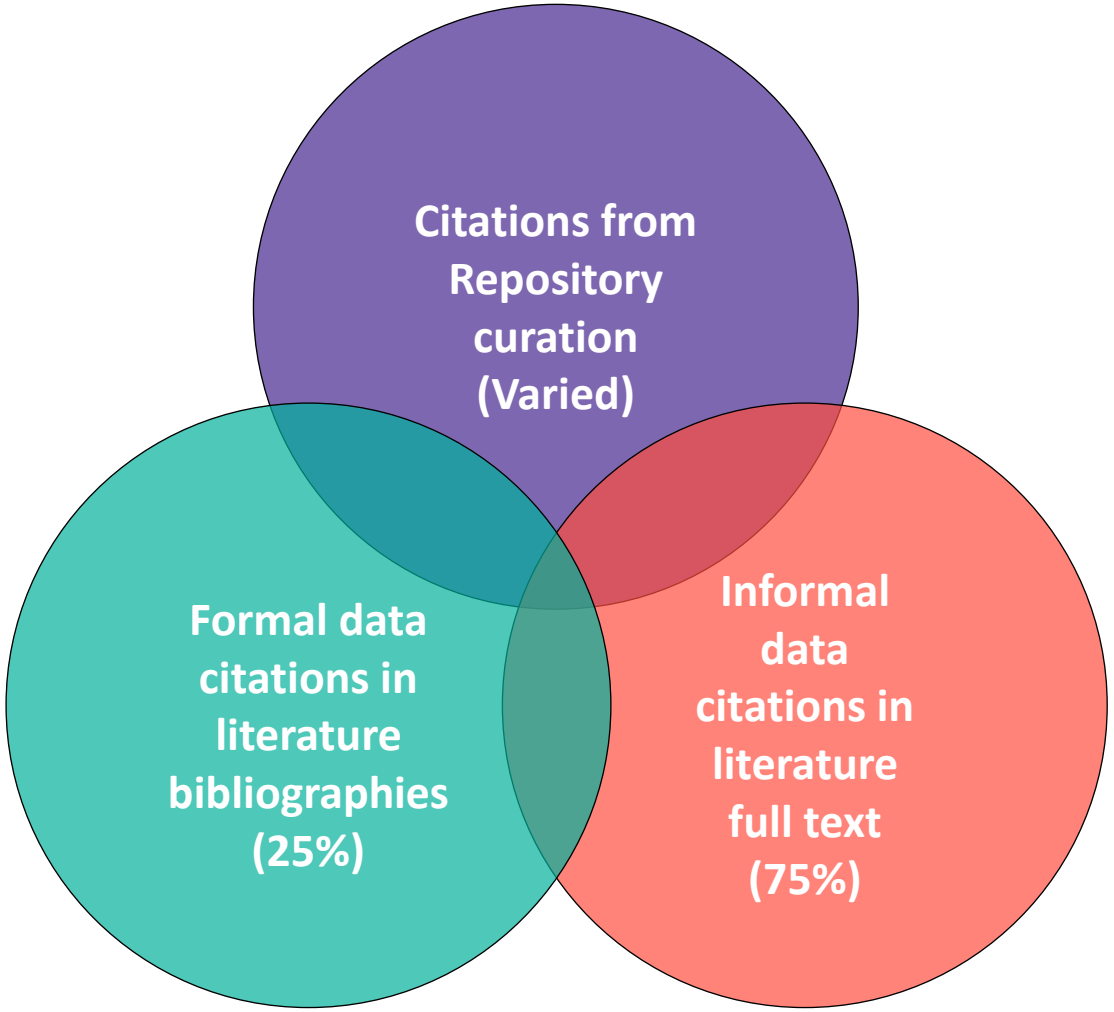


We evaluate and select the best data repositories for content, persistence and stability, and searchability. Data that we index is organized into three document types to enhance searchability and discoverability:

- **Repository**: This resource consists of data studies and data sets and provides access to the data.
    - **Data Study**: This is a description of the study or experiment with the associated data used in the study. Includes serial or longitudinal studies over time.
        - **Data Set**: A single or coherent set of data, or a data file, provided by the repository as part of a collection, data study, or experiment.
        - **Software**: A computer program or package in source code or compiled form, which can be installed on another machine and used to support & analyze research.

