

Università degli Studi di Salerno – Computer Science Ph.D. Program

BOOST YOUR PH.D. 101: TIPS, TRICKS, AND SECRETS TO SUCCEED

Part II: Metrics, Assessment and Building your Research Career

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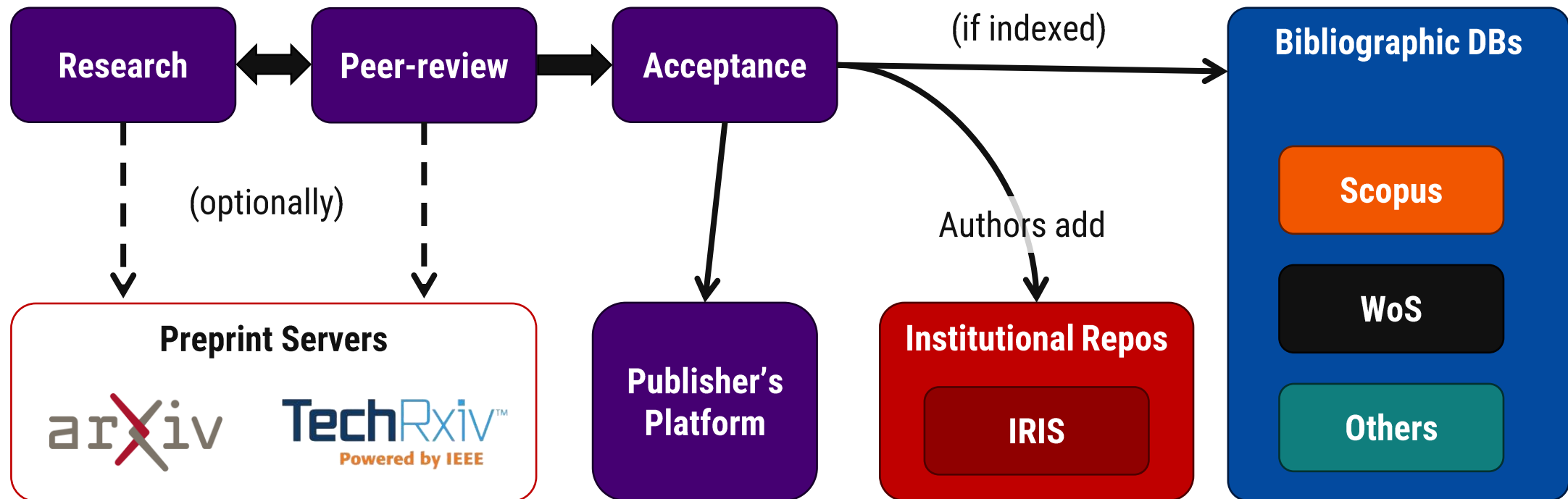
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BEFORE WE START...

- Any questions / feedback from last session?
- Have you added your research on IRIS?



TODAY'S SESSION

Two key questions:

- How does academia measure, rank, and evaluate research?
- What can you do, starting in your first PhD year, to become a more effective and visible researcher?

Metrics and Rankings

*Congrats! Your paper got published.
Now, let's reduce months/years of hard work to a single number, letter, or quartile!*

HOW «GOOD» IS YOUR PAPER?

- Researchers, universities, and funding agencies may want to understand:
 - **Impact:** Is a work being cited and used?
 - **Visibility:** Where was it published?
 - **Reputation:** How is the publication venue regarded?
 - **Quality:** How original, rigorous, and significant is the research?

GOODHART'S LAW

***When a measure becomes a target,
it ceases to be a good measure.***

Marilyn Strathern's widely quoted formulation of Goodhart's law

WHAT CAN WE MEASURE IN ACADEMIA?

Level	Examples
Publication	Citation count, downloads, attention
Researcher	Total citations, h-index, i10-index
Journal	Impact Factor, SJR, CiteScore, quartiles
Conference	ICORE ranking
Institution	Research assessment outcomes, VQR indicators

- **Different scopes:** some metrics describe an individual output, others a researcher, others venues or even entire institutions
- Don't mix them up! A prestigious conference may accept weak papers. A less prestigious venue may publish exceptionally influential work.

HOW WOULD YOU MEASURE HOW PRODUCTIVE A RESEARCHER IS?

