Alicia Fátima Gómez Sánchez, PhD

THE NEED OF SKILLS FOR OPEN SCIENCE

ROUND TABLE. OPEN SCIENCE AND THE EOSC LANDSCAPE: THE PROJECT SKILLS4EOSC

June 5, 2023

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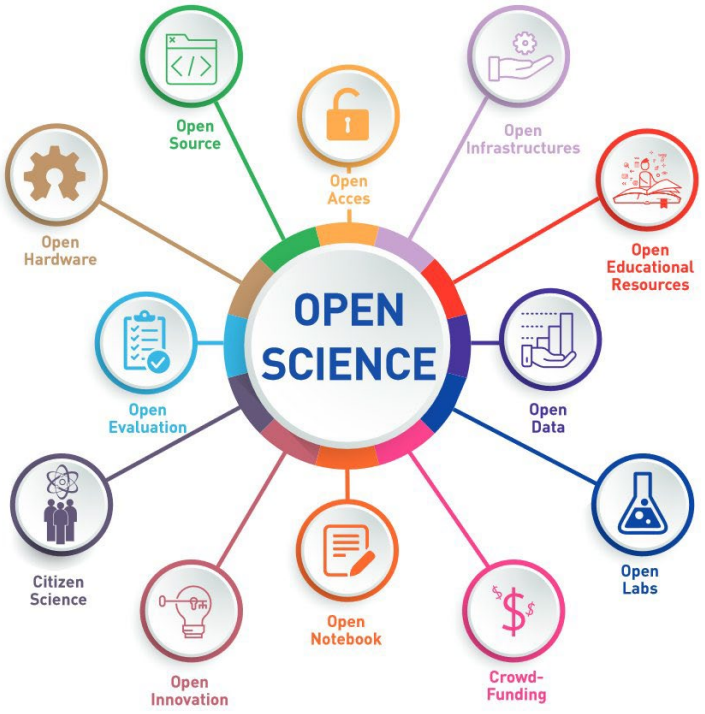
WHAT IS OPEN SCIENCE

A **set of principles and practices** that aim to make scientific research from all fields accessible to everyone for the benefits of scientists and society as a whole.

Open science has the potential of making the scientific process more **transparent**, **inclusive** and **democratic**.

As open as possible

Access to scientific knowledge should be **as open as possible**, but sometimes access may need to be restricted, for example to protect human rights, confidentiality, intellectual property rights, personal information, threatened or endangered species, and sacred and secret indigenous knowledge.
OS encourages scientists to develop tools and methods for **managing data so that as much data as possible can be shared, as appropriate**.



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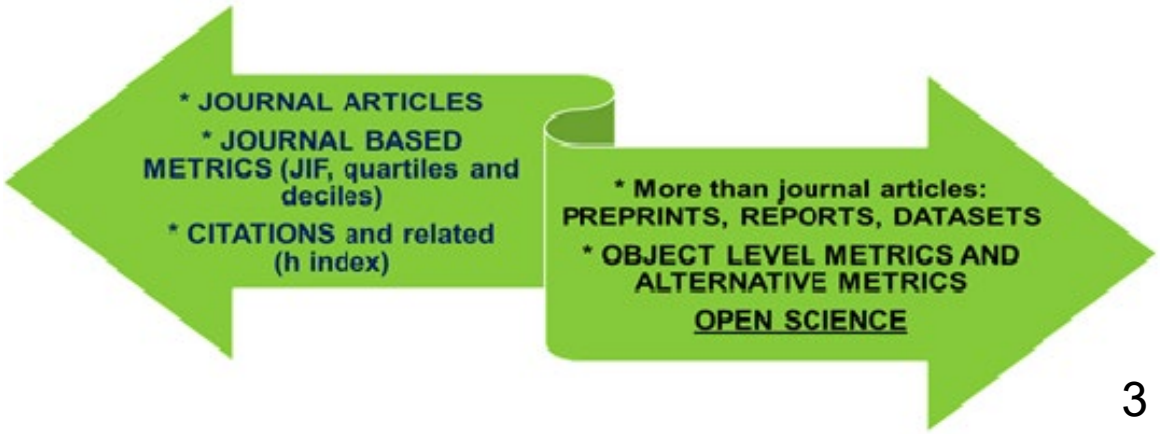
https://www.unesco.org/en/open-science

WHAT CHANGES?