Data Citation Index – How do we curate it?

The citation information is gathered from three main sources



Not all repositories provide citation data. The informal citations in literature are gathered from life science databank accession numbers.

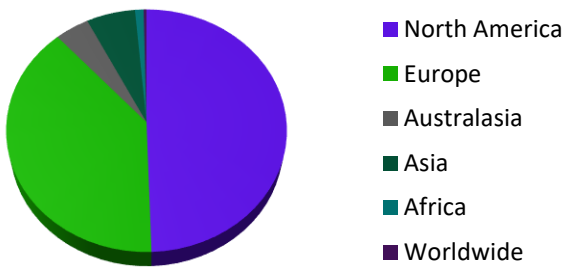
Type of data by discipline

ART & HUMANITIES
CULTURAL HERITAGE
LANGUAGE CORPUS
IMAGE COLLECTIONS
RECORDINGS

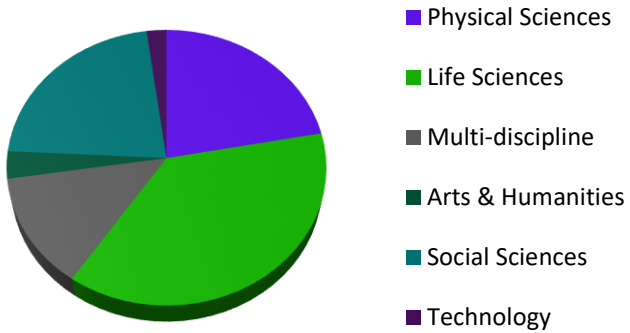
SOCIAL SCIENCES
POLL DATA
ECONOMIC STATISTICS
LONGITUDINAL DATA
NATIONAL CENSUS
PUBLIC OPINION SURVEYS