PUBLICATION COUNTS

- How productive is a researcher? Let's count their publications!
- Counting publications sound simple, but it isn't!
- What counts?
 - Only journal papers? Journal and conference papers?
 - Only full papers? Do posters / abstracts / book chapters count?
 - Only first-author papers? Or all coauthored papers?
 - Over what time period? Last year? Last five years? Last ten years?
- One researcher published 10, incremental, short papers. Another 3 substantial paper, each addressing an important research question
 - Who is more productive? Who has contributed more?

PUBLICATION COUNTS AND SALAMI SLICING

- Once publication counts become evaluation targets, people may have incentives to divide research into the smallest publishable units
 - This practice is also referred to as **salami slicing**
 - When the data from one project is split into multiple publications, a statistical significance problem might arise!
- Productivity != Scientific Quality



HOW WOULD YOU MEASURE THE IMPACT OF A RESEARCH PAPER?

CITATION COUNTS

- Count is the number of indexed publications that cite a research output

Conferences > 2025 IEEE/ACM 22nd Internatio... ?

E2EGit: A Dataset of End-to-End Web Tests in Open Source Projects

Publisher: IEEE [Cite This](#) [PDF](#)

[Sergio Di Meglio](#) ; [Luigi Libero Lucio Starace](#) ; [Valeria Pontillo](#) ; [Ruben Opdebeeck](#) ; [Coen De Roover](#) ; [Sergio Di Martino](#) [All Authors](#)

Google Scholar

24

[Link](#)

Scopus

12

[Link](#)

WoS

9

[Link](#)

SELF-CITATIONS

- **Self-citation:** A paper cites previous work by one or more of its authors.
- Legitimate reasons:
 - Continuing an earlier research project
 - Building on previously published methods
 - Reusing datasets, tools, or theoretical results
 - Acknowledging related prior contributions
- Potential concerns:
 - Excessive, unnecessary self-citations
 - Citation manipulation between collaborators
 - Artificial inflation of bibliometric indicators

CITATIONS COUNTS

- Does not distinguish between:
 - Being cited because someone extends your work
 - Being cited because someone uses your work as a baseline
 - Being cited because someone uses your work as a bad example of what should never be done in academia...

RAW CITATIONS ARE NOT THE WHOLE STORY

- Two papers have 30 citations each

Paper A	Paper B
Published 10 years ago	Published 6 months ago
Large research community	Small research community
Review paper	Original technical contribution

- Same citation count. Very different interpretation...
- Other possible indicators:
 - Citations per year; Field-normalized citation impact;
 - Citation percentile within comparable publications;
 - Downloads, usage, and broader online attention

H-INDEX: PRODUCTIVITY + CITATIONS

- Your h-index is ***h*** if you have at least ***h*** publications with at least ***h*** citations
- Example #1: What is the h-index?

Rank	#1	#2	#3	#4	#5
Citations	253	12	2	1	1

- Example #2: What is the h-index?

Rank	#1	#2	#3	#4	#5
Citations	4	3	3	2	1



Consider the following (sorted) citation counts: 37, 30, 21, 12, 8, 7, 5, 2, 1, 0, 0.
What is the h-index?

5

6

7

NaN



Consider the following (sorted) citation counts: 37, 30, 21, 12, 8, 7, 5, 2, 1, 0, 0.
What is the h-index?

5

6

7

NaN



Consider the following (sorted) citation counts: 37, 30, 21, 12, 8, 7, 5, 2, 1, 0, 0.
What is the h-index?

5

6

7

NaN

i10-INDEX: EVEN SIMPLER

- i10-index = number of publications with at least 10 citations.
- Metric associated primarily with Google Scholar Profiles
- Example #1: What is the i10-index?

Rank	#1	#2	#3	#4	#5
Citations	253	12	2	1	1

- Example #2: What is the i10-index?

Rank	#1	#2	#3	#4	#5
Citations	4	3	3	2	1

OTHER RESEARCHER METRICS

Metric	What it emphasizes	Main limitation
Total citations	Aggregate attention	Dominated by highly cited papers
h-index	Sustained cited output	Career age and field dependence
i10-index	Papers crossing 10 citations	Arbitrary threshold
m-quotient	h-index relative to academic age	Still affected by field and database
Field-normalized indicators	Impact relative to comparable work	Depend on classification and methodology

JOURNAL METRICS

Metric	Source	Basic idea
Journal Impact Factor (JIF)	Clarivate / Journal Citation Reports	Citation rate for recent journal content, based on a two-year publication window
SCImago Journal Rank (SJR)	SCImago / Scopus data	Citation-based journal influence, accounting for the importance of citing sources
CiteScore	Elsevier / Scopus	Average citations per document over a four-year window

- These describe journals. Not the scientific quality of each article!