CLOSED SCIENCE	OPEN SCIENCE
Based on **publishing articles**	Based on **publishing any research outputs**
Individualistic science	**Collaborative** science
Access to research outputs **for a few researchers**	Access to research outputs **for the entire society**
Vertical, **specialized** science	**Horizontal, interdisciplinary** science
Science **without citizen participation**	Citizen **science, with and for Society**
Credit system based on the **impact of publications**	Credit system based on the **impact of the researcher**
Journal metrics, Impact Factor and Citescore or similar	**New metrics and next generation metrics**, new indicators

Alonso-Arévalo, J. (2019) El conocimiento es de todos y para todos ¿Qué es y qué implica la Ciencia Abierta? Universo Abierto. https://universoabierto.org/2019/09/30/el-conocimiento-es-de-todos-y-para-todos-que-es-y-que-implica-la-ciencia-abierta/



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FUNDERS‘ REQUIREMENTS: EU

Open Science practices

What?	How?	Mandatory in all calls/recommended
Early and open sharing of research	Preregistration, registered reports, preprints, etc.	Recommended
Research output management	Data management plan (DMP)	**Mandatory**
Measures to ensure reproduciblity of research outputs	Information on outputs/tools/instruments and access to data/results for validation of publications	**Mandatory**
Open access to research outputs through deposition in trusted repositories	• Open access to publications • Open access to data • Open access to software, models, algorithms, workflows etc.	• **Mandatory** for peer-reviewed publications • **Mandatory** for research data **but** with exceptions (‘as open as possible…’) • Recommended for other research outputs
Participation in open peer-review	Publishing in open peer-reviewed journals or platforms	Recommended
Involving all relevant knowledge actors	Involvement of citizens, civil society and end-users in co-creation of content (e.g. crowd-sourcing, etc.)	Recommended

Open science practices listed in the template for proposals (section excellence>methodology)
Non-exhaustive list
Mandatory in all calls: Model Grant Agreement or call requirement; all the rest recommended

European Commission

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https://bestprac.eu/fileadmin/mediapool-bestprac/documents/EARMA-virtual-202106/Open_Science_in_Horizon_Europe_L%C3%B3pez_de_San_Rom%C3%A1n.pdf

OPEN SCIENCE IN HORIZON EUROPE

Open Science across the programme

Open Science — Better dissemination and exploitation of R&I results and support to active engagement of society

Mandatory Open Access to publications: beneficiaries shall ensure that they or the authors retain sufficient intellectual property rights to comply with open access requirements

Open Access to research data ensured: in line with the principle "as open as possible, as closed as necessary"; Mandatory Data Management Plan for FAIR (Findable, Accessible, Interoperable, Re-usable) and Open Research Data