SCIENCE & TECHNOLOGY
MAPS
ALGORITHMS
GENOMICS
SKY SURVEYS
ASTROPHYSICS
REMOTE SENSING
MUSEUM SPECIMENS

Active Repository by Continent



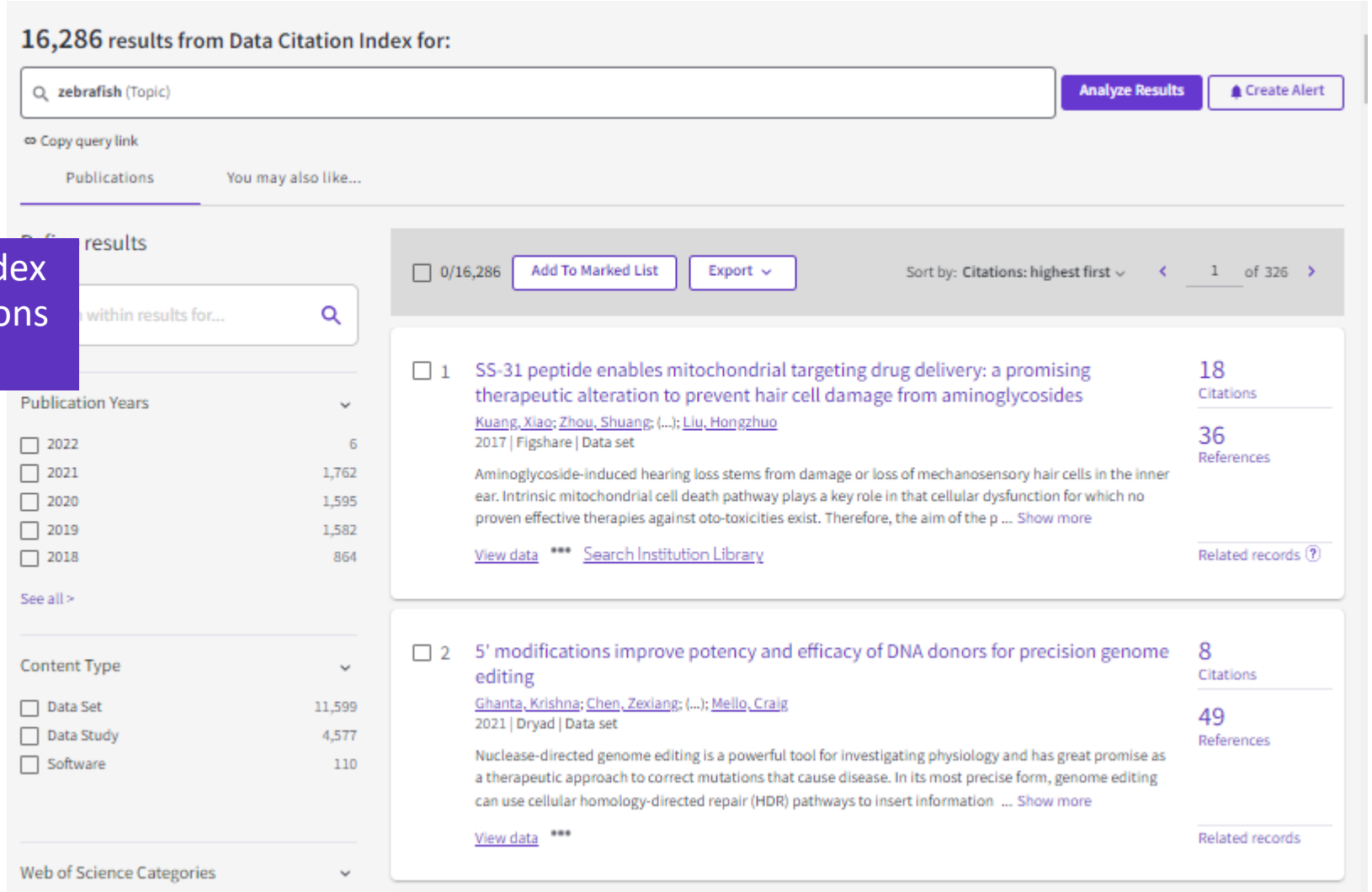
Active Repository by Disipline



Data Citation Index

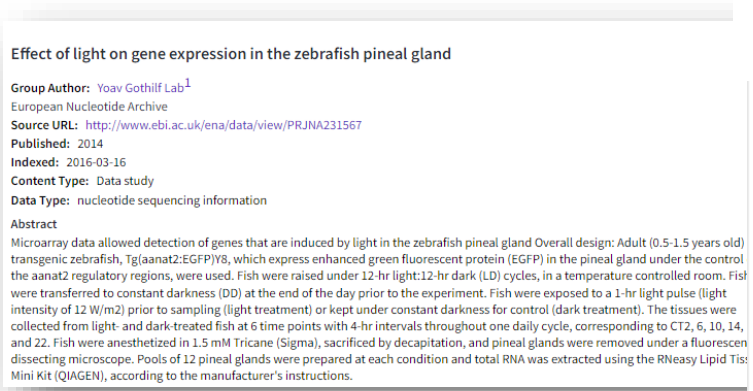
Results List

Search Results within the Data Citation Index present the powerful Web of Science options for exploring a body of information.



Identify cited research data in Web of Science

Access the DCI record


Effect of light on gene expression in the zebrafish pineal gland

Group Author: Yoav Gothilf Lab[1]
European Nucleotide Archive
Source URL: http://www.ebi.ac.uk/ena/data/view/PRJNA231567
Published: 2014
Indexed: 2016-03-16
Content Type: Data study
Data Type: nucleotide sequencing information

Abstract
Microarray data allowed detection of genes that are induced by light in the zebrafish pineal gland Overall design: Adult (0.5-1.5 years old) transgenic zebrafish, Tg(aanat2:EGFP)Y8, which express enhanced green fluorescent protein (EGFP) in the pineal gland under the control the aanat2 regulatory regions, were used. Fish were raised under 12-hr light:12-hr dark (LD) cycles, in a temperature controlled room. Fish were transferred to constant darkness (DD) at the end of the day prior to the experiment. Fish were exposed to a 1-hr light pulse (light intensity of 12 W/m2) prior to sampling (light treatment) or kept under constant darkness for control (dark treatment). The tissues were collected from light- and dark-treated fish at 6 time points with 4-hr intervals throughout one daily cycle, corresponding to CT2, 6, 10, 14, and 22. Fish were anesthetized in 1.5 mM Tricane (Sigma), sacrificed by decapitation, and pineal glands were removed under a fluorescen dissecting microscope. Pools of 12 pineal glands were prepared at each condition and total RNA was extracted using the RNeasy Lipid Tis Mini Kit (QIAGEN), according to the manufacturer's instructions.