Q1, Q2, Q3, Q4: JOURNAL QUARTILES

- A journal's quartile depends on:
 - **Metric:** SJR, JIF, CiteScore, etc.
 - **Subject category:** the journals being compared
 - **Year:** rankings change over time
- Q1 is not an intrinsic, permanent property of a journal...



Q1

Q2

Q3

Q4

FINDING OUT A JOURNAL'S QUARTILES

- Scopus and WoS allow you to search for journal metrics and rankings
- For the form you have to fill, use [SCImago Journal & Country Rank](#).
 - Search for the journal by title or ISSN.
 - Open the journal's profile.
 - Identify the relevant subject category.
 - Check the quartile for the relevant year.
 - Distinguish the numeric SJR score from the categorical quartile.
- For WoS you can do the same with [Journal Citation Reports](#)
- In general, when applying for a position, you can report the best quartile across Scimago/WoS for the publications you submit for evaluation



What is the best SJR Quartile (Computer Science Category) for the «Journal of Systems and Software»?

Q1

Q3

Q2

Q4



What is the best SJR Quartile (Computer Science Category) for the
«Journal of Systems and Software»?

Q1

Q3

Q2

Q4



What is the best SJR Quartile (Computer Science Category) for the
«Journal of Systems and Software»?

Q1

Q3

Q2

Q4



What is the JIF Quartile (Computer Science, Software Engineering) for the «Journal of Systems and Software»?

Q1

Q3

Q2

Q4



What is the JIF Quartile (Computer Science, Software Engineering) for the «Journal of Systems and Software»?

Q1

Q3

Q2

Q4



What is the JIF Quartile (Computer Science, Software Engineering) for the «Journal of Systems and Software»?

Q1

Q3

Q2

Q4

CONFERENCE RANKINGS: A CS SPECIALTY

- In Computer Science, top conferences are often major venues.
 - Ranking conferences is a computer science specialty
- The ICORE rankings classify conference series by their standing within their communities

Rank	General interpretation
A*	Flagship conference
A	Excellent conference
B	Good to very good conference
C	Conference meeting baseline ranking standards
Unranked	No ranking assigned

ICORE CONFERENCE RANKINGS

- ICORE is a **community-developed ranking**, not a publisher or an indexing database: <https://portal.core.edu.au/conf-ranks/>

CORE SCIE GII GRIN
Computing Research & Education Sociedad Científica Informática de España Società Informatica Italiana

ICORE Conference Portal

CORE rankings is now an international collaboration named ICORE

Any rankings questions should be sent to icore.rankings@gmail.com

[ICORE rankings page](#) | [Frequently asked questions](#) | [Description of Conference Ranks](#) | [Fields of Research codes](#)
[CORE Dora discussion document](#) | [Guidelines for reporting rankings](#) | [Usage of CORE rankings](#) | [ICORE addition and upgrade requirements](#) | [Data used in Rankings and responses to common concerns](#)

Search by: **All** Source: **ICORE2026**

Search

ICORE2026 Summary:
A* - 7.52% of 825 ranked venues
A - 13.09% of 825 ranked venues
B - 30.18% of 825 ranked venues
Australasian B - 0.73% of 825 ranked venues
C - 46.18% of 825 ranked venues
Australasian C - 2.3% of 825 ranked venues
Other - 162 total

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What is the ICORE 2026 rank for the International World Wide Web (WWW) conference?

A*

A

B

Unranked



What is the ICORE 2026 rank for the International World Wide Web (WWW) conference?

A*

A

B

Unranked



What is the ICORE 2026 rank for the
«Intelligent Systems in Molecular Biology» (ISMB) conference?

A*

A

B

Unranked



What is the ICORE 2026 rank for the
«Intelligent Systems in Molecular Biology» (ISMB) conference?

A*

A

B

Unranked



What is the ICORE 2026 rank for the
«Intelligent Transportation Systems Conference» (ITSC)?

A*

A

B

Unranked



What is the ICORE 2026 rank for the
«Intelligent Transportation Systems Conference» (ITSC)?

