

# D3.2. Research excellence training programme on how to write scientific papers



[VERSION 3]

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## Technical References

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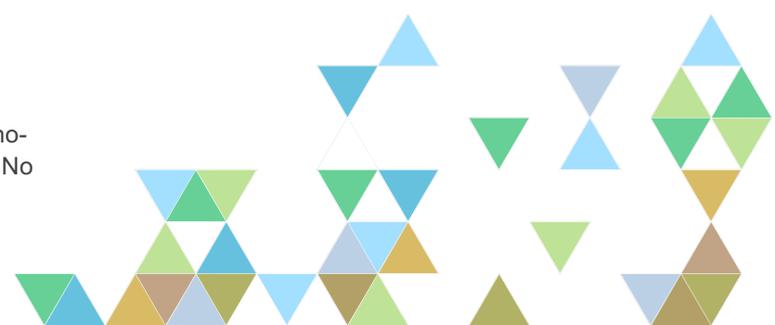
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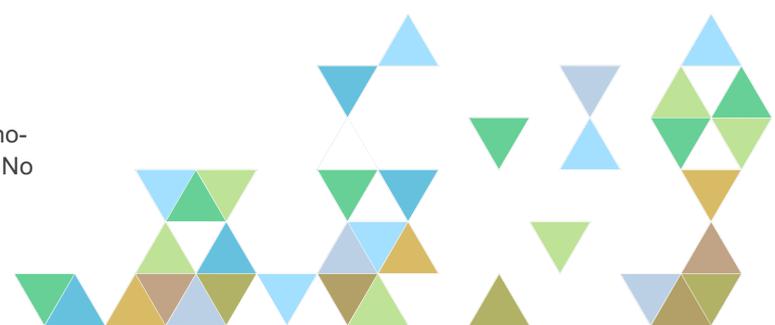


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## Summary

This document is an integral part of the activities described in the Description of Action (DoA) of the project SOILdarity, which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 952051. It provides a description of the training programme on writing scientific manuscripts, which aim at providing the necessary knowledge and tools to increase key performance indicators and research outputs of FC.ID and CIÊNCIAS in publishing high quality scientific papers in peer reviewed journals. The training programme will focus on how to structure/write a scientific paper based on the relevant activities for soil fertility measurement using precision agriculture solutions and bio-fertilizers during WP2 (D2.2). The training module will take place in Feb-April 2022. It is planned to have four-day training programme to guide students and young researchers through all principles of publication process.

The document provides a detailed description of the D3.2, which is consider as an integral part of WP3. In the following sections, the programme of the courses will be described, covering different aspects such as the training objectives, their location, planning, activities to carry out, lecturers and target audience.



## Spelling Guidelines

Standardised British spelling should be used in the document. Generic terms are spelled in lower case, specific terms and proper names are spelled with initial capitals.

## Disclaimer

This publication reflects the author's view only and the European Commission (EC) is not responsible for any use that may be made of the information it contains.



## 1. Deliverable 3.2

### 1.1. Aim

The aim of this deliverable is to guide young researchers of FC.ID and CIÊNCIAS through all stages of the publication process, allowing them to plan their writing and publication methods, and ultimately improve their publication record, which is essential for their academic career, with much greater care. It offers a guide through all principles of publication, using a broad variety of tools and principles that can be used to take control of one's publication strategies. This allows PhD students and young scientists to take off on a flying start: knowledge and skills that would otherwise be the result of a long process of trial and error are now ready-at-hand for them to use at the very beginnings of their scholarly career.

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### 1.2. Consortiums' roles and responsibilities

SOILdarity consortium partners MIGAL and FC.ID will coordinate with UGENT during the training program and EUKNOW will support to manage the programs' implementation (identification of students available for trainings, selection of participants, venue organization, drafting the agenda of the training, and running the training).

