

El Impacto de los Repositorios de Datos en la Investigación Científica

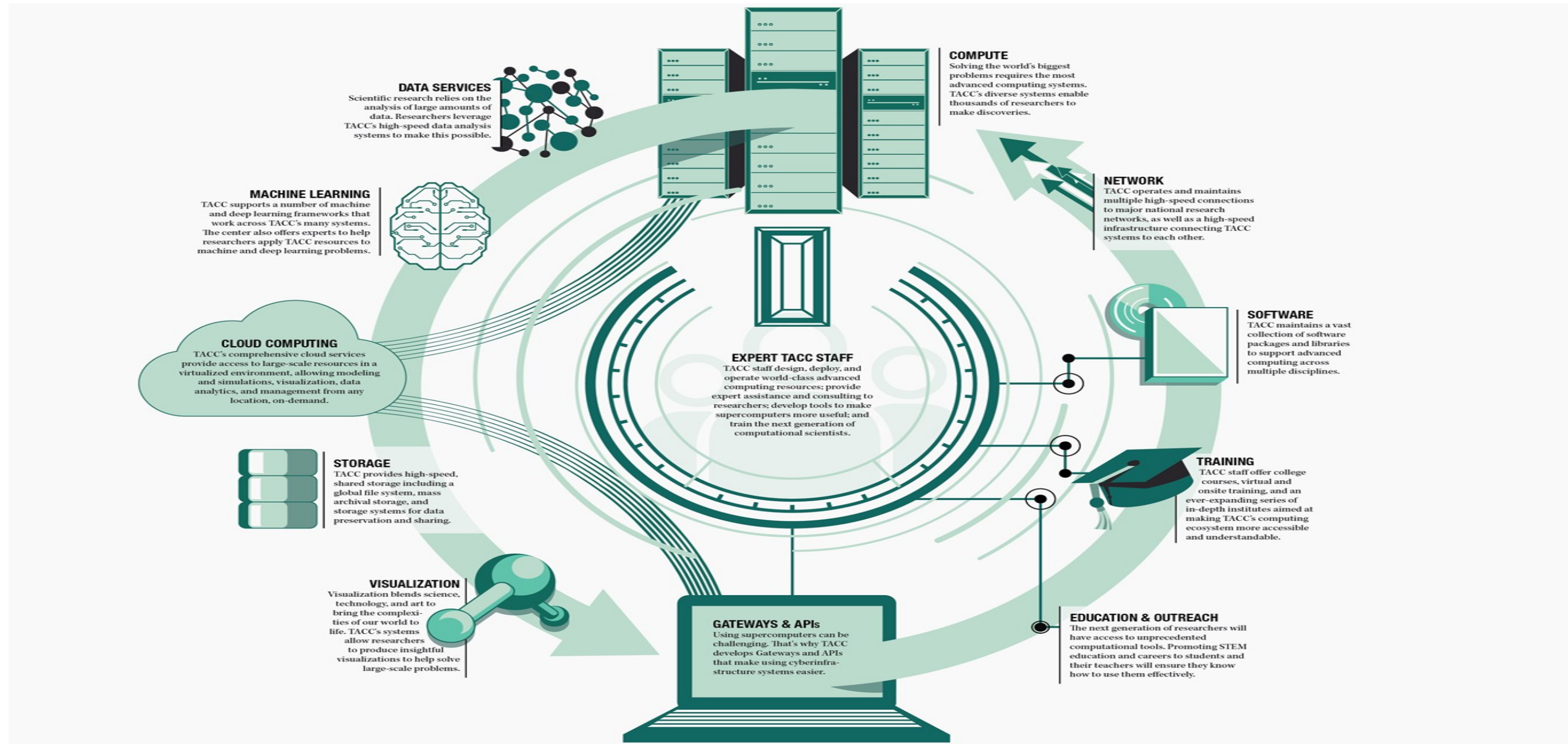
CAPACITACIÓN

Datos de investigación en Ciencias Médicas
REPOSITORIO DE DATOS ACADÉMICOS UNR



Martes 06 de diciembre 2022 / 11 h / Facultad de Ciencias Médicas UNR

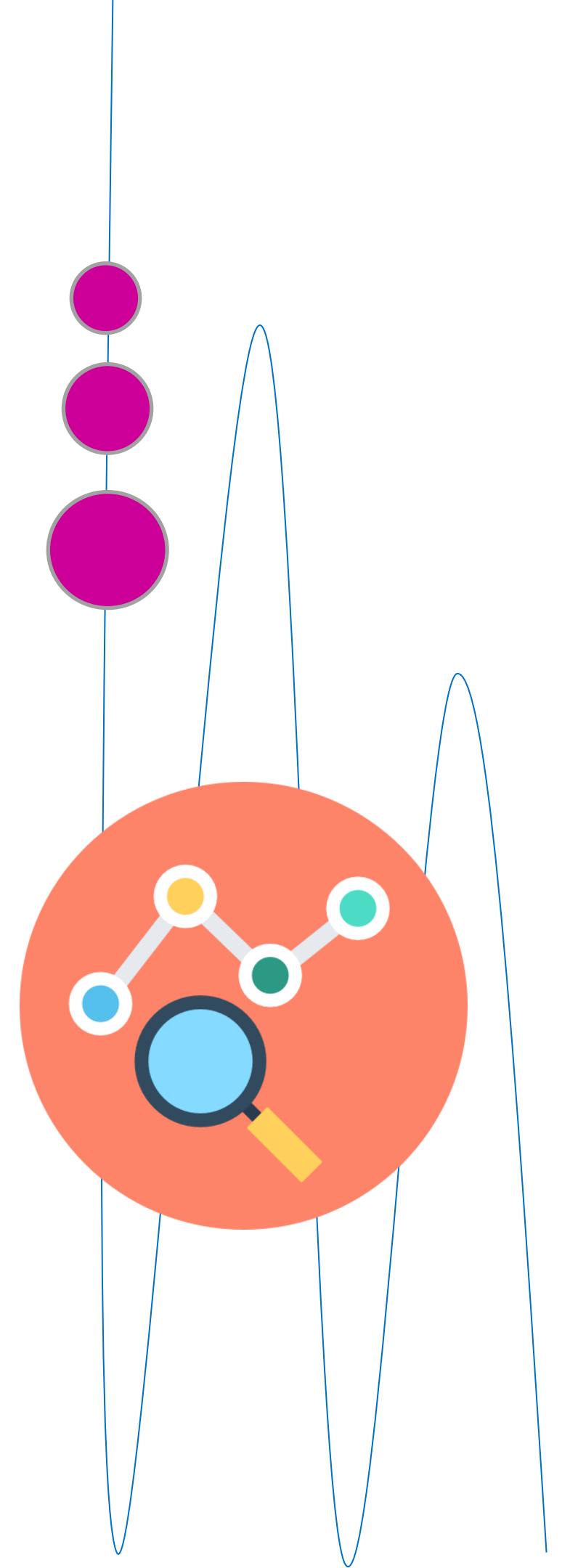
Datos y avance científico



Ejemplo de infraestructura de investigación TACC, Texas Advanced Computing Center
Universidad de Texas en Austin

Repositorios de datos abiertos

- ✓ Componente de **la infraestructura para investigación**
- ✓ Las bibliotecas académicas aceptaron el desafío
- ✓ Plataforma para datos
- ✓ Gobernanza
- ✓ Estándares y buenas prácticas
- ✓ Distribución global de datasets
- ✓ Preservación indefinida de los datos