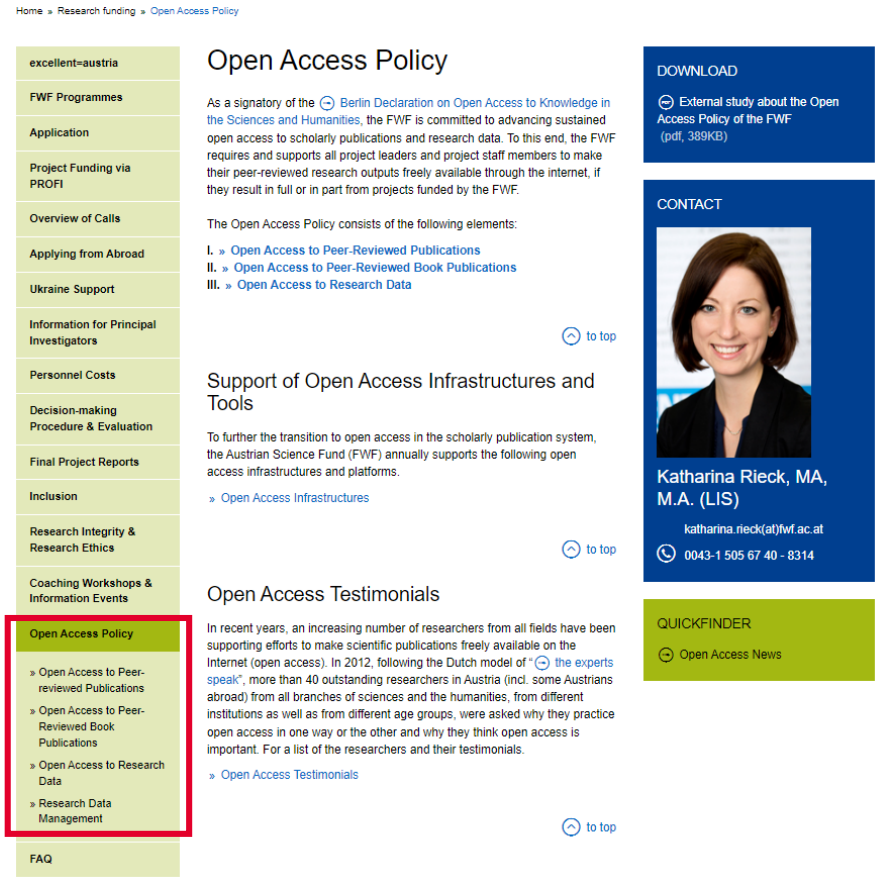
- Support to researcher skills and reward systems for open science
- Use of European Open Science Cloud

May 2019 | Version 25

European Commission

COMMUNICATION, DISSEMINATION, OPEN SCIENCE AND VISIBILITY (Article 17, p 108-110)

FUNDERS‘ REQUIREMENTS: FWF



https://www.fwf.ac.at/en/research-funding/open-access-policy

- FWF **requires** all project leaders and project staff members to **publish their peer-reviewed publications open access** if they result in whole or in part from projects supported by the FWF, **including books**.
- FWF **expects** OA to research data collected and/or analysed using FWF funds for projects approved from 1 January 2019. OA is mandatory for research data on which the research publications of the project are based. If, for legal, ethical or other reasons, OA to these data is not or only partially possible, this **must be explained in the Data Management Plan** (DMP).
  OA to all other research data from a project **is at the discretion of the principal investigator.**
- FWF **requires a data management plan (DMP)** for projects approved from 1 January 2019. A DMP describes how data and their metadata are collected, organised, stored, published, shared, and archived for a specific project. **Data will be made FAIR**, which means Findable, Accessible, Interoperable and Reusable.