A*

A

B

Unranked

RESPONSIBLE RESEARCH ASSESSMENT

- The [San Francisco Declaration on Research Assessment \(DORA\)](#) argues against using journal metrics as substitutes for individual research quality.
- Responsible evaluation should consider:
 - Scientific originality and rigor
 - Importance of the research contribution
 - Research artifacts and reproducibility
 - Influence on research and practice
 - Context, discipline, and career stage
- Metrics should inform expert judgment, not replace it.

Let's take a break!

Stretch, hydrate, resist compulsively checking your H-index...

ASN, ANVUR, and the Italian Research Assessment System

RESEARCH METRICS BECAME CAREER-CRITICAL

- **ASN: Abilitazione Scientifica Nazionale**
 - Introduced through Law 240/2010 as a national scientific qualification procedure for aspiring associate and full professors.
 - Under the traditional model:
 - Candidates applied for a particular academic field and professorial level.
 - National commissions assessed their scientific qualifications.
 - Bibliometric fields used quantitative thresholds, including publication and citation indicators (the so-called medians).
 - Meeting the thresholds was necessary but not sufficient to obtain habilitation.
- **ASN was a qualification: not a professorship or a job offer.**
 - To become an associate or full professor, candidates needed to obtain the Abilitazione Scientifica Nazionale

ABILITAZIONE SCIENTIFICA NAZIONALE

For the Computer Science scientific-disciplinary sector (INFO-01/A)

- The bibliometric thresholds for associate professors:
 - Journal papers in the last 5 years: 4
 - Number of citations in the last 10 years: 157
 - H-index in the last 10 years: 7
- The bibliometric thresholds for full professors:
 - Journal papers in the last 10 years: 9
 - Number of citations in the last 15 years: 304
 - H-index in the last 15 years: 10

GOODBYE ASN? THE 2026 REFORM

- Law No. 129/2026 reforms access to professorial positions.
- **Previous ASN framework**
 - National qualification procedure
 - Evaluation by a national commission
 - Habilitation obtained before recruitment
- **New framework**
 - Nationally defined scientific eligibility requirements
 - Candidates declare their compliance with those requirements
 - Verification and evaluation within university recruitment procedures
- The reform removes the separate national habilitation step, not scientific eligibility requirements.

WHAT WILL MATTER UNDER THE NEW SYSTEM?

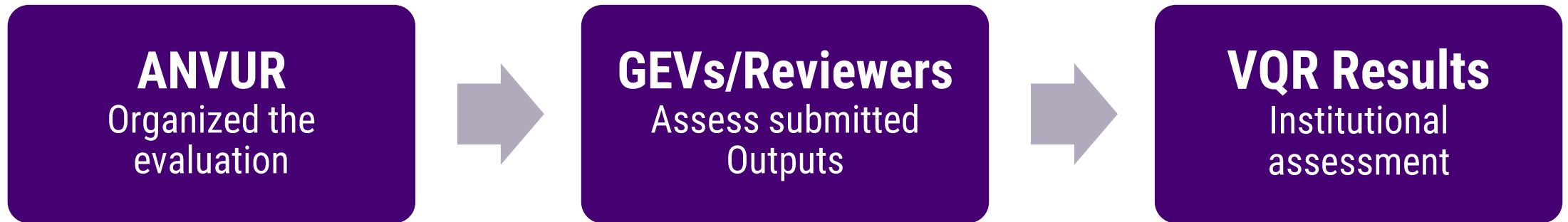
- The 2026 reform calls for nationally defined requirements covering more than publication counts.
- The law expressly considers:
 - **Research outputs:** quantity, continuity, and distribution over time
 - **Teaching activities**
 - Research experience in Italy and abroad
 - Participation in competitively funded research projects
- Eligibility is only the starting point.
 - Selection still requires evaluating the candidate.

DIFFERENT ASSESSMENT LEVELS

- Research is evaluated at multiple levels.
- Individual researchers
 - Publications, qualifications, academic careers
- Departments and universities
 - Research outputs, collaborations, institutional performance
- National research system
 - Assessment, accountability, and funding decisions
 - In Italy, the main national framework is the VQR

ANVUR, GEV, VQR

- Different entities
 - ANVUR: Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca
 - GEVs: Gruppi di Esperti della Valutazione
 - VQR: Valutazione della Qualità della Ricerca



- Latest completed exercise: [VQR 2020–2024](#), final results in May 2026.