Repositorios de datos abiertos

✓ Implementación de repositorios de datos

Bibliotecas académicas

Repositorios institucionales

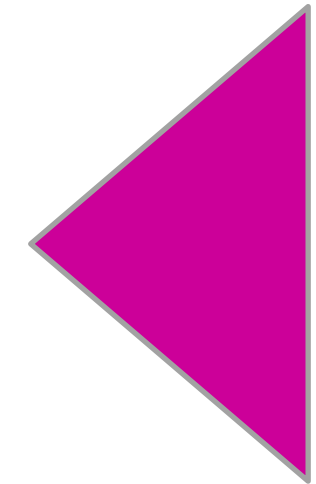
Modelo de auto publicación con guía

✓ Agencias gubernamentales

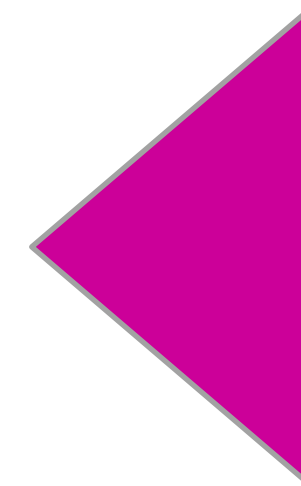
✓ Curación especializada

✓ Colecciones especializadas

✓ Financiamiento para colecciones de datos

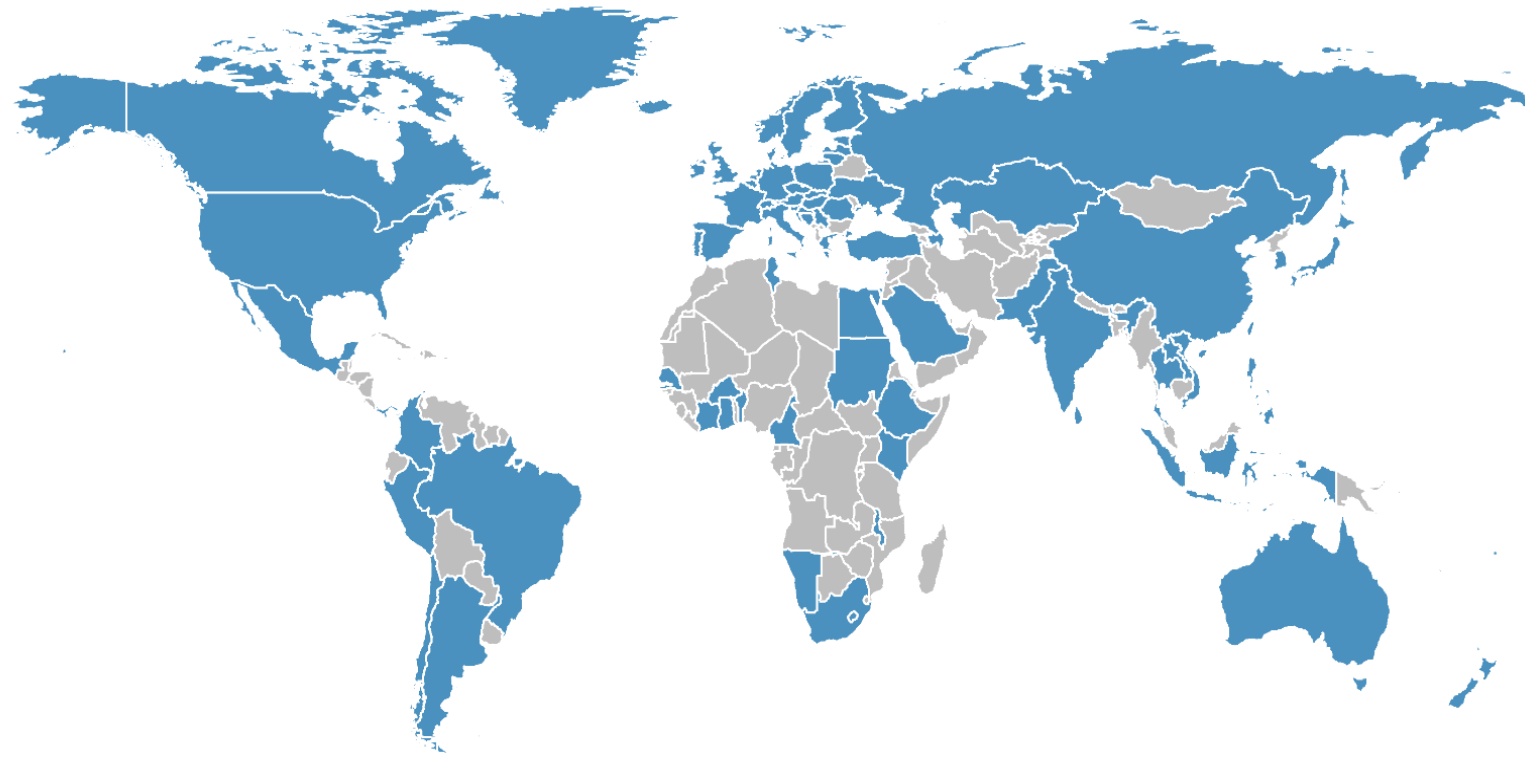


Genéricos



Disciplinarios

Repositorios de datos en Ciencias Médicas



re3data.org

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Animal Genetics, Cell and Developmental biology (61)
Medicine (716)
 Microbiology, Virology and Immunology (245)
 Metabolism, Biochemistry and Genetics of Microorganisms (44)
 Microbial Ecology and Applied Microbiology (16)
 Medical Microbiology, Molecular Infection Biology (19)
 Virology (23)
 Immunology (24)
 Medicine (434)
 Epidemiology, Medical Biometry, Medical Informatics (65)
 Public Health, Health Services Research, Social Medicine (147)
 Human Genetics (121)
 Physiology (11)
 Nutritional Sciences (5)
 Pathology and Forensic Medicine (7)
 Clinical Chemistry and Pathobiochemistry (4)
 Pharmacy (13)
 Pharmacology (25)
 Toxicology and Occupational Medicine (11)
 Cardiology, Angiology (2)
 Pneumology, Clinical Infectiology Intensive Care Medicine (5)
 Hematology, Oncology, Transfusion Medicine (17)
 Gastroenterology, Metabolism (7)
 Endocrinology, Diabetology (4)
 Rheumatology, Clinical Immunology, Allergology (3)
 Dermatology (2)
 Pediatric and Adolescent Medicine (10)
 Gynaecology and Obstetrics (5)
 Reproductive Medicine/Biology (2)
 Urology (1)
 Gerontology and Geriatric Medicine (3)

sequence correlations and other features of biological significance can be inferred. In addition to the computational research the center also has experimental efforts in gene expression analysis using DNA chips and data generation in relation to the physical and structural properties of DNA. In the last decade, the Center for Biological Sequence Analysis has produced a large number of computational methods, which are offered to others via WWW servers.

NCAA Student-Athlete Experiences Data Archive

Subject(s) Life Sciences Public Health, Health Services Research, Social Medicine Physiology
 Research on Socialization and Educational Institutions and Professions Empirical Social Research Medicine Medicine Education Sciences
 Social and Behavioural Sciences Humanities and Social Sciences Social Sciences

Content type(s) Standard office documents Plain text Software applications Archived data Scientific and statistical data formats Raw data