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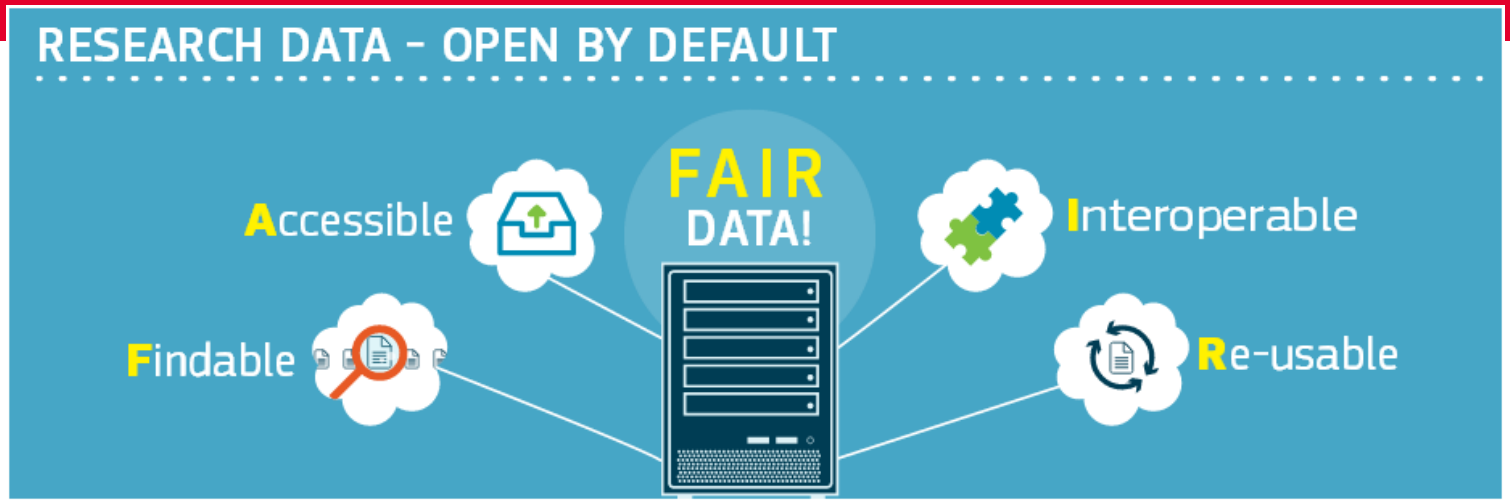
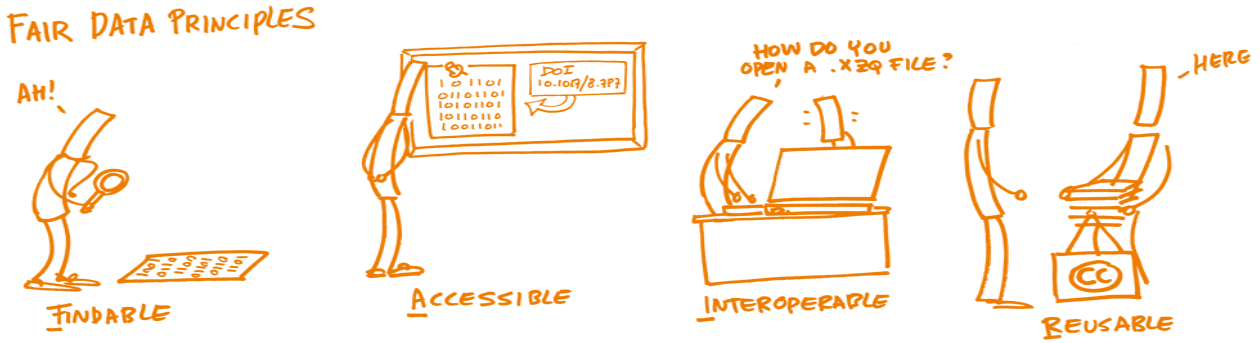
THE FAIR PRINCIPLES





Research data and **their metadata** should be treated to be findable and reusable