HOW DOES THE VQR ASSESS RESULTS



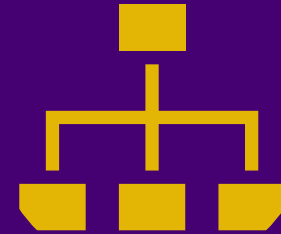
Originality

To what extent does the work advance existing knowledge?



Methodology

Are the research methods rigorous and appropriate?



Impact

What is the significance or influence of the contribution?



**Wait, you thought that after
adding your published work on
IRIS your work was done?**

Bad news again...

YOUR PUBLICATION RECORD NEED MAINTENANCE

- Scopus and WoS are far from perfect
- Common problems:
 - Your publications are split across multiple author profiles.
 - Someone else's publications are attributed to you.
 - Your name or affiliation is incorrect.
 - A publication from an indexed venue is not indexed.
 - A publication is indexed but not linked to your profile.
 - Citation links or bibliographic metadata are incomplete.
- These errors may affect how your research output and citation impact are represented.

CORRECTING YOUR SCOPUS AUTHOR PROFILE

- Scopus provides an Author Feedback Wizard.
 - Find your author profile in Scopus.
 - Check your name, affiliation, and publications.
 - Select Edit profile.
 - Request corrections:
 - Merge duplicate profiles.
 - Add or remove incorrectly attributed publications.
 - Correct name or affiliation information.
 - Submit the request and check the outcome.
- You can also link your Scopus identity to ORCID.
- Documentation for the Author Feedback Wizard is [available here](#).

CORRECTING WoS RECORDS

- Web of Science also supports profile and publication corrections.
 - Find your Researcher Profile.
 - Check which publications are associated with it.
 - Claim or manage authorships where appropriate.
 - Use the profile-correction workflow for attribution errors.
 - Use the Data Change Request mechanism for publication-record errors.
- Author-profile corrections and bibliographic-data corrections are different operations.

BEFORE REPORTING AN ERROR: DIAGNOSE IT!

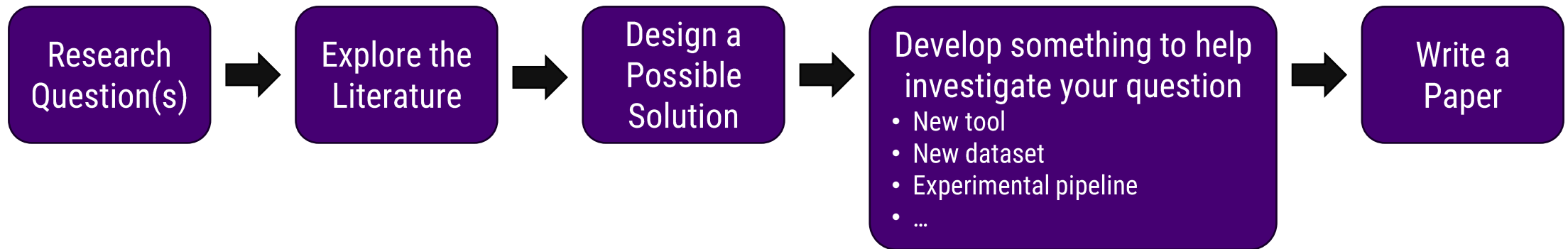
Your paper is missing from your Scopus profile. Why?

- Can you find the publication in Scopus using its DOI or title?
 - Yes
 - The record exists. Check whether it is associated with the correct author profile.
 - No
 - Check source coverage and indexing delay. If appropriate, report a missing document.
- A missing publication and a misattributed publication are different problems.
- **Practical advice:** Keep a record of correction requests and review your researcher profiles periodically, not compulsively every morning.

A PAPER IS NOT THE WHOLE PROJECT

A PAPER IS NOT THE WHOLE PROJECT

- What happens in a typical Computer Science research project?



- Your algorithm might be useful to others
- Your dataset might become a go-to benchmark for an entire community
- Your software could allow other researchers to reproduce your work, compare their approaches against yours, or extend it

ACTIVITY VS CONTRIBUTION VS OUTPUT

- An **activity** is something you do
 - Reading papers, writing code, collecting data, analyzing data
- A **contribution** is what you add to our scientific knowledge
 - You demonstrated that an approach does not work under certain conditions
 - You developed a new methodology that overcomes an important limitation
- A **research output** is something **tangible** that communicates, documents, or generally makes a contribution available to others
- These three things are related, but they're **not interchangeable**.

