

UNIVERSITY OF
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Open Access: The Web and Scientific Knowledge

COMP3220 Web Infrastructure

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Open Access (OA)

- Open Access to Scientific and Scholarly Research Literature
- OA is movement for organising and disseminating the worlds research knowledge through Web technology
 - Free of cost
 - Other access barriers
- Focuses on Peer Reviewed Literature



Open access logo,
designed by Public Library
of Science

The Budapest Open Access Initiative (BOAI)

- The BOAI publishes a set of principles for open access and research literature
- Released in February 14th, 2002
- It arose from a conference hosted in Budapest by the Open Society Institute in 2001
 - This small gathering of individuals is recognised as one of the major defining events of the open access movement.

Old tradition of scholarly publishing + New technology of the Internet =

Public good: free and unrestrictive access to peer-reviewed journal literature

Open Access Definition

“By "open access" to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited.”

- The Budapest Open Access Initiative

FAIR

- FAIR data linked to Open Access

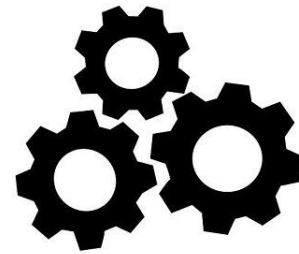
F
Findable



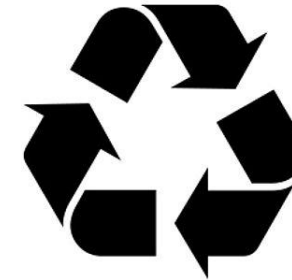
A
Accessible



I
Interoperable



R
Reusable



- Introduced in 2016
- Endorsed by the European commission and the G20

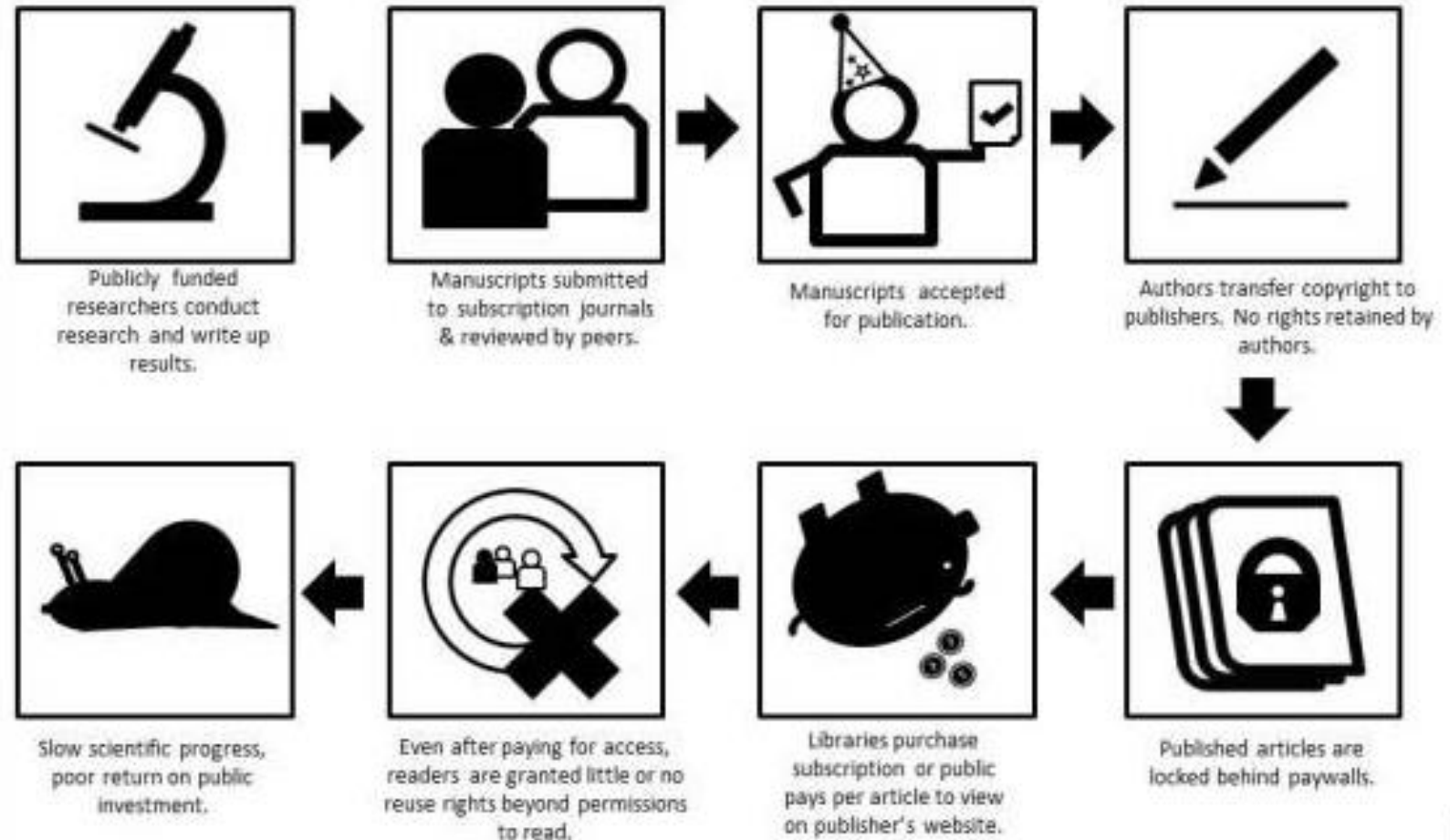
Full Open Access Ideal

- The entire full-text refereed corpus online
- On every researcher's desktop, everywhere
- 24 hours a day
- All papers citation-interlinked
- Fully searchable, navigable, retrievable