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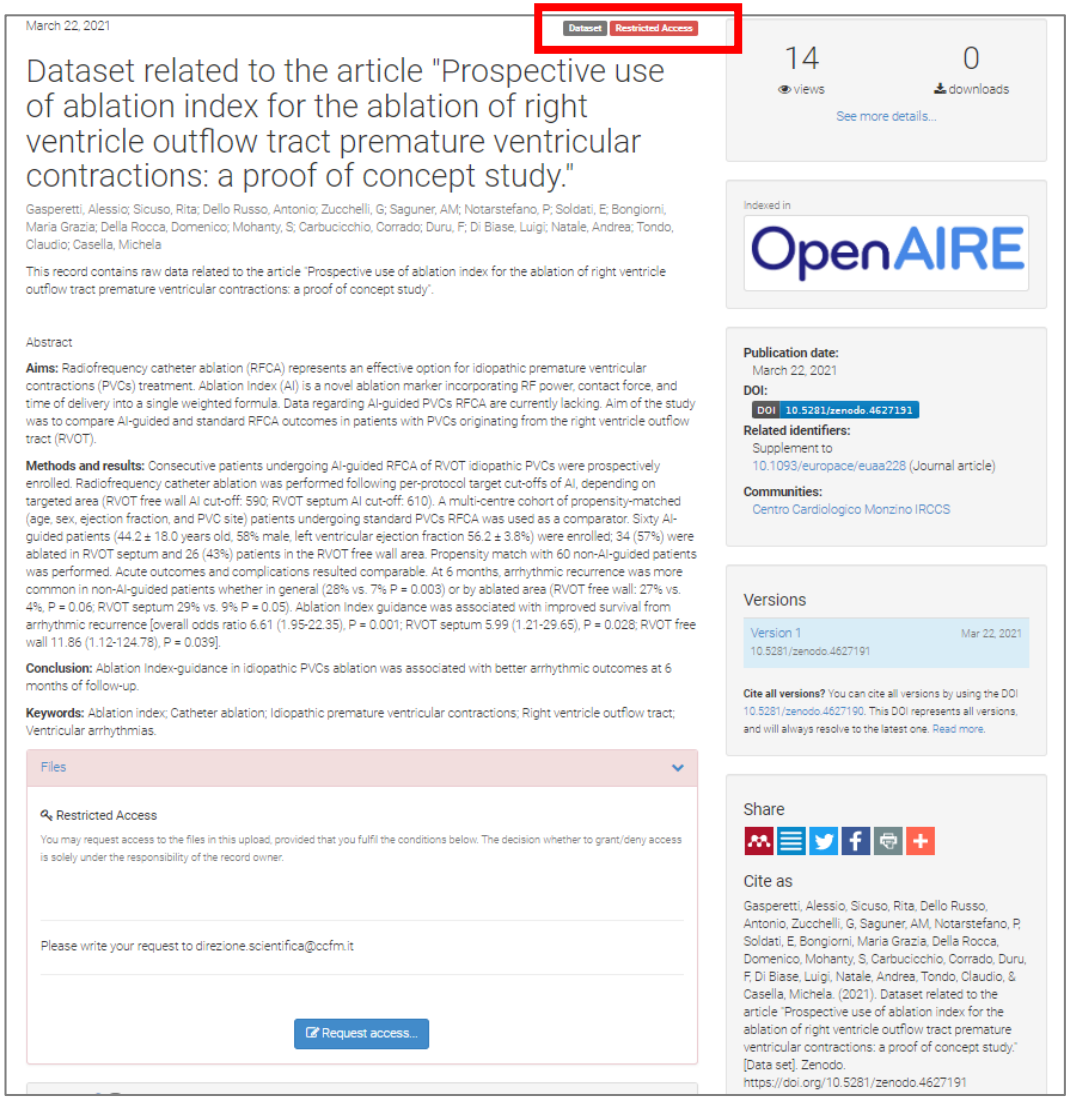
http://ec.europa.eu/research/press/2016/pdf/opendata-infographic_072016.pdf
https://open-science-training-handbook.gitbooks.io/book/content/

FAIR CAN BE RESTRICTED

Not open, but FAIR compliant



March 22, 2021

Dataset | Restricted Access

Dataset related to the article "Prospective use of ablation index for the ablation of right ventricle outflow tract premature ventricular contractions: a proof of concept study."

Gasperetti, Alessio; Sicuso, Rita; Dello Russo, Antonio; Zucchelli, G; Saguner, AM; Notarstefano, P; Soldati, E; Bongiorni, Maria Grazia; Della Rocca, Domenico; Mohanty, S; Carbucicchio, Corrado; Duru, F; Di Biase, Luigi; Natale, Andrea; Tondo, Claudio; Casella, Michela

This record contains raw data related to the article "Prospective use of ablation index for the ablation of right ventricle outflow tract premature ventricular contractions: a proof of concept study".