The light-induced transcriptome of the zebrafish pineal gland reveals complex regulation of the circadian clockwork by light

Associated Data

By: Ben-Moshe, Z (Ben-Moshe, Zohar) [1]; Alon, S (Alon, Shahar) [1, 2]; Mracek, P (Mracek, Philipp) [3]; Faigenbloom, L (Faigenbloom, Lior) [1]; Tovin, A (Tovin, Adi) [1]; Vatine, GD (Vatine, Gad D.) [1]; Eisenberg, E (Eisenberg, Eli) [2, 4]; Foulkes, NS (Foulkes, Nicholas S.) [3]; Gothilf, Y (Gothilf, Yoav) [1, 2]

View Web of Science ResearcherID and ORCID (provided by Clarivate)

NUCLEIC ACIDS RESEARCH
Volume: 42 **Issue:** 6 **Page:** 3750-3767
DOI: 10.1093/nar/gkt1359
Published: APR 2014
Indexed: 2014-05-21
Document Type: Article

Abstract
Light constitutes a primary signal whereby endogenous circadian clocks are synchronized ('entrained') with the day/night cycle. The molecular mechanisms underlying this vital process are known to require gene activation, yet are incompletely understood. Here, the light-induced transcriptome in the zebrafish central clock organ, the pineal gland, was characterized by messenger RNA (mRNA) sequencing (mRNA-seq) and microarray analyses, resulting in the identification of multiple light-induced mRNAs. Interestingly, a considerable portion of the molecular clock (14 genes) is light-induced in the pineal gland. Four of these genes, encoding the transcription factors dec1, reverbb1, e4bp4-5 and e4bp4-6, differentially affected clock- and light-regulated promoter activation, suggesting that light-input is conveyed to the core clock machinery via diverse mechanisms. Moreover, we show that dec1, as well as the core clock gene per2, is essential for light-entrainment of rhythmic locomotor activity in zebrafish larvae. Additionally, we used microRNA (miRNA) sequencing (miR-seq) and identified pineal-enhanced and light-induced miRNAs. One such miRNA, miR-183, is shown to downregulate e4bp4-6 mRNA through a 3'UTR target site, and importantly, to regulate the rhythmic mRNA levels of aanat2, the key enzyme in melatonin synthesis. Together, this genome-wide approach and functional characterization of light-induced factors indicate a multi-level regulation of the circadian clockwork by light.

Keywords
Keywords Plus: HYPOXIA-INDUCIBLE FACTOR-1-ALPHA; N-ACETYLTRANSFERASE; MOLECULAR ANALYSIS; GENE-EXPRESSION; RNA-SEQ; MICRORNAS; IDENTIFICATION; ACTIVATION; PATHWAYS; SYSTEM

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Associated Data 1 (from Data Citation Index)

Repository	Type	Link to Repository
Effect of light on gene expression in the zebrafish pineal gland	Data study	Link to External Source

Associated Data Table

View All Associated Data

Funding

Funding agency
Israel Science Foundation
US-Israel Binational Science Foundation

Citation Network
In Web of Science Core Collection
48
Citations
Create citation alert