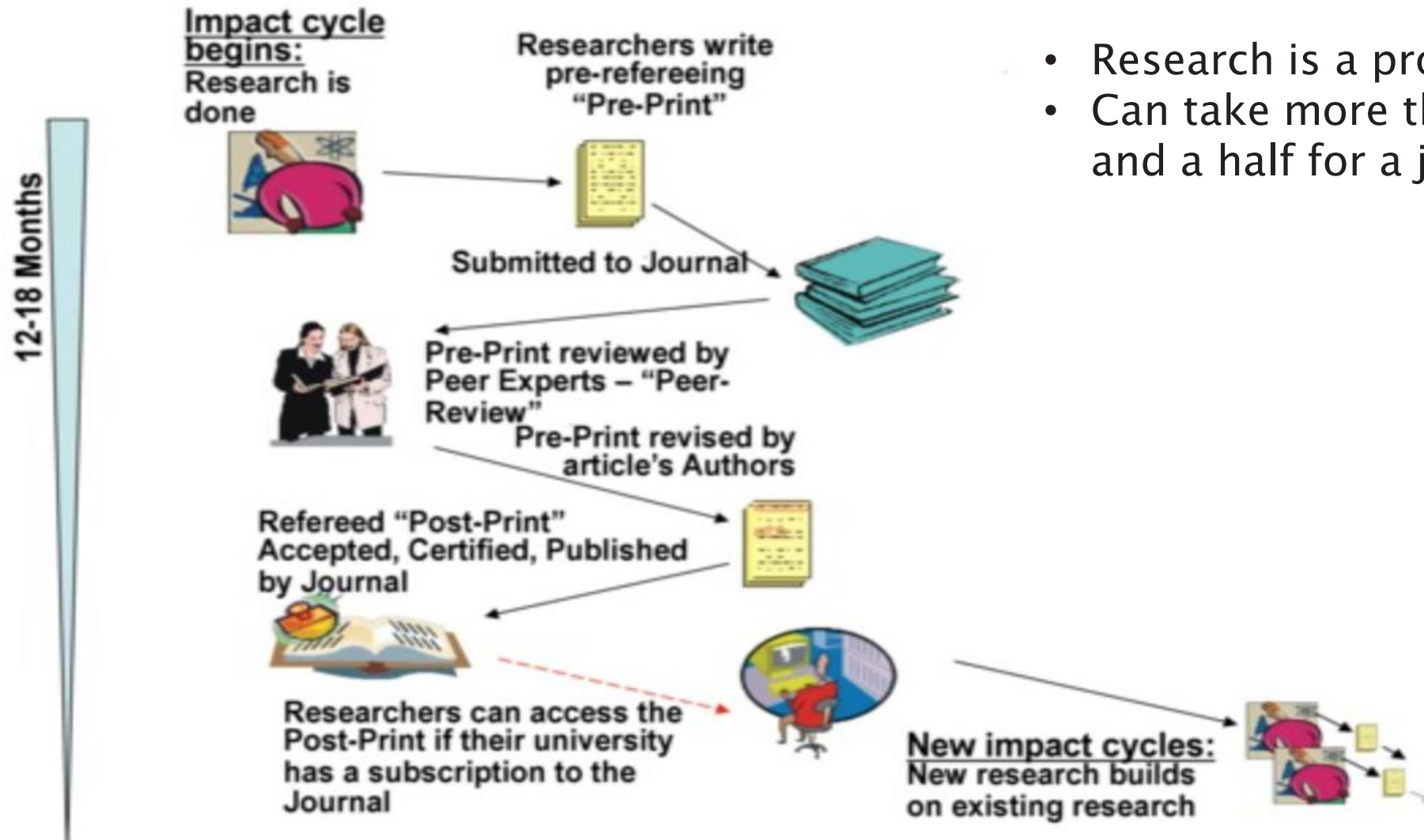


Traditional Subscription Publishing

- Limited Dissemination, economic efficiency & social impact
- Paywall
- Libraries purchase subscriptions
- Very limited permissions
- Slow process



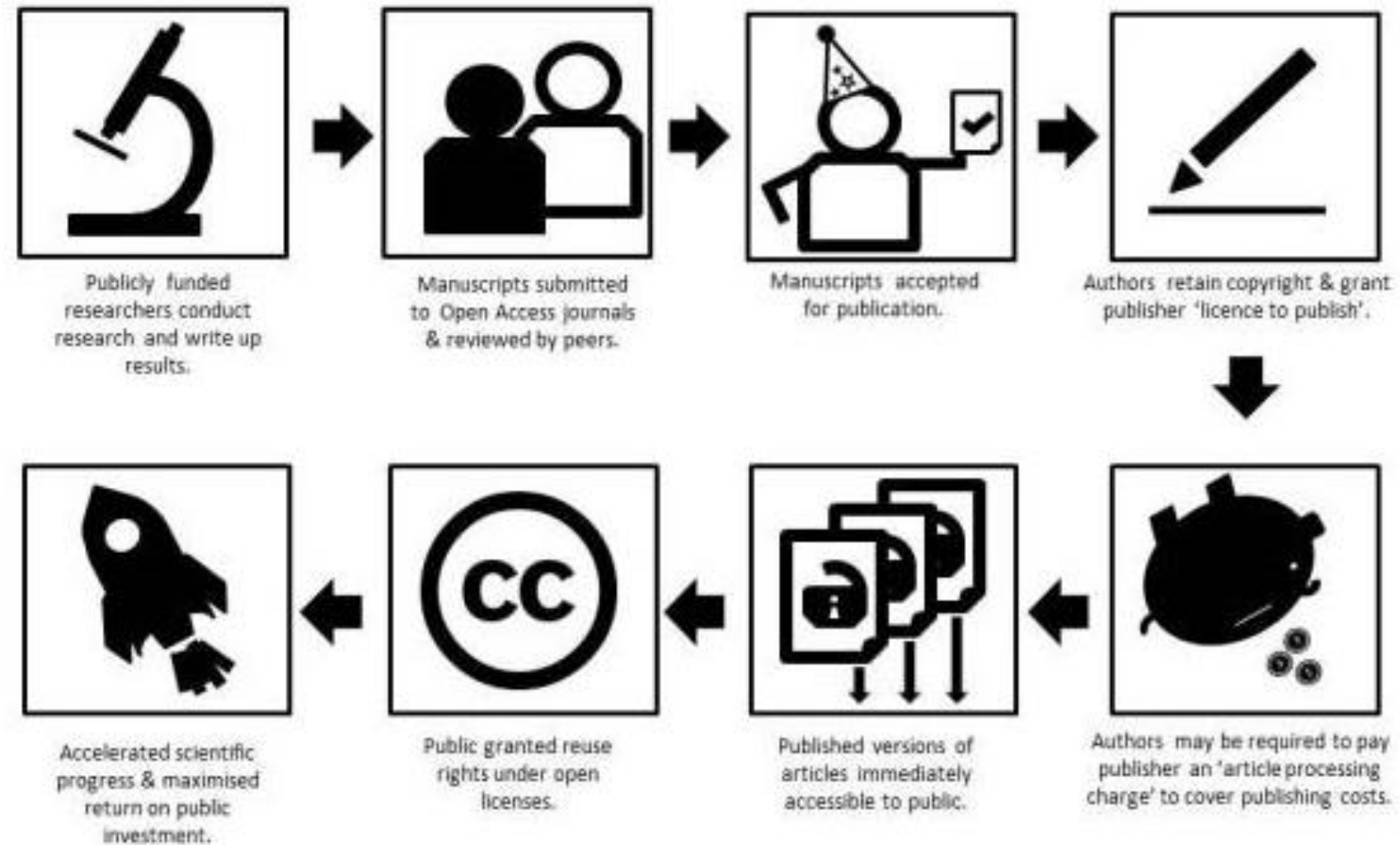
Limited Access: Limited Research Impact



- Research is a process
- Can take more than a year and a half for a journal

Gold Open Access

- Maximised Dissemination, economic efficiency & social impact
- Articles freely, permanently and immediately accessible by everyone
- Copyright retained by authors
- Very few restrictions on use