Abstract

Aims: Radiofrequency catheter ablation (RFCA) represents an effective option for idiopathic premature ventricular contractions (PVCs) treatment. Ablation Index (AI) is a novel ablation marker incorporating RF power, contact force, and time of delivery into a single weighted formula. Data regarding AI-guided PVCs RFCA are currently lacking. Aim of the study was to compare AI-guided and standard RFCA outcomes in patients with PVCs originating from the right ventricle outflow tract (RVOT).

Methods and results: Consecutive patients undergoing AI-guided RFCA of RVOT idiopathic PVCs were prospectively enrolled. Radiofrequency catheter ablation was performed following per-protocol target cut-offs of AI, depending on targeted area (RVOT free wall AI cut-off: 590; RVOT septum AI cut-off: 610). A multi-centre cohort of propensity-matched (age, sex, ejection fraction, and PVC site) patients undergoing standard PVCs RFCA was used as a comparator. Sixty AI-guided patients (44.2 ± 18.0 years old, 58% male, left ventricular ejection fraction 56.2 ± 3.8%) were enrolled; 34 (57%) were ablated in RVOT septum and 26 (43%) patients in the RVOT free wall area. Propensity match with 60 non-AI-guided patients was performed. Acute outcomes and complications resulted comparable. At 6 months, arrhythmic recurrence was more common in non-AI-guided patients whether in general (28% vs. 7% P = 0.003) or by ablated area (RVOT free wall: 27% vs. 4%, P = 0.06; RVOT septum 29% vs. 9% P = 0.05). Ablation Index guidance was associated with improved survival from arrhythmic recurrence [overall odds ratio 6.61 (1.95-22.35), P = 0.001; RVOT septum 5.99 (1.21-29.65), P = 0.028; RVOT free wall 11.86 (1.12-124.78), P = 0.039].

Conclusion: Ablation Index-guidance in idiopathic PVCs ablation was associated with better arrhythmic outcomes at 6 months of follow-up.

Keywords: Ablation index; Catheter ablation; Idiopathic premature ventricular contractions; Right ventricle outflow tract; Ventricular arrhythmias.

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Communities: Centro Cardiologico Monzino IRCCS