49
Times Cited in All Databases
69
Cited References
View Related Records
See more times cited

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Johnston, JD; Bashforth, R; Hazlerigg, DG; et al.
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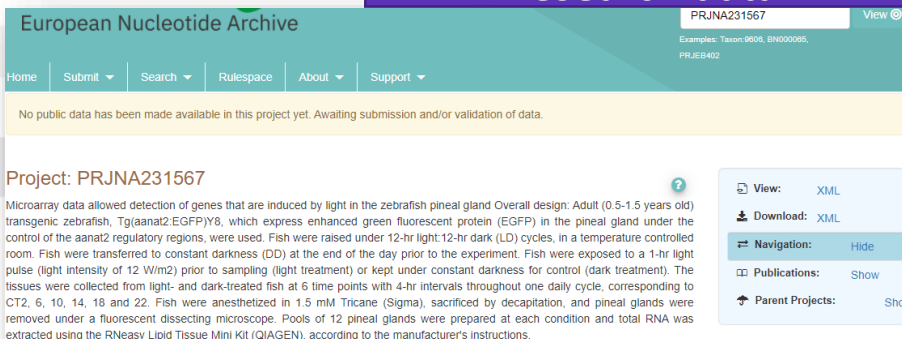
NEUROSCIENCE

WAKABAYASHI, H; SHIMADA, K; SATOH, T; EFFECTS OF DIAZEPAM ADMINISTRATION ON MELATONIN SYNTHESIS IN THE RAT PINEAL-GLAND INVIVO
CHEMICAL & PHARMACEUTICAL BULLETIN

monneaux, V; Kienlen-Campard, P; Pevet, P; al.

Direct access to the research data


European Nucleotide Archive

PRJNA231567

Examples: Taxon:9606, BN000065, PRJEB402

Home | Submit | Search | Rulespace | About | Support

No public data has been made available in this project yet. Awaiting submission and/or validation of data.

Project: PRJNA231567

Microarray data allowed detection of genes that are induced by light in the zebrafish pineal gland Overall design: Adult (0.5-1.5 years old) transgenic zebrafish, Tg(aanat2:EGFP)Y8, which express enhanced green fluorescent protein (EGFP) in the pineal gland under the control of the aanat2 regulatory regions, were used. Fish were raised under 12-hr light:12-hr dark (LD) cycles, in a temperature controlled room. Fish were transferred to constant darkness (DD) at the end of the day prior to the experiment. Fish were exposed to a 1-hr light pulse (light intensity of 12 W/m2) prior to sampling (light treatment) or kept under constant darkness for control (dark treatment). The tissues were collected from light- and dark-treated fish at 6 time points with 4-hr intervals throughout one daily cycle, corresponding to CT2, 6, 10, 14, 18 and 22. Fish were anesthetized in 1.5 mM Tricane (Sigma), sacrificed by decapitation, and pineal glands were removed under a fluorescent dissecting microscope. Pools of 12 pineal glands were prepared at each condition and total RNA was extracted using the RNeasy Lipid Tissue Mini Kit (QIAGEN), according to the manufacturer's instructions.

View: XML
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Publications: Show
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Data Citation Index

Explore data in the citation network

The number of citations in DCI are gathered from repositories where they provide them, from correctly cited references lists in publications and some can be mined from incorrect citations in the text.

Data Citation Index

How to cite research data?

