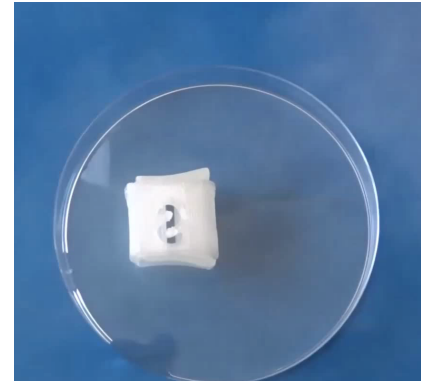




Séminaire d'auteur Sciences et Ecole Polytechnique

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Soft/Wet Microrobotics

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My experiences

- Publication:
 - Journals, conference proceedings, book chapters, monography, book editor, patents
- Reviewer « scientific » journals
 - Langmuir, soft matter, Tribology Letters, Applied Physics Letters, LoC, Journal of Colloid and Interfacial Science
- Reviewer of « engineering » journals
 - Journal of Biomedical Devices, T-Mech, Int J Advanced Robotics Systems, J Micro Bio Robotics, **Micromachines***, **Sensors***, Sensors and Actuators A, Transactions on Robotics
- Editor
 - Associated: Transactions on Automatic Science and Systems,
 - Invited: Micromachines, Advances in Colloid and Interface Science

***MDPI: open access**

Journals policy

- Journal policy
 - Journal policies mostly request : **novelty and originality**
 - Sometimes: **review articles** (Advances in Colloid and Interface Science)
- Peer review
 - Usually reviewer only is anonymous
- Delays
 - My own author experience: between 3 and 24 monts, mostly a couple of months
 - Special issues: final deadline for submission, with immediate publication upon acceptance
- Main reasons for rejection
 - **Lack of results, mostly experimental data supporting the conclusions**
 - **Lack of clarity and scientific soundness**
 - **Lack of novelty**
 - **Self-citation**

Journals policy

- Should raw data be published?
 - Increasing « supplementary digital materials » (data, movies...)
- About copyrights
 - Mostly: authors abandon their copyrights
 - Copyright holds for a specific format (table, figures...), which can be modified
 - **Most journals authorize authors to reuse their own fragments for free: don't hesitate to ask them (usually online copyright services)**
 - Exception IEEE!!!
- Which Open Access in your journal ?
 - T-ASE: no open access
 - Micromachines: publication fee, free access

Publication strategy

- How many authors?
 - **Engineering: usually between 2-3 and 5-6 authors**
 - Medicine: co-authors status
 - Large collaborations (CERN, LIGO...): up to 1000 authors!
- Does the authors position matter? How to chose the first author?
 - FNRS makes the distinction between 1st/last author (« PA ») and other co-authors (« CO »)
 - **Golden rule-**: only contributors should be authors --> What is a contribution?
 - Study design? Experimental campaign? Data analysis? Project promotor? Paper writer? Lab director? Proof-readers? The colleague giving ideas? Small tips?
 - Usual rule: authorship includes a permanent staff of the lab
 - ERC rule: independance = papers without the PhD promotor
 - **Tip 1: discuss authorship explictely, before starting the (finalization of the) study**
 - **Tip 2 : associated all potential authors from the very beginning**

Publication strategy

- Idea first vs journal first?
 - A bit inbetween
- Which impact factor to start with?
 - **Target best publications first (don't spoil your preliminary results in lower class media)**
 - Publications are needed at the PhD defense, but not before!
- Papers first or PhD first?
 - Before: PhD first then papers
 - Nowadays: papers first (sometimes, the manuscript is even a collection of papers)
- Which minimal expectations by the PhD defense?
 - **Formally, no paper is requested to get the PhD accepted at EPB**
 - Personally, I consider **2-3 papers** as a minimal threshold: state of the art, methods, results...
 - Beware of the academic competition from the very beginning. For instance at KU Leuven: usually 5-10 articles by the end of the doctorate
- Is a thesis a collection of articles or a manuscript?
 - Both are acceptable, but I consider writing a manuscript to be a higher exercise

