FROM GOOGLE SCHOLAR TO WIKIDATA: THE RIDC NEUROMAT EXPERIENCE

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Support FAPESP

WIKI DATA CON 2021 - a sustainable future for Wikidata

Schedule

1. Introduction
2. Introduction to Wikidata in the context of scientometrics in Brazil
3. Analysis of institutional academic profiles
4. Methodology: challenges and lessons learned
5. Preliminary results
6. Next steps

Introduction

Motivation

Scientific production evaluation

- We want to analyze and spread the scientific production of NeuroMat, with a critical and reflective attitude.
- We aim the evaluation as a way to ensure the development and constant improvement of study areas.

Scientometrics in Brazil

Research Evaluation in Brazil

QUALIS CAPES is a scientific production evaluation system that define different levels of classification for scientific journals in postgraduate courses.

- Qualis Rank: A1, A2, A3, A4, B1, B2, B3, B4, C, and NP (not scored). https://www.wikidata.org/wiki/Property:P9683

Research Evaluation in Brazil

- Lattes Platform is a virtual curriculum system that integrates Brazilian curriculum databases, research groups and institutions. https://lattes.cnpq.br

- It's been added to wikidata as well. [[Q6497078]] and [[P:P1007]]

Institutional Academic Profiles

RIDC NeuroMat

- The Research, Innovation and Dissemination Center for Neuromathematics (RIDC NeuroMat) is a center of mathematics whose mission is to create the new mathematics needed to construct a Theory of the Brain.

- NeuroMat was established in 2013, with support from the São Paulo Research Foundation (FAPESP).

RIDC NeuroMat

- The RIDC NeuroMat enabled the creation of a researchers network interdisciplinary of mathematics, computer science, statistics, neuroscience, biology, physics and communication, among other disciplines.

- Mathematician Antonio Galves ([[Q17489997]]) coordinates the research center.

Scientometric indicators

We want to apply scientometric indicators to measure and analyze the impact of NeuroMat research.

Main basic indicators to consider:

1. Number of publications;
2. Number of citations;
3. Co-authors;
4. Mapping of countries and scientific fields.

Scientometric indicators

Indicator	Method	Objective
Author productivity	Total number of articles published in a given period	Present the impact of an author's production in an area of knowledge
Journal's degree of attraction	Journal reputation	Identify the most relevant newspapers that give the greatest exposure to a specific topic
Keyword frequency	Ordered list of subjects	Estimate the most recurrent themes related to a knowledge area

Google Scholar and institutional academic profiles

NeuroMat

FAPESP CEPID NeuroMat
E-mail confirmado em numec.prp.usp.br - Página inicial
neuromathematics

SEGUIR

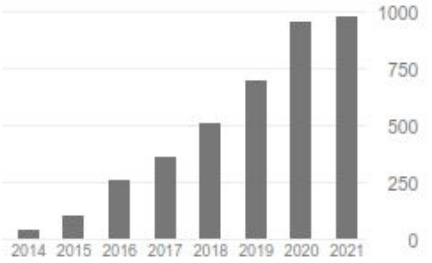
Citations

Publications

TÍTULO	CITADO POR	ANO
Hippocampus-retrosplenial cortex interaction is increased during phasic REM and contributes to memory consolidation DG de Almeida-Filho, BDV Koike, F Billwiller, KS Farias, IRP de Sales, ... Scientific Reports 11 (1), 1-14		2021
Estimating the interaction graph of stochastic neuronal dynamics by observing only pairs of neurons E De Santis, A Galves, G Nappo, M Piccioni arXiv preprint arXiv:2106.07529		2021
Building a model of the brain: from detailed connectivity maps to network organization RO Shimoura, RFO Pena, V Lima, NL Kamiji, M Girardi-Schappo, ... The European Physical Journal Special Topics, 1-23	1	2021
Modeling and characterizing stochastic neurons based on in vitro voltage-dependent spike probability functions V Lima, RFO Pena, RO Shimoura, NL Kamiji, CC Ceballos, FS Borges, ... The European Physical Journal Special Topics, 1-10	1	2021

Citado por

	Todos	Desde 2016
Citações	4011	3812
Índice h	30	29
Índice i10	113	107



Coautores EDITAR

Co-authors

Google Scholar profile

Google Scholar and institutional academic profiles

Some disadvantages:

- Limited possibilities for visualization of data analysis.
- Limited possibilities for visualization of metadata in search engines: geolocation, genre, date, time and others.
- Limited possibilities for performing several specific queries.
- Limited functionalities of the API (Application Programming Interface)[1].