Country United States

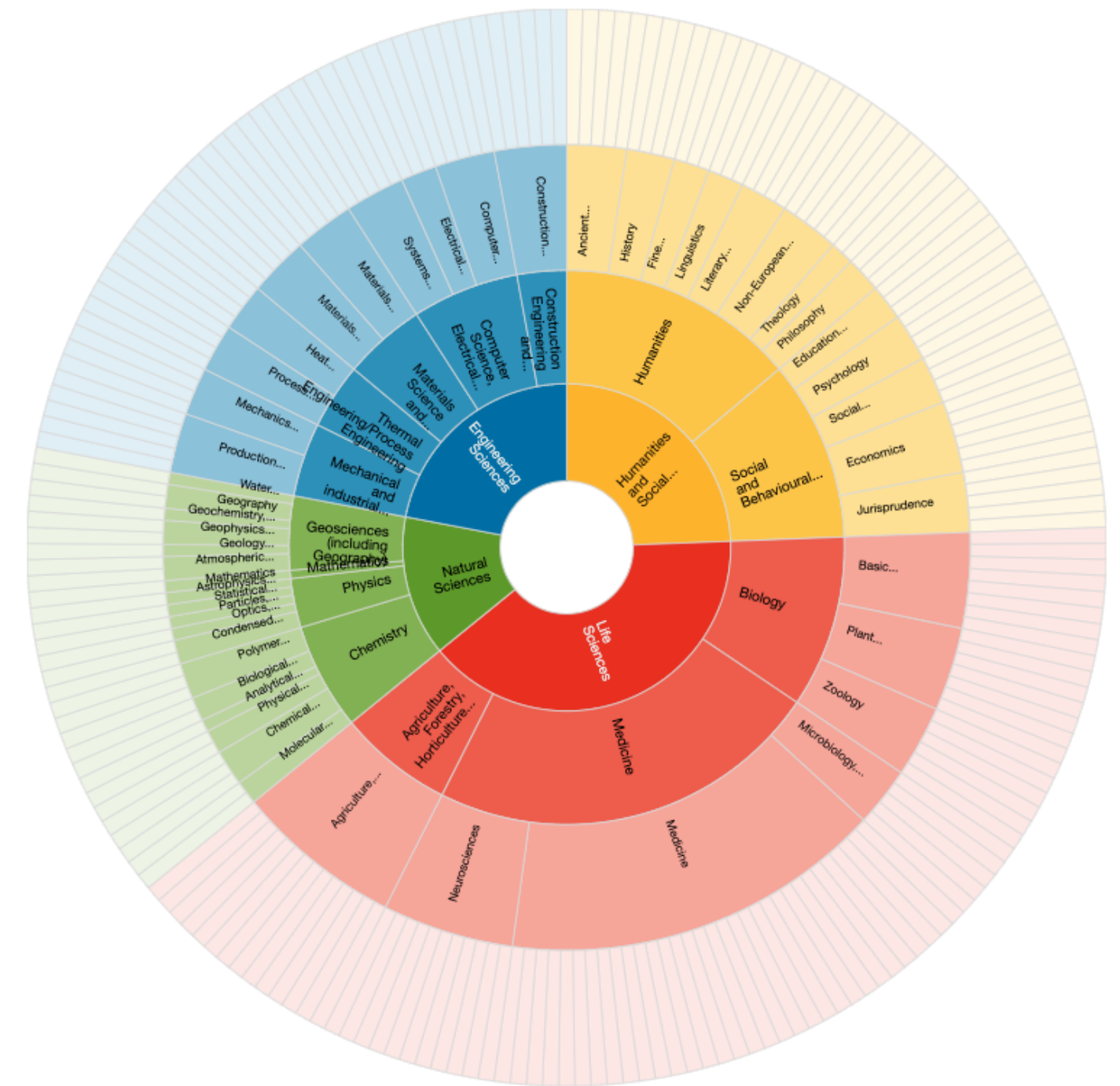
The NCAA Student-Athlete Experiences Data Archive provides access to data about student athletes and will grow to include a handful of user-friendly data collections related to graduation rates; team-level Academic Progress Rates in Division I; and individual-level data on the experiences of current and former student-athletes from the NCAA's Growth, Opportunities, Aspirations and Learning of Students in college study (GOALS), and the Study of College Outcomes and Recent Experiences (SCORE). In the long run, the NCAA expects to follow this initial release with the publication of as much data as possible from its archives. The data is used by college presidents, athletic personnel, faculty, student-athlete groups, media members, and researchers in looking at issues related to intercollegiate athletics and higher education.

Reactome
 a curated pathway database

Subject(s) Biology Medicine Neurosciences Life Sciences Medicine Bioinformatics and Theoretical Biology Basic Biological and Medical Research

Content type(s) Standard office documents Structured graphics Scientific and statistical data formats Raw data Plain text Archived data
 Software applications Images

Country United States European Union



Fuente: re3data <https://www.re3data.org/>

Repositorios Disciplinarios: Cancer Imaging Archive (TCIA)



Browse Collections

Browse a list of all TCIA data. This is the best way to get a comprehensive picture of all data types associated with each Collection.



Search Radiology

Use the TCIA Radiology Portal to perform detailed searches across datasets and visualize images before you download them.



REST API

Our API enables software developers to directly query the public resources of TCIA and retrieve information into their applications.