### 1.3. Target Participants

About 20 attendees from FC.ID and CIÊNCIAS will take part in the activities, notably, researchers, Early stage Researchers (ESRs), and students: people who are taking their first steps in international scholarly publishing, and who have not yet had opportunity to gain experience through trial and error. Apart from this, the training programme can also be of great use to senior researchers who are not very well acquainted with the global, Anglophone publication market, for example because they have been mostly focusing on regional publications in their native language. Senior researchers with more experience might also find the workshop useful, but to a lesser extent.

### 1.4. Expected Outcome of D3.2

- ▶ Students will understand the principle of publication and able to pick the right journal for publication.
- ▶ They will be able to implement scientific writing tools to write their own subject/abstract/paper based on the research activities and in field data collection under D2.2 (Specialized training program on the use of sensor-based technology, biofertilisers & precision agriculture techniques; taken as a case study).
- ▶ Finally, the students will be able to publish scientific paper related to biofertilizer with precision agriculture applications, if the results obtained are novel and progress the current state-of-the-art.



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- ▶ It will be a good exercise to even help students writing their research theses.

## 2. Detailed plan for the training programme on how to write scientific papers

### 2.1. Programme structure

The training programme will contain two different parts:

- ▶ **Theoretical session:** This section will be carried out using recorded videos, that students can watch at their own pace.
- ▶ **Individual zoom session (conversation workshop):** This will be done per individual participant. The theoretical content will be applied in a Zoom session.

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Students are first presented with the necessary tools and principles and are then asked to apply these tools to the results from D2.2. activities, or to their own subjects, papers, abstracts and rejection letters, which they are asked to bring to the training programme. Throughout the training programme, there is a heavy emphasis on the use of real scholarly research papers and abstracts as examples. Students are asked to actively participate, and there is ample room for assignments and discussion.

### 2.2. Location, Delivery date & duration

According to the DoA, the training programme should be held in Lisbon, Portugal in Feb-April/2022, designed for 4 days. However, due to uncertainty associated with COVID-19, the practical session will be implemented through Zoom. We expect no effect on the quality of delivery, if the mode of delivery has changed to be via Zoom. Furthermore, there is small amount of budget devoted to travel expenses for UGent in WP3.

### 2.3. Training mode

All sessions will be schedule via Zoom meetings.

### 2.4. Supporting material

The creation of specific supporting materials also corresponds to an important part of the preparation process of the named course. These materials will be essential to create, discuss or communicate new ideas. Supporting materials include Digital tools such as PowerPoint presentation, videos, web-based tools, etc. In addition, students will use the data collected in D2.2 during proximal soil sensing experiment for scientific paper writing. But we will also keep the option that attendees can use their own data (if available) to help them improve their publication skills.



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## 2. Experts for the course

**Dr. Froeyman, (M)**, spent nine years in academia, as a PhD-student and Post-Doc at Ghent University (UGENT). He has published about 20 papers in international peer-reviewed journals, as well as one book (History, Ethics and the Recognition of the Other). In addition to this, he has also been involved in higher education and research policy, as a representative of the non-tenured staff, and as the spokesperson of an academic action and lobby group. As such, he has had the opportunity to talk to academics from a variety of backgrounds and learn to know the differences in academic publication culture.

Since 2016, he has been giving courses on academic publishing for PhD-students, among others at the universities of Ghent, Brussels, Fribourg and Bielefeld. Together with his American Colleague Kenan Van De Mieroop, he runs a small and independent academic proofreading; copy-editing and Translation Company called GetPublished (see [www.getpublished.be](http://www.getpublished.be)).

**Dr. Lalit M. Kandpal, (M)**, is a Postdoc Researcher in Precision SCoRing Group in Ghent University. Lalit Mohan Kandpal received his B.S. degree in Radiology from Government Medical College Haldwani, India in 2010. His MS-PhD from Chungnam National University Daejeon, South Korea in 2017. He worked as a Postdoc and Research Professor at the Chungnam National University from 2017 to 2019 where he developed his skills in spectroscopy/imaging and chemometric modelling for quality analysis of agro-food and pharmaceutical products. His field of interest includes advance sensing technologies and their applications, data mining, data processing and project management.