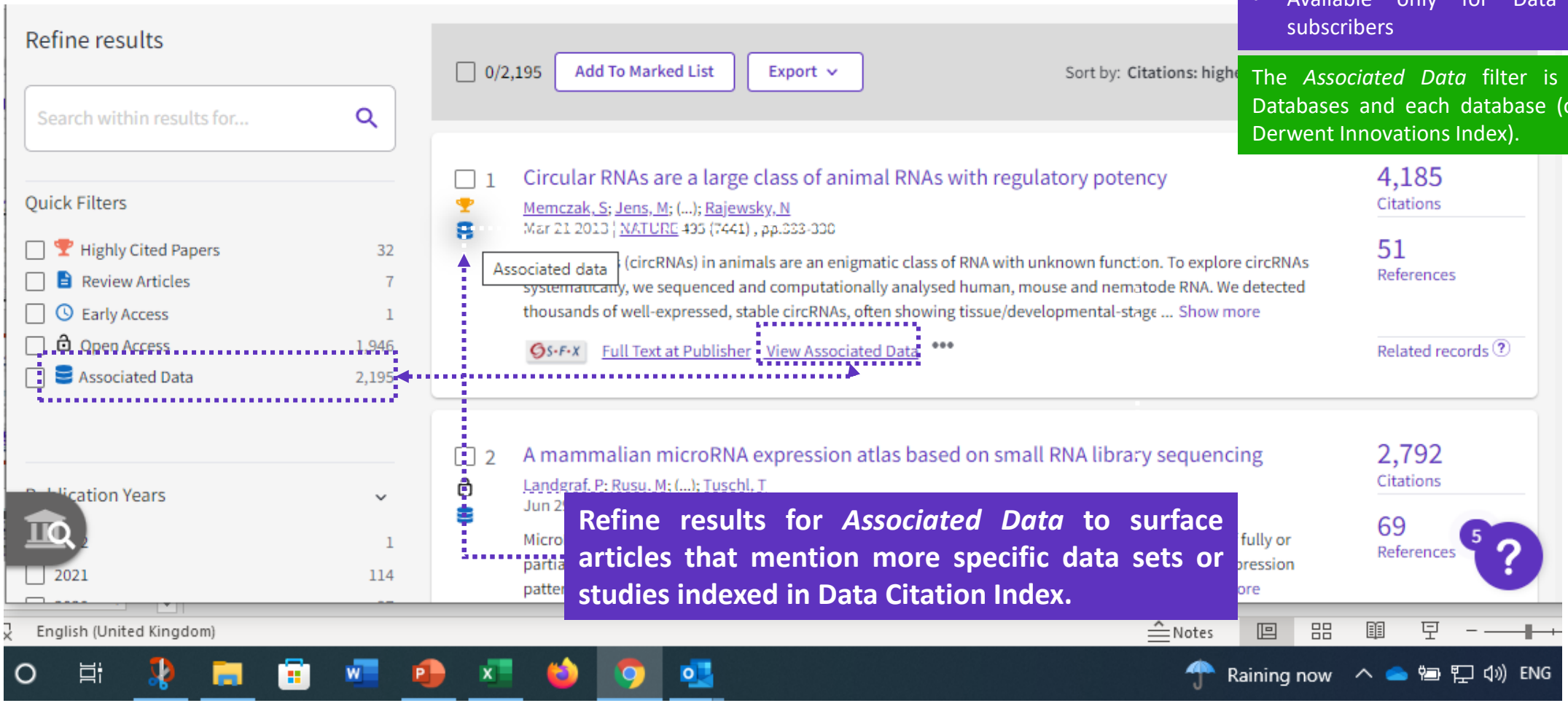
DCI provides the 'DataCite' citation guidelines (https://www.datacite.org)

Data Citation Index

Integrating Data Discovery in WoS Search Results

- **Exposing research data in search results puts millions of data sets and data studies directly into your discovery workflow.**
- **Related data supports Open Science by bringing more transparency to the research process.**
- Available only for Data Citation Index subscribers

The *Associated Data* filter is available in All Databases and each database (only exception is Derwent Innovations Index).



Data Citation Index

Value

DISCOVERY

- Locate research data for a topic directly in DCI or via the WOS literature
- Data icon and WOS filter allows identification of articles which are associated with a DCI data set
- Use the links in DCI to access and download the full data set from source

CITATION/DATA USE

- Identify “hot” data sets
- Track the use of data as they are cited
- Use provided data citation format to cite data

DETERMINE WHERE TO DEPOSIT RESEARCH DATA

- Which are the most cited locations
- Where are data from a particular domain deposited
- Where are data from a particular journal deposited

REPRODUCIBILITY

- Obtain the data sets used/created by research to allow evaluation and reproducibility

Data Citation Index

How it helps

RESEARCHERS

- Save time looking for data by searching across repositories in one place
- Reach more people, have greater impact
- Track and get recognition for shared data
- Avoid duplication of efforts

LIBRARIANS

- Promote the value and the importance of sharing data
- Provide a trusted reference for faculty of where to deposit their data
- Preserve data for future researchers
- Validate attribution of single datasets by researchers of institute

FUNDING MANAGERS

- Assess compliance with grant requirements
- Discover repositories available in a specific subject area