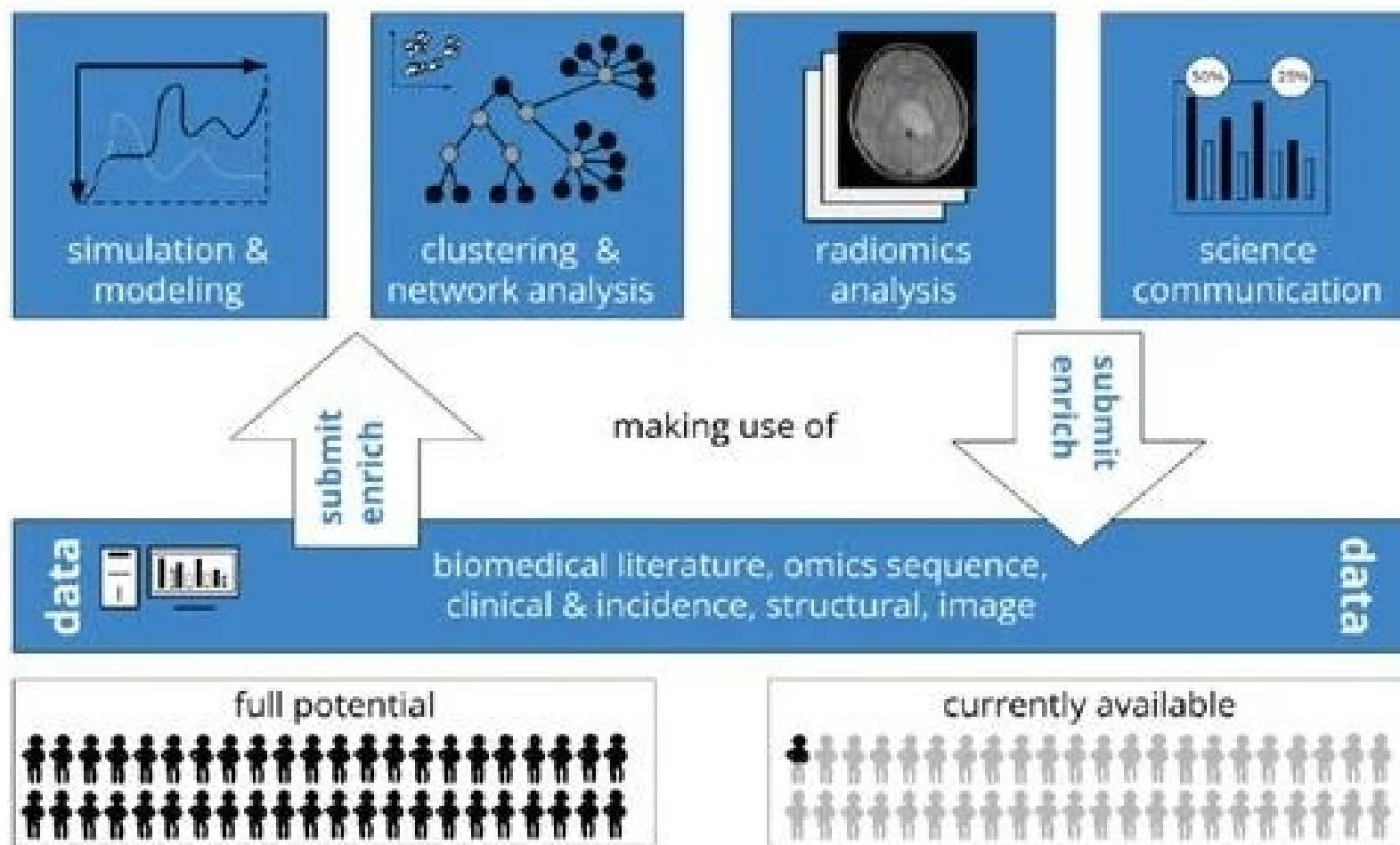
- ✓ Se identifica y mantiene una base de datos de imágenes de cáncer.
- ✓ Financiado por Cancer Imaging Program (CIP), parte de United States National Cancer Institute (NCI)
- ✓ <https://www.cancerimagingarchive.net/>



Prior, F. W., Clark, K., Commean, P., Freymann, J., Jaffe, C., Kirby, J., ... & Marquez, G. (2013, July). TCIA: an information resource to enable open science. In 2013 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 1282-1285). IEEE.

Uso de datos abiertos para investigación sobre Cáncer

Ejemplos de Reutilización de Datos en TCIA



- ✓ Jeanquartier, F., Jean-Quartier, C., Stryeck, S., & Holzinger, A. (2021). Open Data to Support CANCER Science—A Bioinformatics Perspective on Glioma Research. *Onco*, 1(2), 219-229. <https://doi.org/10.3390/onco1020016>
- ✓ Prior, F., Almeida, J., Kathiravelu, P., Kurc, T., Smith, K., Fitzgerald, T. J., & Saltz, J. (2020). Open access image repositories: high-quality data to enable machine learning research. *Clinical radiology*, 75(1), 7-12. <https://doi.org/10.1016/j.crad.2019.04.002>
- ✓ Lu, L., Sun, S. H., Yang, H., Guo, P., Schwartz, L. H., & Zhao, B. (2020). Radiomics prediction of EGFR status in lung cancer—our experience in using multiple feature extractors and the Cancer Imaging Archive data. *Tomography*, 6(2), 223-230. <https://doi.org/10.18383/j.tom.2020.00017>

¿POR QUÉ? 🤔

- ✓ Importancia para la **investigación, la educación y la práctica profesional**
- ✓ **Registro científico** (archivo de ciencias)
- ✓ **Evidencia**
- ✓ **Antecedentes académicos**
- ✓ **Citas de datos y de artículos**
- ✓ **Servicio público**
- ✓ **Economía de recursos**
- ✓ **Formación de nuevos investigadores**



¿Qué piensan los investigadores?

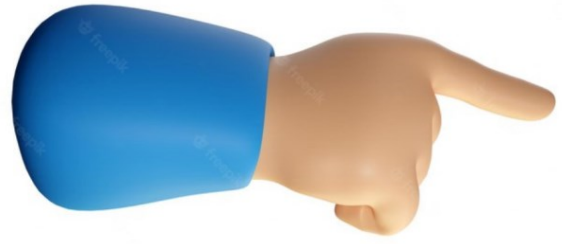
Principales motivaciones para compartir sus datos (n=6.104)

- ✓ Citación de sus artículos de investigación (67 %)
- ✓ Mayor impacto y visibilidad de sus artículos (61 %)
- ✓ Alguna forma de **beneficio público** (56 %)
- ✓ Mandato de la revista/editor (56 %).
- ✓ Citación de los datos (54%)
- ✓ Mayor transparencia y reutilización (52%)



Science, Digital; Goodey, Gregory; Hahnel, Mark; Zhou, Yuanchun; Jiang, Lulu; Chandramouliswaran, Ishwar; et al. (2022):
The State of Open Data 2022. Digital Science. Report. <https://doi.org/10.6084/m9.figshare.21276984.v1>

Cada vez más revistas requieren datos abiertos



Las revistas también dan reconocimiento a los artículos que proveen datos abiertos
<https://bmcmicrobiol.biomedcentral.com/open-data-badge-articles>

Data Availability

The following policy applies to all PLOS journals, unless otherwise noted.