[1] López-Cózar et al., 2017. ([[Q109329462]])

Google Scholar and institutional academic profiles

Some disadvantages:

- Search results are optimized according to Google's algorithm. So, relevant sources may be left out for not meeting these criteria.
- Search results may be non-academic, it could be inaccurate or outdated.
- Search results do not equally cover all areas of knowledge, showing a particular weakness in the Humanities areas[2].

[2] Prins et al., 2016. ([[Q109329463]])

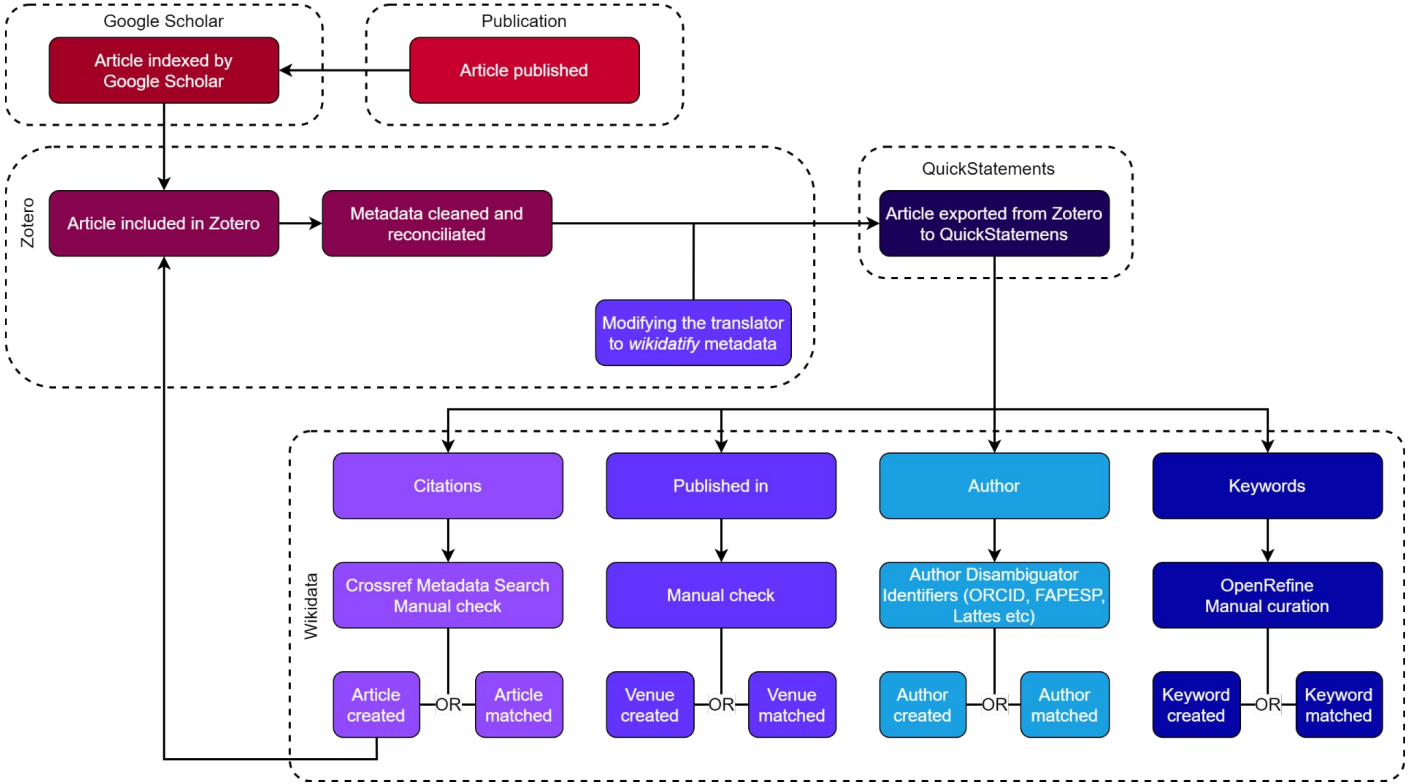
Scholia and institutional academic profiles