Versions

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10.5281/zenodo.4627191

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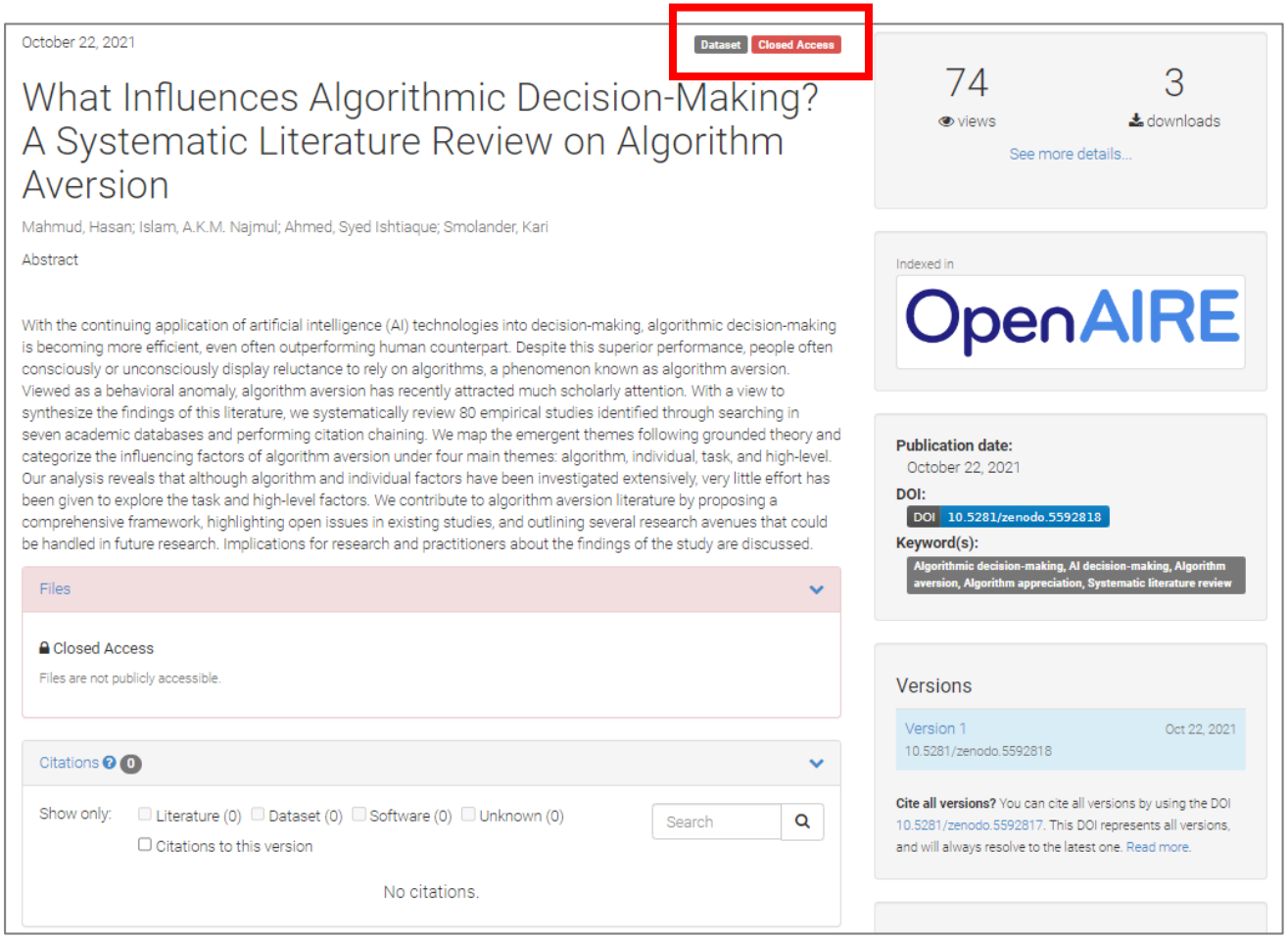
Gasperetti, Alessio, Sicuso, Rita, Dello Russo, Antonio, Zucchelli, G, Saguner, AM, Notarstefano, P, Soldati, E, Bongiorni, Maria Grazia, Della Rocca, Domenico, Mohanty, S, Carbucicchio, Corrado, Duru, F, Di Biase, Luigi, Natale, Andrea, Tondo, Claudio, & Casella, Michela. (2021). Dataset related to the article "Prospective use of ablation index for the ablation of right ventricle outflow tract premature ventricular contractions: a proof of concept study." [Data set]. Zenodo. https://doi.org/10.5281/zenodo.4627191

https://doi.org/10.5281/zenodo.4627191

FAIR CAN BE CLOSED

Not open, but FAIR compliant



October 22, 2021

Dataset | Closed Access

What Influences Algorithmic Decision-Making? A Systematic Literature Review on Algorithm Aversion

Mahmud, Hasan; Islam, A.K.M. Najmul; Ahmed, Syed Ishtiaque; Smolander, Kari

Abstract

With the continuing application of artificial intelligence (AI) technologies into decision-making, algorithmic decision-making is becoming more efficient, even often outperforming human counterpart. Despite this superior performance, people often consciously or unconsciously display reluctance to rely on algorithms, a phenomenon known as algorithm aversion. Viewed as a behavioral anomaly, algorithm aversion has recently attracted much scholarly attention. With a view to synthesize the findings of this literature, we systematically review 80 empirical studies identified through searching in seven academic databases and performing citation chaining. We map the emergent themes following grounded theory and categorize the influencing factors of algorithm aversion under four main themes: algorithm, individual, task, and high-level. Our analysis reveals that although algorithm and individual factors have been investigated extensively, very little effort has been given to explore the task and high-level factors. We contribute to algorithm aversion literature by proposing a comprehensive framework, highlighting open issues in existing studies, and outlining several research avenues that could be handled in future research. Implications for research and practitioners about the findings of the study are discussed.