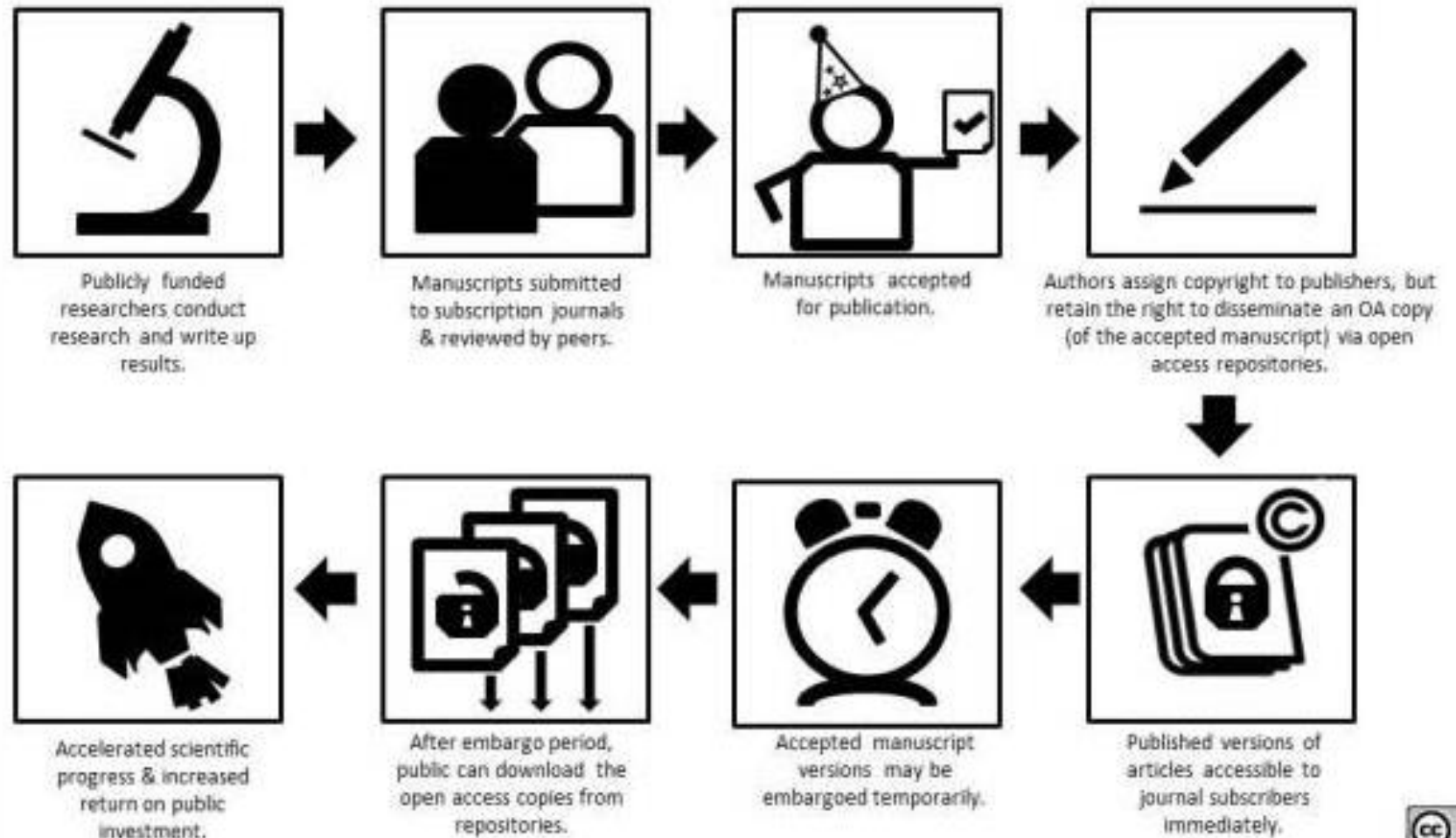


Model and text adapted from Timothy Vollmer and Teresa Sempere Garcia "Research article
http://www.creativecommons.org/file/Research_articles_cycles.jpg



