SCIENTIFIC DATA MANAGEMENT FOR RESEARCHERS
GESTÃO DE DADOS CIENTÍFICOS PARA PESQUISADORES

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Sistema de Similaridade
turnitin

JITA: FJ. Knowledge management

e-Location: 019035

SILVA, Fabiano Couto Corrêa da. **Gestão de dados científicos**. Rio de Janeiro: Interciência, 2019. 146 p. ISBN 978-85-7193-435-1.

The book **Scientific Data Management**, published in Portuguese by Editora Interciência, authored by librarian Fabiano Couto Corrêa da Silva, who analyzes and studies how primary research data are managed, retrieved and preserved. In addition, it is rich in information and resources for researchers and information professionals who want to work and explore the topic: good practices in research management.

Fabiano Couto Corrêa da Silva has a doctorate in Information and Documentation in the Society of Knowledge from the University of Barcelona (UB), a Master's degree in Information Science from the Federal University of Santa Catarina (UFSC) and a degree in Library Science from the Federal University of Rio Grande do Sul. (UFRGS). Fabiano is an adjunct professor at the Department of Information Science / FABICO of UFRGS, working in undergraduate courses in Library Science and the Graduate Program in Information Science (PPGCIN). The author is also deputy leader of the InfoCommunication Behavior and Skills Research Group (InfoCom).

A minor flaw noted in the book's technical file is that nowhere does it cite that the work is a translation of the first Castilian version, published by the publishing house Universitat Oberta de Catalunya (UOC) under the title *Gestión de investigación data*, published in 2016, under ISBN 978-84-9116-430-2, with legal deposit number B 14623-2016, 161 pages, and now published by the publisher Interciência, Rio de Janeiro, but nothing that affects the structure of the work because it is a translation, considering that the author is Brazilian.

The book creates a range of possibilities for researchers and information professionals who want to delve deeper into the conceptual and practical scope of proper management of scientific data, about the processes of preservation, use and reuse of data. promoting more open and transparent scientific activities.

The work is composed of 146 pages, has presentation, preface written by Miguel Ángel Márdero Arellado, from the Brazilian Institute of Information in Science and Technology (IBICT), and ears of the work written by Ernest Abadal (Universitat de Bacelona), inscribed in ISBN under 978-85-7193-435-1, divided into (8) eight very well structured chapters, to know:

The first chapter is composed by the "**Introduction**", where the theoretical construction of the thematic approached is made; presentation of the efforts of international institutions, European research funding agencies and journals on policies to promote data exchange in the academic world.

In the second chapter, entitled "**The Interest in Data**", the author presents the theme of data management in the international scenario, chronologically, highlights the reports, statements and guidelines that describe how to encourage the use of scientific data. The author also discusses retention policies (minimum, long or permanent) and data exchange for national publicly funded policies.

The third chapter was reserved by the author to present the definition of "**What is scientific data**". According to the author; The data may be of the following types: numerical, descriptive or visual, reproduced in printed or digital format; We can cite two definitions of scientific data coined in the chapter, among them: "*information recorded or produced in any form or medium during the course of a research*" and "*all the evidence an investigator needs to validate his findings after a research*." This chapter also highlights the usefulness of this data in the academic and business setting and the importance of having an efficient data management plan.

In the next chapter "**Data Typology**", a distinction is made between existing data types; they may be: according to the collection procedure (observational data, computational and experimental data); primary data (original research and / or raw works without interpretation: experiments, surveys, interviews or other techniques); secondary data (data derived from primaries; which have been collected, tabulated, ordered and publicly available, in books, periodicals, censuses, etc.; for public consultation), tertiary data (considered a form of derived data; used to ensure the confidentiality of primary or secondary data, which may be: recounts, categories and statistical results). They can also be categorized by degree of structuring (structured, semi-structured or unstructured) and open data (which can be used and distributed by anyone).

This chapter also discusses Creative Commons Licenses, which are intended to define the terms of use of a work; and the types of file formats available for different types of scientific data.

Chapter 5 "**Data Lifecycle**" is rich in detail, describes the research process (data production, processing and interpretation) and the data preservation process (data compilation, simulation and analysis; allows data exchange and reuse); the advantages of data sharing and the data curation process. Presents the Data Lifecycle Model proposed by the Digital Curation Center (DDC); which establishes all the necessary steps for the digital curation process and data preservation of a research project; It also defines roles and responsibilities required at each stage of this activity.

In chapter 6 "**Data Management Plan**", or simply PDG, the author presents the main practices for preparing a management plan; points out that this is a formal document and is intended to describe the "data life cycle"; record decisions made regarding metadata standards, formats, databases, methods, security and storage periods, as well as data management costs. " This particular chapter details the checklist of a data management plan prepared by DCC; For this reason, it can be used as a guide for researchers and information professionals who need guidance for the preparation of a management plan. The author also introduces the Open Reserch Data Pilot pilot project, proposed by the European Commission's Horizon 2020 Program, which promotes and refines the management and reuse of scientific data generated through projects it finances itself. Fabiano cites the main components of a data management plan, namely: 1) data and metadata description; 2) update (metadata, documentation); 3) organization; 4) acquisition; 5) processing; 6) analysis; 7) preservation; 8) publication; 9) identifiers; 10) citation of data; 11) backup; 12) ethics; 13) intellectual property; 14) access and reuse; 15) short term storage management and preservation; 16) long term storage management and preservation; 17) resources; 18) personnel; 19) considerations for sharing data; and 20) ways to share the data. As stated above, this chapter will serve as a model for developing a PGD, and will make life easier for those researchers who need to present a data management plan to those funding agencies that are now requiring researchers to provide the PDG to ensure research funding, as is the case of FAPESP – Fundação de Amparo à Pesquisa do Estado de São Paulo informed on its website.[1]

Chapter 7 "**Data Repositories**" presents the vital importance of repositories (categorized as: institutional; thematic; editorial; general purpose and proprietary repositories) for the preservation, integrity, and dissemination of scientific data.

The last chapter "**The Role of Librarians**" presents the actions that the librarian can offer researchers in developing a data management plan. This chapter should be systematized

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[1] Avaliable on: http://www.fapesp.br/gestaodedados/. Access on: 31 Oct. 2019.

and used by the librarian to design effective planning to ensure that all stages of the data lifecycle are met. It also guides the librarian on the various forms of support he can offer the researcher during the orientation process, namely: developing data management plans; metadata strategies; choosing repositories appropriate to the researcher's needs or creating strategies for organizing data and corresponding documentation.

We conclude that the work "**Scientific Data Management**" was very well written and offers in detail the theoretical and practical concepts on why and how to properly manage scientific data, offering a vast overview for those who want to follow the path of digital curation.

We consider that the publication can be used as a guide for researchers, librarians, data librarian[2] and students who want to delve into the themes: curating and managing scientific data, as Fabiano said: "*If knowledge is the engine of scientific advancement, data is its fuel.*"

Reference

SILVA, Fabiano Couto Corrêa da. **Gestão de dados científicos**. Rio de Janeiro: Interciência, 2019. 146 p. ISBN 978-85-7193-435-1.

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[2] See: https://llamonlinedotorg.files.wordpress.com/2013/03/datalibrarian_jobdescription-march2013.pdf. Access on: 31 Oct. 2019.