- Our project was inspired by Scholia[3]
- Scholia is a project created by user Fnielsen
- It is inserted in the context of a WikiCite initiative, that seeks to index bibliographic metadata in Wikidata
- Provides an academic profile for many types of entities (venues, institutions, authors etc)
- NeuroMat profile in Scholia: https://scholia.toolforge.org/organization/Q18477654

[3] Nielsen et al., 2017. ([[Q41799194]])

Methodology

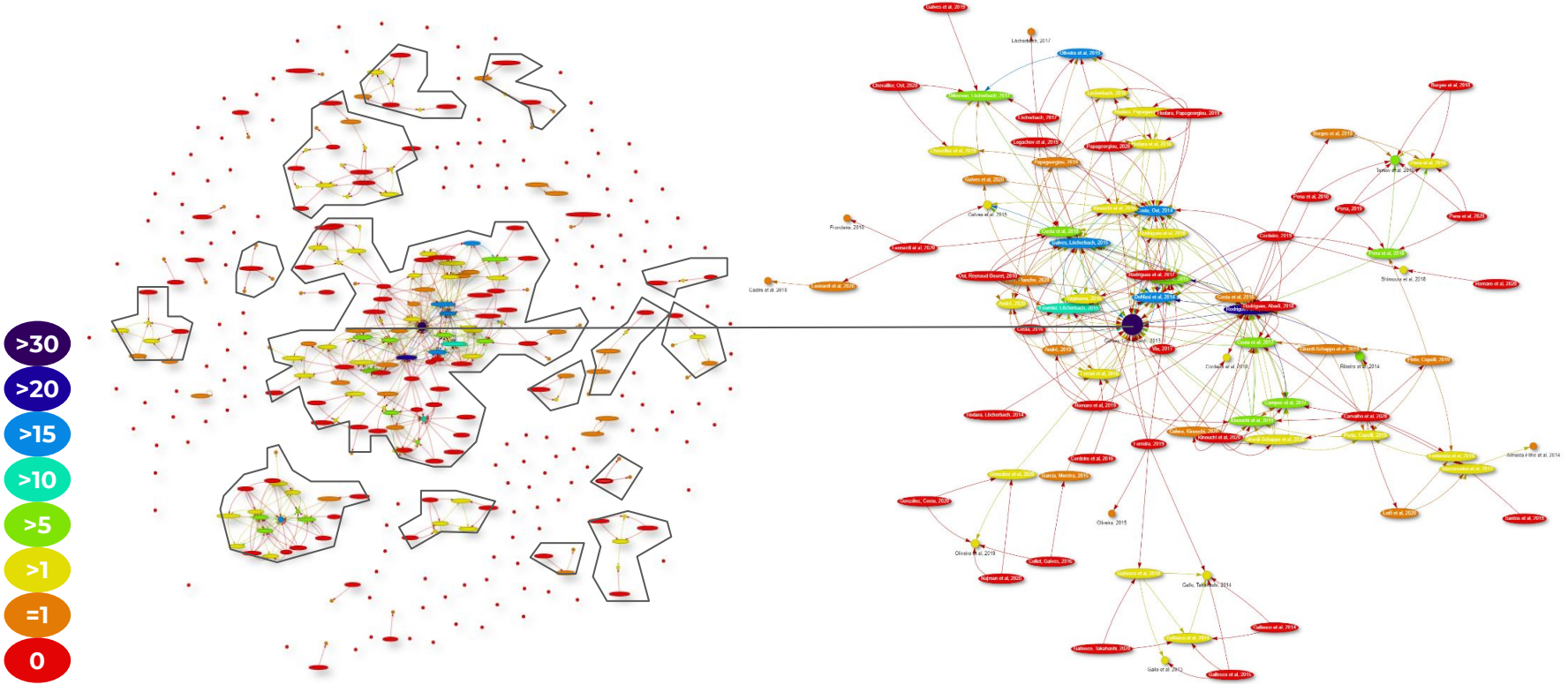
Operational workflow



More details about the processes used here: Alves et al., 2021. ([[Q108545648]])

Preliminary results

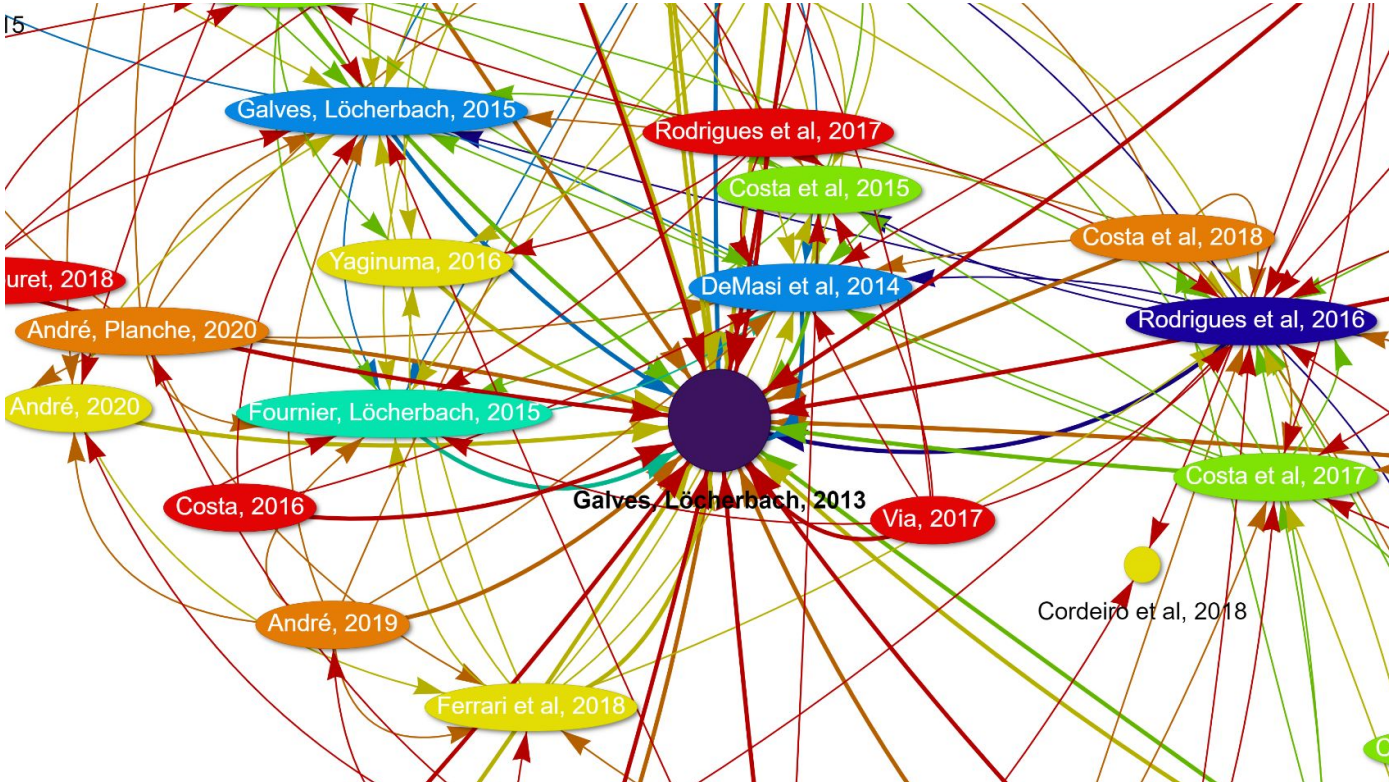
NeuroMat articles cited by other NeuroMat articles