Green Open Access

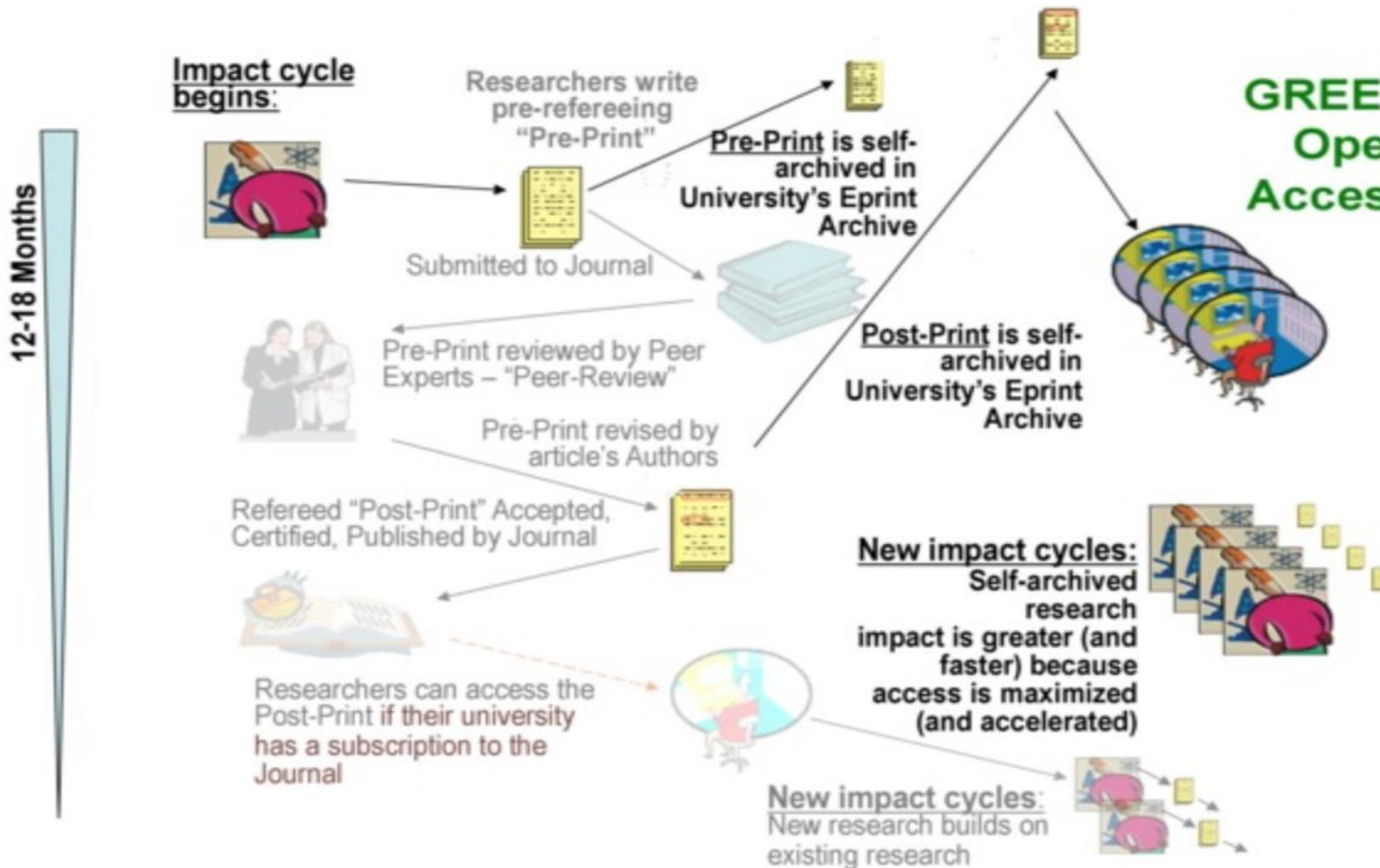
- Increased Dissemination, economic efficiency & social impact
- Self Archiving
- A version is freely available
- Publish pre or post publication



Model and text adapted from Timothy Vollmer and Teresa Sempere Garcia "Research article http://www.creativecommons.org/files/Research_articles_cycles.jpg