More resources

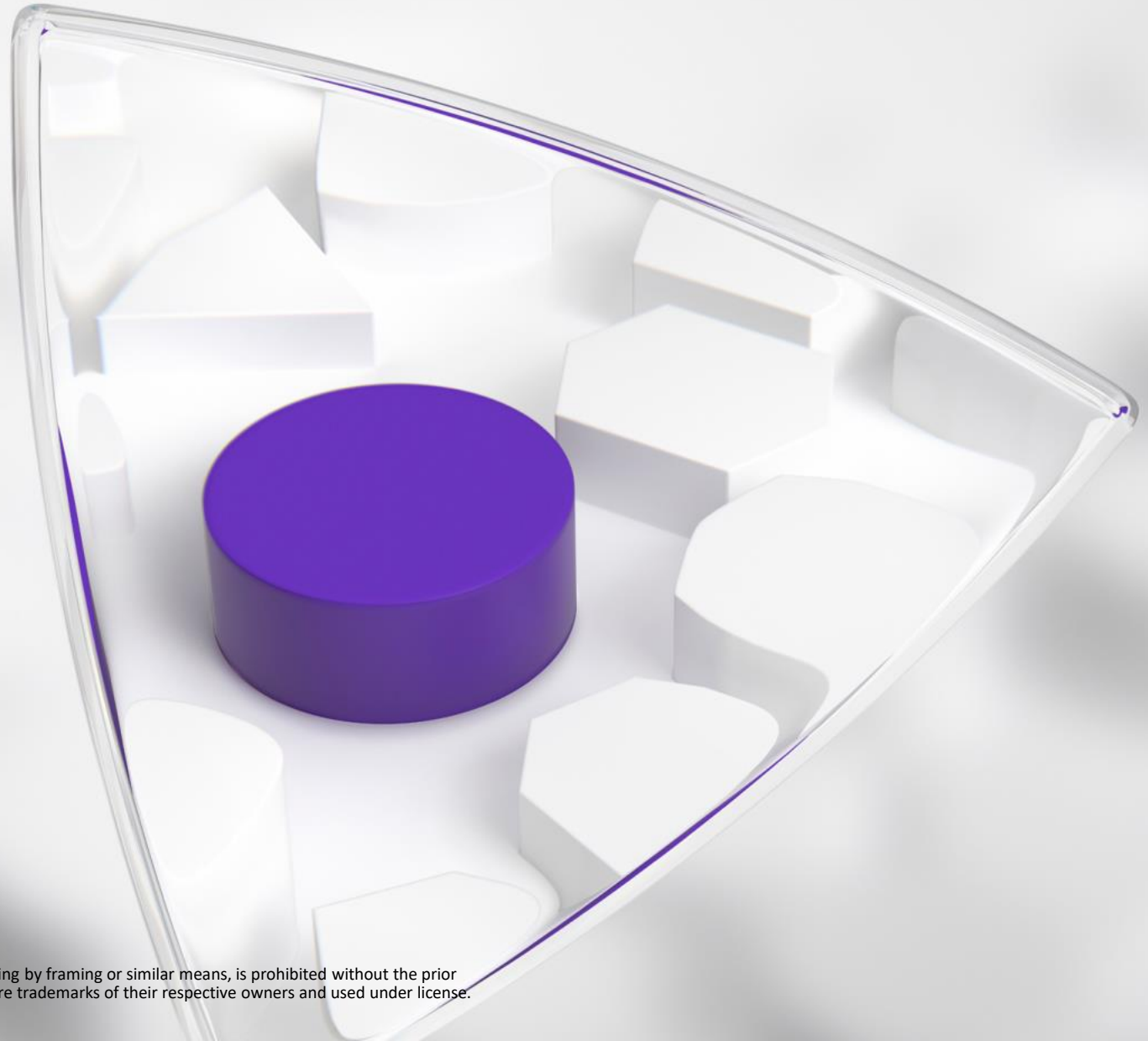
- **Video “Data Citation Index – Getting Started”**

https://clarivate.com/webofsciencegroup/support/wos/dci/#

- **Recommended practices to promote scholarly data citation and tracking**

https://clarivate.com/webofsciencegroup/wp-content/uploads/sites/2/2019/08/Crv_WOS_Whitepaper_DCI_web.pdf

Thank you!



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