Introduction

PLOS journals require authors to make all data necessary to replicate their study's findings publicly available without restriction at the time of publication. When specific legal or ethical restrictions prohibit public sharing of a data set, authors must indicate how others may obtain access to the data.

When submitting a manuscript, authors must provide a Data Availability Statement describing compliance with PLOS' data policy. If the article is accepted for publication, the Data Availability Statement will be published as part of the article.

Acceptable data sharing methods are listed below, accompanied by guidance for authors as to what must be included in their Data Availability Statement and how to follow [best practices in research reporting](#).

PLOS believes that sharing data fosters scientific progress. Data availability allows and facilitates:

- › Validation, replication, reanalysis, new analysis, reinterpretation or inclusion into meta-analyses;
- › Reproducibility of research;
- › Efforts to ensure data are archived, increasing the value of the investment made in funding scientific research;
- › Reduction of the burden on authors in preserving and finding old data, and managing data access requests;
- › Citation and linking of research data and their associated articles, enhancing visibility and ensuring recognition for authors, data producers and curators.

<https://journals.plos.org/plosone/s/data-availability>

Open data badge



BMC Microbiology participated in a pilot project in which all accepted papers were evaluated for eligibility to receive an Open data badge.

Open data badges were assessed based on the content of the article's data availability statement. All relevant information regarding data which has been used or reused to support the central findings for the study should be described in the data availability statement within the manuscript.

The criteria for receiving a badge were as follows:

1. A data availability statement is included with the manuscript, stating how the data can be accessed.
2. The dataset (or part of the dataset) is deposited in a public repository.
3. A DOI, Accession Number or other appropriate persistent identifier is supplied for the dataset.
4. The dataset provided is relevant to the related paper.

Other references to data in the citations or references, or within the body of the article, were not assessed for an Open data badge.

Compartir los datos aumenta las citas



Publicar los datos en repositorios es el único método de compartir datos correlacionado significativamente con el impacto de las citas a los artículos

<https://researchdata.springernature.com/posts/how-sharing-your-data-could-increase-your-citations>

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Research Data Community

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Resources

How sharing your data could increase your citations

A growing body of evidence suggests that research papers with their data shared in a repository are cited more. Here we look at this evidence and what it means for researchers and their data.

Published Jun 08, 2021

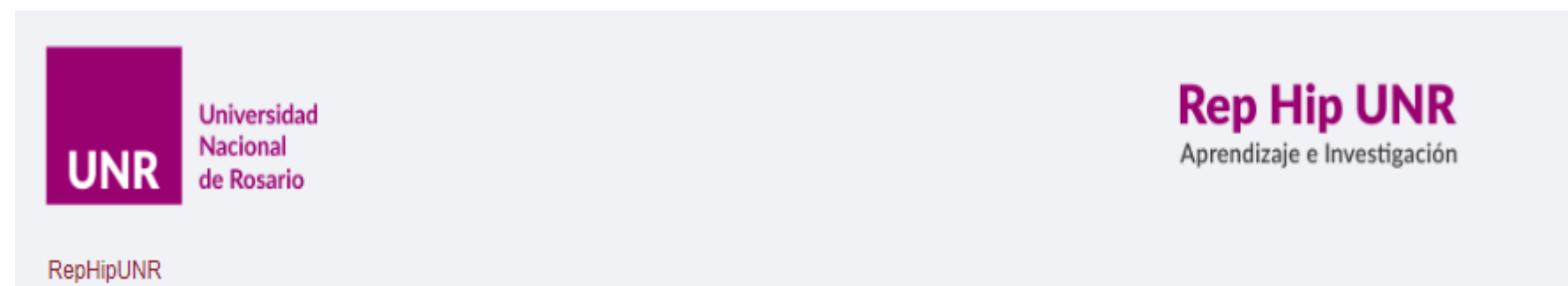
Graham Smith
Research Data Manager, Springer Nature

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Colavizza G, Hrynaszkiewicz I, Staden I, Whitaker K, McGillivray B (2020) The citation advantage of linking publications to research data. PLoS ONE 15(4): e0230416. <https://doi.org/10.1371/journal.pone.0230416>

Ciencia Abierta en UNR

Unidad de Gestión de Acceso Abierto - Comité de Acceso Abierto UNR



UNR Universidad Nacional de Rosario

Rep Hip UNR
Aprendizaje e Investigación

RepHipUNR

Acerca de RepHipUNR

El Repositorio Hipermedial UNR es un repositorio académico abierto creado para archivar, preservar y distribuir digitalmente en variados formatos tanto materiales de enseñanza y aprendizaje como la producción científica de Investigación y Desarrollo (I+D) de los profesores, profesionales e investigadores de la UNR.

El contenido de RepHipUNR se organiza en "Comunidades" que corresponden a Facultades, departamentos, Centros de Investigación y otras organizaciones dedicadas a la educación y/o investigación de la Universidad Nacional de Rosario.

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- Área de Género y Sexualidades - A.Ge.Sex-UNR
- Área de Internacionalización

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<https://rephip.unr.edu.ar/>

<https://revistas.unr.edu.ar/>

The logo for Universidad Nacional de Rosario (UNR), consisting of the letters 'UNR' in white on a purple square background.