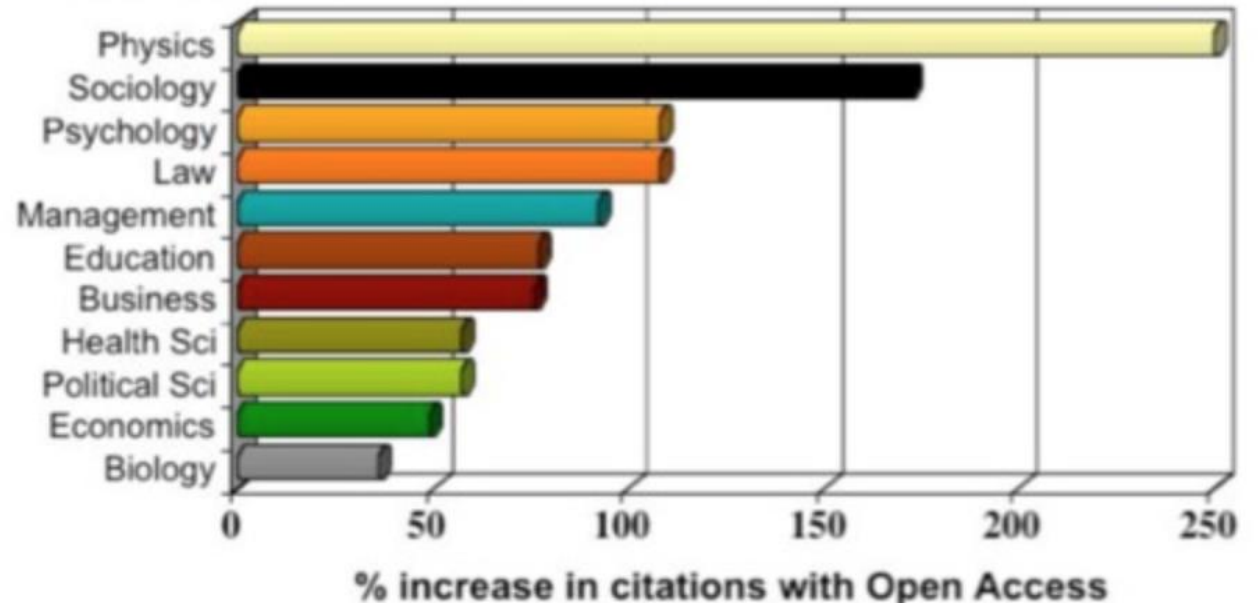
Green Open Access Pre-Prints



- Preprints allow people to view work immediately
- However, impact is greater after peer reviewed publications

Green OA Advantages

- Early Advantage: Self archiving **preprints** before publications hastens and increases usage and citations
- Quality Advantage: Self-archiving **postprints** immediately upon publication hastens and increases usage and citation
 - Higher quality articles benefit more
- Usage Advantage: Self-archiving both **pre/post prints** increases downloads
 - Higher quality articles benefits more!



Full bibliography, see
<http://opcit.eprints.org/oacitation-biblio.html>

Open Access Strategies

Green: Self Archiving	Gold: Publishing
Journal processes continue as normal	Journal changes business model
Authors deposit a copy of their papers into an 'open access repository'	Readers no longer pay to read
Public copy is a supplement to the publishers official article for those who can't afford a subscription	Instead, authors pay to publish or their funders

Problems with OA

- 20% of new papers are Open Access 2019
- 50% of new papers, all versions, are behind a paywall
- Green OA relies on publishers policies
- Romeo service tracks publisher policies
 - <http://www.sherpa.ac.uk/romeo>
- Gold OA relies on publishers changing their model
- Scientific publications is lucrative (18% profits)
- Academia highly values the peer review process

Open Access Repositories

- Open-access repository or open archive
- Free, immediate and permanent access for anyone to use, download and distribute
- Institutional or disciplinary
- They provide free access to research for users outside the institutional community

Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH)

- A protocol developed for harvesting metadata descriptions of records in an archive so that services can be built using metadata from many archives
- Repositories must be interoperable according to OAI-PMH
- Search engines harvest the content of open access repositories, constructing a database of worldwide, free of charge available research

Role of the Repository

- Who takes responsibility for curating the research knowledge of the world?
 - Privately owned, profit making, publishing industry
 - University, research institution, knowledge creator

Learning Outcomes

- How OA relates to the publishing industry
- Advantages of Green and Gold publishing