A PAPER IS NOT THE WHOLE PROJECT

- Research produces **artifacts** that can be **shared** and **re-used**
 - **Software**: enables use, inspection, replication
 - **Dataset**: enables new analyses and benchmarks
 - **Replication package**: connects claims (in a paper) to evidence
- In some cases, an associated artifact might have a greater impact than the original research it was produced for!
- Dedicated venues exist for datasets/implementations
 - Dedicated tracks at conferences, specific journals

WHY SHARE RESEARCH ARTIFACTS?

- Sharing research materials can increase:
 - **Reproducibility**: others can verify your findings.
 - **Reusability**: researchers can build on your work.
 - **Transparency**: methods and limitations become clearer.
 - **Visibility**: others can discover your contributions.
 - **Recognition**: artifacts can be independently cited and reused.
- Sharing is not only an Open Science obligation. It can be a research opportunity.

FROM GITHUB REPO TO CITEABLE ARTEFACT

- A GitHub repository does not guarantee long term archival
 - E.g.: an author might delete the repository, rename it...
- When providing a replication package for your research:
 - Do not link to a GitHub repository directly.
 - Provide a proper, citeable, long-term archival link using platforms like [Zenodo](#) or Figshare.



SHARE RESPONSIBLY

- Before making research materials public:
 - Check intellectual property and coauthor permissions.
 - Remove confidential information and personal data.
 - Verify dataset redistribution rights.
 - Choose appropriate licenses for code and data.
 - Explain what can and cannot be reproduced.
- Licensing examples: MIT / Apache-2.0 for software; CC BY / CC0 for suitable datasets and documentation.
- Sharing is valuable only when it's legal, ethical, and useful.

Career Development and Interacting with Your Supervisors

YOUR ADVISOR != YOUR PROJECT MANAGER

- A PhD is a supervised research project, but you're expected to develop increasing independence.
- Your advisor should help you:
 - Identify meaningful research problems.
 - Develop and challenge scientific ideas.
 - Navigate the research community.
 - Improve research methods and scientific writing.
 - Make informed decisions about your research direction.
- Your responsibilities:
 - Proactively organize your work, communicate, and ask for feedback.

HOW TO HAVE PRODUCTIVE MEETINGS

- Before the meeting
 - Send a brief agenda or progress summary.
 - Identify completed work and unresolved problems.
 - Prepare concrete questions or decisions.
- During the meeting
 - Discuss findings, obstacles, and next steps.
 - Ask for clarification when needed.
 - Record important decisions.
- After the meeting
 - Summarize agreed actions.
 - Prioritize the next tasks.
 - Follow up on commitments.
- Good meetings produce **decisions**, not just status updates.

COMMUNICATE EARLY

- Don't hide problems until the deadline.
- Talk to your advisor when:
 - Experiments repeatedly fail.
 - Your research direction becomes unclear.
 - Important deadlines are at risk.
 - You disagree about a methodological decision.
 - Collaboration or supervision problems affect your progress.

BECOME PART OF THE RESEARCH COMMUNITY

- A PhD is more than working on a thesis.
- Take all opportunities to:
 - Attend conferences and present your work.
 - Participate in summer schools and seminars.
 - Meet researchers beyond your institution.
 - Visit other research groups, including during your research period abroad.
 - Contribute to workshops, open-source projects, or community activities.
- Networking starts with scientific curiosity, not self-promotion.
- The goal is not to collect as much business cards as possible!
 - Start by being curious about other researchers' work and asking questions

A First-year Checklist to Boost Your Ph.D

A FIRST YEAR CHECKLIST TO BOOST YOUR PH.D.

Scientific identity

- ☐ Create and maintain your ORCID record.
- ☐ Use a consistent author name and affiliation.
- ☐ Check Scopus, WoS, DBLP and Google Scholar records when available.

Research visibility

- ☐ Maintain a simple, updated academic profile or website.
- ☐ Register publications correctly in IRIS.
- ☐ Make permitted paper versions discoverable and accessible.

A FIRST YEAR CHECKLIST TO BOOST YOUR PH.D.

Research practice

- ☐ Document code, data, methods, and experiments.
- ☐ Archive reusable research artifacts when possible.
- ☐ Participate in seminars and discuss research with colleagues.

Career development

- ☐ Agree on research goals and expectations with your advisor.
- ☐ Start building your professional network.
- ☐ Plan summer schools, conferences and the research period abroad.

Any final remarks / questions?