UNR

Universidad
Nacional
de Rosario

A photograph of the main building of the Universidad Nacional de Rosario at night. The building is illuminated with purple lights, highlighting its classical architectural features like columns and arches. A large mural on the facade depicts a historical scene with the text 'Universidad se queremos' written across it.

RDA-UNR

Repositorio de Datos Académicos UNR

<https://dataverse-info.unr.edu.ar/>

RDA-UNR Primer Repositorio de Datos

<https://dataverse-info.unr.edu.ar/>

Única universidad
en Argentina con
Repositorio
institucional
para datos de
investigación

Inicio Acerca de Equipo Sobre datos abiertos Historias de datos Novedades

¿Qué es un repositorio de datos de investigación?

Es una **infraestructura tecnológica** que permite la **preservación** y el **acceso libre** a los datos a través de Internet.

Debe cumplir con ciertos **requisitos**: que los datos se puedan encontrar, que sean accesibles, interoperables y reutilizables.

Infografía

Buscar datos

Depositar datos

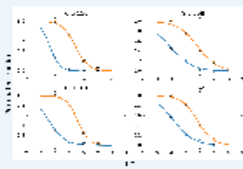
Guía de uso

Buenas prácticas

Políticas

A Transmembrane Histidine Kinase Functions as a pH Sensor

Versión 1.0



Cybulski, Larisa; Bortolotti, Ana, 2022, "A Transmembrane Histidine Kinase Functions as a pH Sensor", <https://doi.org/10.57715/UNR/PTDCEY>, RDA UNR, V1, UNF:6:YaedkqRhtqmn6WrA0KUUXA== [fileUNF]

Citar dataset ▾

Obtenga información sobre Estándares de cita de datos.

Acceder al dataset ▾

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Compartir

Métricas del dataset ⓘ

473 Downloads ⓘ

Descripción ⓘ

This dataset corresponds to experiments conducted to study the response of transmembrane histidine kinase (DesK) to pH. The two-component system DesK-DesR regulates the synthesis of unsaturated fatty acids in the soil bacteria *Bacillus Subtilis*. This system is activated at low temperature and maintains membrane lipid fluidity upon temperature variations. We conducted five independent experiments and found that DesK also responds to pH, and studied the mechanism of pH sensing. We propose that a helix linking the transmembrane region with the cytoplasmic catalytic domain is involved in pH sensing. This helix contains several glutamate, lysine, and arginine residues. At neutral pH, the linker forms an alpha helix that is stabilized by hydrogen bonds in the $i, i + 4$ register and thus favors the kinase state. At low pH, protonation of glutamate residues breaks salt bridges, which results in helix destabilization and interruption of signaling. This mechanism inhibits unsaturated fatty acid synthesis and rigidifies the membrane when *Bacillus* grows in acidic conditions. (2020-08-14)

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A Transmembrane Histidine Kinase Functions as a pH Sensor

Larisa Cybulski & Ana Bortolotti

Dataset published 2022 via RDA UNR

This dataset corresponds to experiments conducted to study the response of transmembrane histidine kinase (DesK) to pH. The two-component system DesK-DesR regulates the synthesis of unsaturated fatty acids in the soil bacteria *Bacillus Subtilis*. This system is activated at low temperature and maintains membrane lipid fluidity upon temperature variations. We conducted five independent experiments and found that DesK also responds to pH, and studied the mechanism of pH sensing. We propose that a helix linking...

ⓘ No citations were reported. No usage information was reported.

🔗 <https://doi.org/10.57715/unr/ptdcey> 🗣️ Cite

Repository

Universidad Nacional de Rosario

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[DataCite XML](#)[DataCite JSON](#)[Schema.org JSON-LD](#)

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Google Dataset Search <https://datasetsearch.research.google.com/>



nuclear receptors nr4a participation tuberculosis



Conjuntos de datos guardados

Se encontró 1 conjunto de datos



Dataset: Data corresponding to the study of the nuclear...
dataverse.unr.edu.ar

csv, tsv

Última actualización: Aug 1, 2022

Dataset: Data corresponding to the study of the nuclear receptors nr4a participation in the immune-endocrine response during tuberculosis



Explorar en: [RDA UNR | dataverse.unr.edu.ar](https://dataverse.unr.edu.ar)

csv(1310), csv(849), csv(883), csv(740), csv(894), csv(769), csv(938), tsv(1428), csv(895), csv(1243)



¿No ves el resultado que esperabas?
[Más información](#) sobre cómo puedes agregar nuevos conjuntos de datos a nuestro índice.

Identificador único

<https://doi.org/10.57715/UNR/DFXMNV>

Actualización del conjunto de datos:

Aug 1, 2022

Conjunto de datos proporcionado por

RDA UNR

Registros de Repositorios

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Repository details      

Repositorio de Datos Académicos Universidad Nacional de Rosario

General Institutions Terms Standards

Name of repository	Repositorio de Datos Académicos Universidad Nacional de Rosario
Additional name(s)	RDA UNR Academic Data Repository National University of Rosario
Repository URL	https://dataverse.unr.edu.ar/
Subject(s)	Humanities and Social Sciences Social and Behavioural Sciences Humanities and Social Sciences Medicine Psychology Social Sciences Life Sciences Engineering Sciences Geophysics and Geodesy Agriculture, Forestry, Horticulture and Veterinary Medicine Geosciences (including Geography) Natural Sciences
Description	The Academic Data Repository of the National University of Rosario (RDA- UNR) allows for sharing, storing, accessing, exploring, and citing research data managed by UNR professors, researchers and students so as to make these data visible and promote its use and reutilization, ensuring its long-term preservation. It is a self-publishing repository, i.e. users upload, organize, describe and publish their own data with the assistance of a team of curators, user guides and training sessions.
Contact	repositoriodatos@unr.edu.ar https://dataverse-info.unr.edu.ar/
Content type(s)	Raw data Databases Scientific and statistical data formats Images Plain text Audiovisual data other
Keyword(s)	multidisciplinary
Persistent identifier(s) of the repository	doi:10.57715/UNR/

re3data.org: Repositorio de Datos Académicos Universidad Nacional de Rosario; editing status 2022-09-08; re3data.org – Registry of Research Data Repositories. <http://doi.org/10.17616/R31NJJN9K>

¿Dónde estamos?



- Miembros de Global Dataverse Community Consortium (GDCC)
- Presentación en Dataverse Community Meeting
- Videoconferencia <https://youtu.be/z2Fzjl5o6KA>
- Promoción de la inauguración: SNRD, LA Rerencia, LLAAR, listas de bibliotecarios
- Repository Finder. DataCite (DOIs), Google Dataset Search
- Registro en re3data.
- Historias de Datos, Novedades
- Redes sociales de UNR @academicaunr_oficial
- Eventos nacionales e internacionales

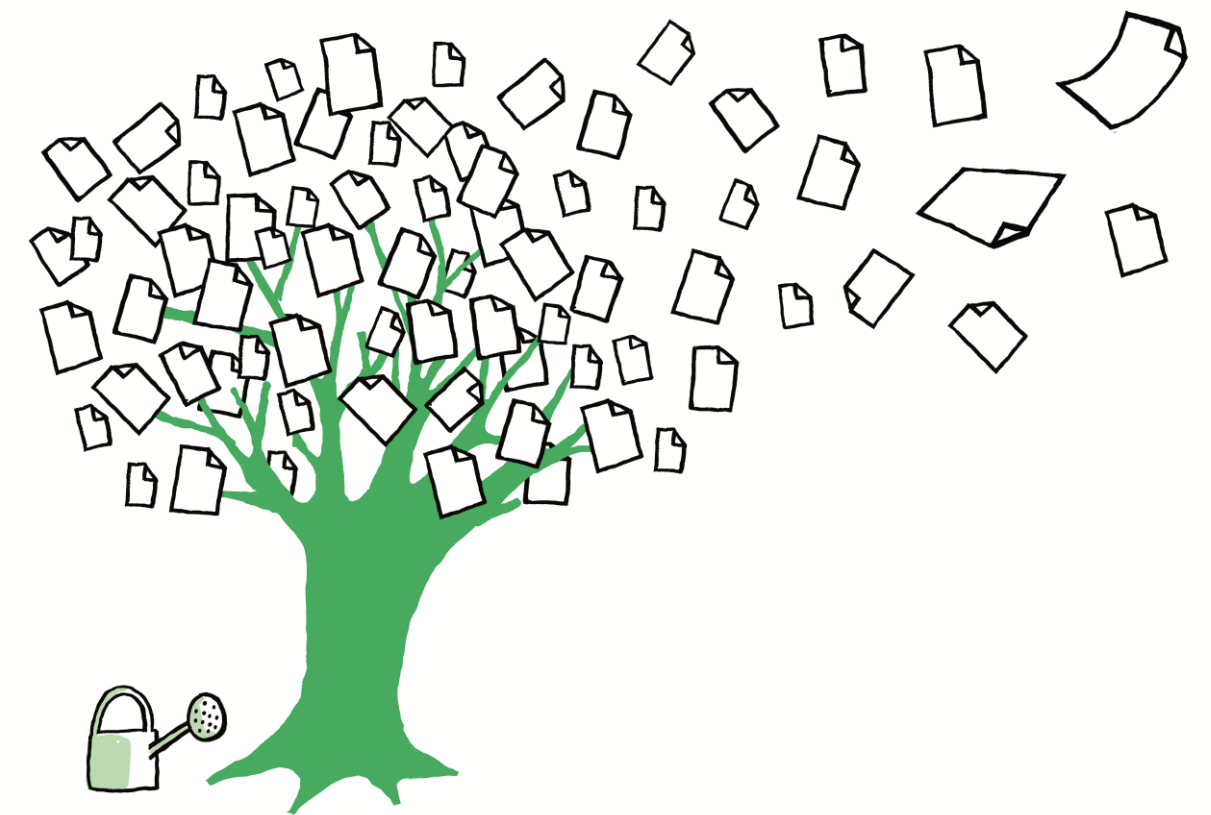


<http://doi.org/10.17616/R31NJN9K>

Estamos trabajando en...

- ✓ Testeo del Plan de Gestión de Datos adaptado a la legislación y normativas de la UNR
- ✓ Revisión de buenas prácticas de curación
- ✓ Monitoreo sistemático de estadísticas y reutilización
- ✓ Capacitaciones en base a necesidades detectadas
- ✓ Integración al repositorio de las revistas del Portal
Revistas UNR Políticas de Disponibilidad de Datos
- ✓ Interoperabilidad OJS-Dataverse

¡Están invitados a sumar más datasets curados!



RDA-UNR REPOSITORIO DE DATOS ACADÉMICOS

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<http://doi.org/10.17616/R31NJN9K>





¡Muchas gracias!

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