Publication ethics

- Conflict of interest and funding sources
 - **Gestion de la confidentialité dans les collaborations industrielles: tout ne doit pas être publié!**
- Credits: contributors only
 - Usual policy presented in the guidelines of most journals (what about the lab director?)
- Originality : non disclosed results
 - Obvious, BUT: does a conference spoil the originality for further publication in journals? In patents?
- Multiple submissions
 - Forbidden!
- « Salami slicing »
 - Depends: ...1 paper/ PhD? 10 papers/PhD?
- Plagiarism
 - Not yet confronted personally, but frequent problem. IF journals papers have a non negligible rate of retraction
 - **Major issue: the first paper takes it all, and there is no room for replications, or for negative results.** Almost no statistical significance approach in engineering publicationseu

Publication ethics

- Case studies
 - Exemple 1: self-citation
 - How many self-citations is acceptable in a 20 references paper: none? 1-3? 5? More than 10?
 - Exemple 2: imposed author
 - A lab technician has manufactured a part of the experimental set up. Should s(he) be in the authors list? In the case of a postdoc? If the manufacturing process is unique? Routine?
 - Exemple 3: missing author
 - During an informal discussion abroad, a PhD promotor is advised a small tip by a foreign colleague. When coming back home, the idea is explained to the PhD student. A couple of months later, the paper is accepted, without mentioning the foreign colleague.
 - Already told
 - Tip 1: discuss authorship explicitly, before starting the (finalization of the) study**
 - Tip 2 : associated all potential authors from the very beginning**

Digital profile

- What is the role of scientific journals wrt widespread digital communication tools?
 - **Bibliographic indicators cannot be avoided!**
 - 10-15 publications reflect the creativity of a young researcher
 - 200 publications reflect the power of a confirmed researcher among his/her network
 - To give an order of magnitude: at ULB, 5 years ago, candidates for an assistant Professor position exhibited about 3 papers during their thesis, then 3 papers/year during 4-5 years postdoc
- Academic or dissemination blogs ?
 - I would not recommend it in priority
- What about social media such as Research Gate, Academia.edu et Twitter ?
 - I don't use them because of the limited time and the platforms multiplicity
- Does our digital scientific identity matter ? Do the juries google us? Est-ce
 - Probably yes
 - However, the indicators are not the base of the evaluation, but rather arguments...
 - Our (digital or not) scientific image matters: be **honest, publish sound results, reliable data...**

Scientific publishers

- <https://www.elsevier.com/about/our-business/history>
 - The Elzeviers' print shop in the second half of the seventeenth century: Galileo's Two New Sciences was first published by the Elzeviers in 1638.
 - As the publisher of ground-breaking scientific authors such as Galileo and Descartes, the Elzevier family enjoyed an excellent reputation for over a century



- <https://www.change.org/p/springer-nous-pouvons-nous-en-passer-springer-we-can-do-without>
 - France, Consortium Couperin
 - Allemagne, <https://www.projekt-deal.de/about-deal/>
 - Danemark, <https://www.deff.dk/english/servicemenu/news/broad-agreement-on-the-goals-for-this-years-license-negotiations/>
- Their economic models widespread our knowledge, but refrain our access to new results and distort our writing process (pages number, salami slicing with digital download of separate chapters)

Final words

- **Writing** (a technical note, meeting minutes, industrial or activity reports, an article, a manuscript, a book...) is the essence of academic research:
 - It makes ideas clearer
 - It develops expertise on the long term
 - It quantifies the scientific production
 - It is usually requested by the interlocutor (activity or industrial report)
 - It makes a researcher an author, which gives visibility
- **Publishing:** « Le plus mauvais des articles publiés sera plus lu que la meilleure des thèses archivée dans une armoire » [forgotten author]
 - **Don't write bad articles, but publish high quality thesis!**
- **Don't stick to false arguments**
 - I don't want to lose time to write: if you don't write, your work is lost!
 - I want to patent: specific can be patented, but generic should be published (**but respect the industrial confidentiality!**)
- **Writing should be tailored from the very beginning: which messages do I want to deliver? What are the results, and what is the « little story »?**