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Publication date: October 22, 2021

DOI: DOI 10.5281/zenodo.5592818

Keyword(s): Algorithmic decision-making, AI decision-making, Algorithm aversion, Algorithm appreciation, Systematic literature review

Versions

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https://doi.org/10.5281/zenodo.5592818

SKILLS4 EOSC – WP 4

WP4: CURRICULA AND LEARNING PATHS FOR OPEN SCIENCE

Building curricula and learning paths for *Open Science ready Institutions*.

- Undergraduate students and PhDs
- Data stewards and data professionals
  - Data librarian and curators
  - Legal and ethical experts.

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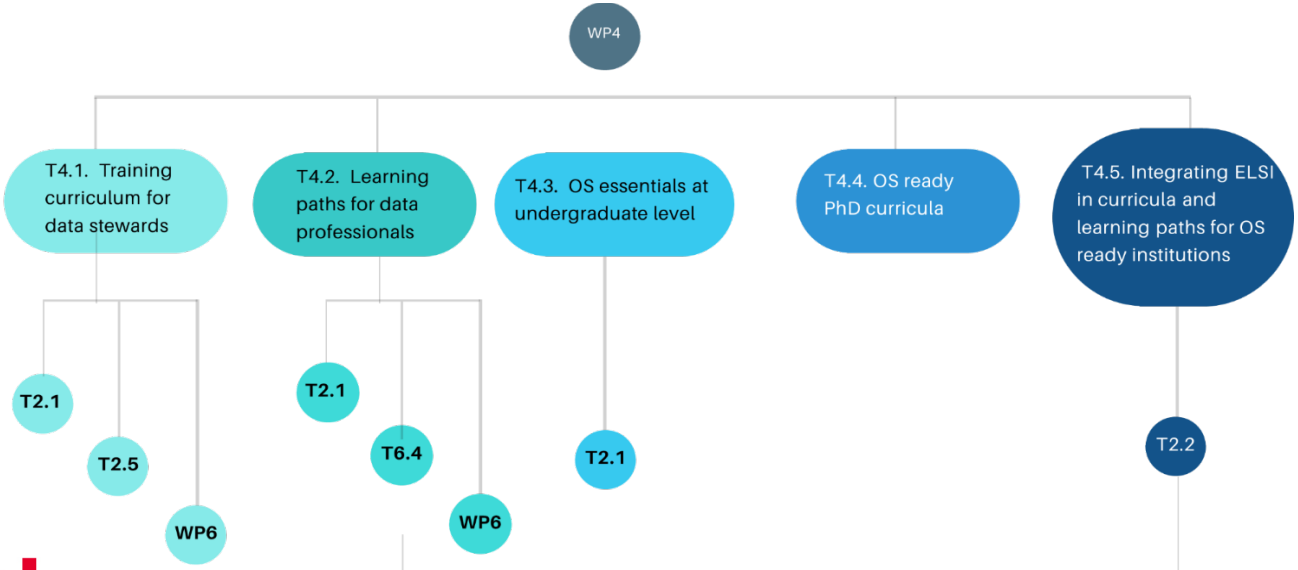
SKILLS4 EOSC – OBJECTIVES OF WP 4

- Design harmonised curricula and learning paths for OS professionals, to ensure alignment, uniformity, quality and recognition of the acquired competences across Europe and beyond.
- Define “OS essentials” to include in undergraduate and PhD courses and support professionals.
- Foster an OS ecosystem where researchers, public servants, and data stewards align curricula, training, practices and needs to make Open Science happen.



THANK YOU!

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