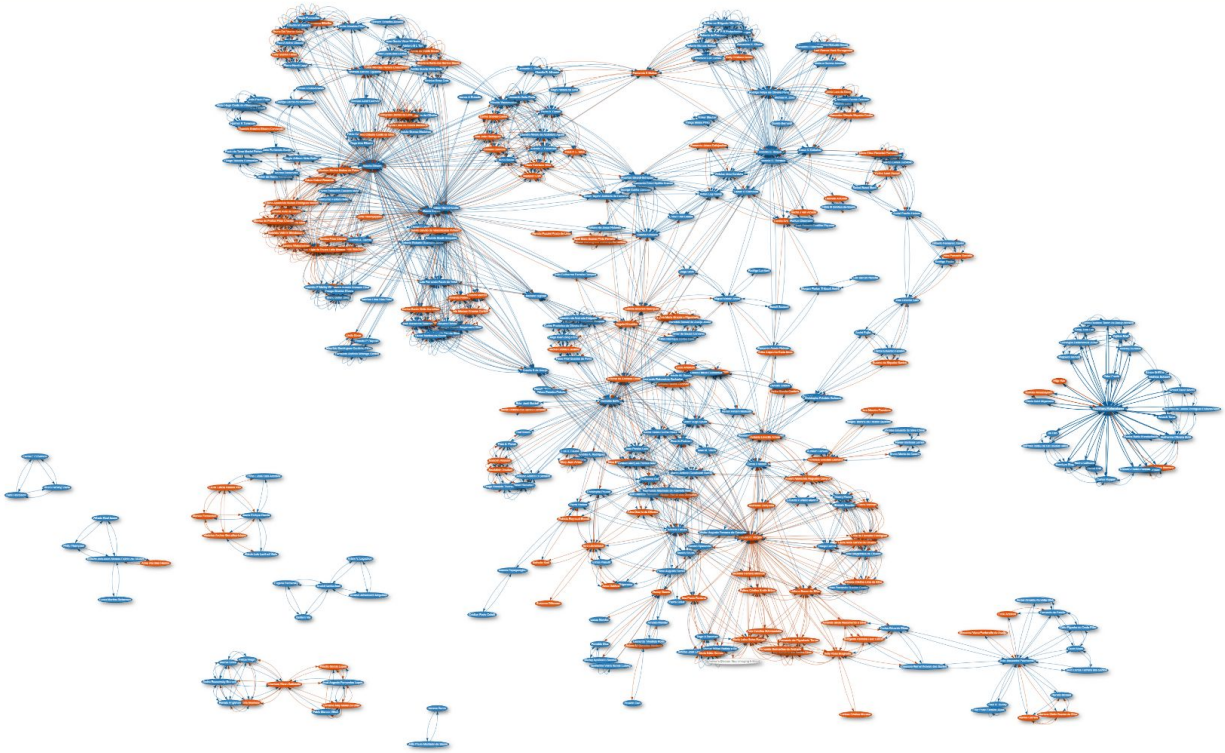
Alves, 2021

Live query

NeuroMat articles cited by other NeuroMat articles



Co-author graph



Live query: w.wiki/33nM

Next Steps

Future work

- Interpret and discuss the results of the analysis of the academic network.
- Examine the competences/absences of the model represented on Wikidata in relation to the bases found in the literature of related works.
- Enable a connection of results with altimetry techniques.

RIDC NeuroMat

- Official webpage
  - https://neuromat.numec.prp.usp.br
- NeuroMat support network for friends and people with Parkinson's disease
  - https://amparo.numec.prp.usp.br
- Podcast *The mathematics of the brain*
  - https://podcast.numec.prp.usp.br
- NeuroMat GLAM-Wiki Partnership
  - https://w.wiki/4K2Y

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