**Prof. Abdul M. Mouazen, (M)**, is a full professor in precision soil and crop management and a group leader of Precision SCoRing Group in Ghent University. He holds a PhD degree in numerical modelling of soil-tillage tools interaction and has a background in the application of engineering principles to soil and water management with specific application in soil dynamics, tillage, traction, compaction, mechanical weeding, soil remediation and management. He teaches in topics related to proximal soil sensing for precision agricultural applications at UGent. This includes two courses, namely, Precision Agriculture and Environmental Soil Sensing. He is a member of Global Proximal Soil Sensing Committee, since its establishment. He has implemented Vis-NIR and MIR spectroscopy for analysis of soil, manure, honey, milk, cheese, mandarin, and other food and environmental materials. His experience in vis-NIR spectroscopy and chemometric tools enabled him to develop one of three internationally patented on-line measurement systems of soil properties (Mouazen, 2006). He has coordinated two major European projects (FarmingTruth funded by European Space Agency & FarmFUSE, funded by EU-FP7 under IRA-NET, ICT-AGRI), and has been a partner in several other national and international projects. He is also the scientific coordinator of H2020 SIEUSOIL project (2019-2022). He also coordinates two new ERA-NET research projects on topics related to D2.2: 1) ADDFerti - A Data-Driven Platform for Site-Specific Fertilization (funded by the ICT-AGRI-FOOD), and 2) POSHMyCo - Potential of selective harvest based on mycotoxins content assessment in cereal crops (funded by the ICT-AGRI-FOOD). Prof. Abdul is an Associate Editor of Soil & Tillage Research, Soil Research, Biosystems Engineering, Remote sensing and Soil Systems, and has some 185 indexed contributions in Web of Science Science (h index = 40).



Abdul has supervised several postgraduate students working on vis-NIR and MIR spectroscopy applications, with majority working on sensing and control for precision agriculture applications.

**Prof. Iggy Litaor**, (M), received his PhD in geochemistry from the University of Colorado in 1986. He has been involved in research of soil, water and snow dynamics in the alpine zone of Colorado Front Range since 1981 to present as part of the CULTER program. Between 1990 and 1996, he studied the fate and transport of radionuclides (Pu, Am & U) around a nuclear facility and their potential influence on residential areas around the site. Since 1996, Prof. Litaor is conducting research on the hydro-geochemistry of P in wetlands and in altered wetland soils. The studies encompass the assessment of the mineralogy, sorption-desorption mechanisms, fate and transport in highly fractured peat environs, impact of various land use and land use change on P transport to waterways. More recently Prof Litaor developed a new design of aerated cells/constructed wetlands to treat organic-rich wastewaters such as winery, dairy and olive mills wastewaters. Most recently, his research deals with optimal soil sampling using Pareto optimization approach. His current research projects are: (1) testing the feasibility of P capture, recycling and utilization for sustainable agriculture and a clean environment using Al/Organic Composite water treatment residuals (Al/O-WTR) and Fe-desalination treatment residue (Fe/O-DTR). (2) Exploring the possibility of co-addition of compost and zeolites for improvement of soil quality and fertility by increasing K availability. (3) Exploring the possibility of co-addition of compost and zeolites for improvement of soil quality in agro-forested setting. (4) Development of integrated solution systems for precision irrigation and fertilizer management.

The content of the course is shown in Table 1, and the plan of the course is shown in Figure 1.

Table 1: Content on the training for paper writing course

| Course no. | Title                          | Month   | Duration/ collaboration                  | Course type  |
|------------|--------------------------------|---------|--|--|
| 1          | How to write scientific papers | M16-M18 | 4 day multi-module course in UGent/MIGAL | <b>Training programme:</b> <ul style="list-style-type: none"> <li>• How to write scientific papers,</li> <li>• Preparation of figures and tables</li> <li>• Elements of methodology of scientific research</li> <li>• Elements of statistics</li> <li>• Results and discussion</li> <li>• How to write clear conclusion and compelling introduction</li> <li>• How to write an effective abstract and title</li> </ul> |



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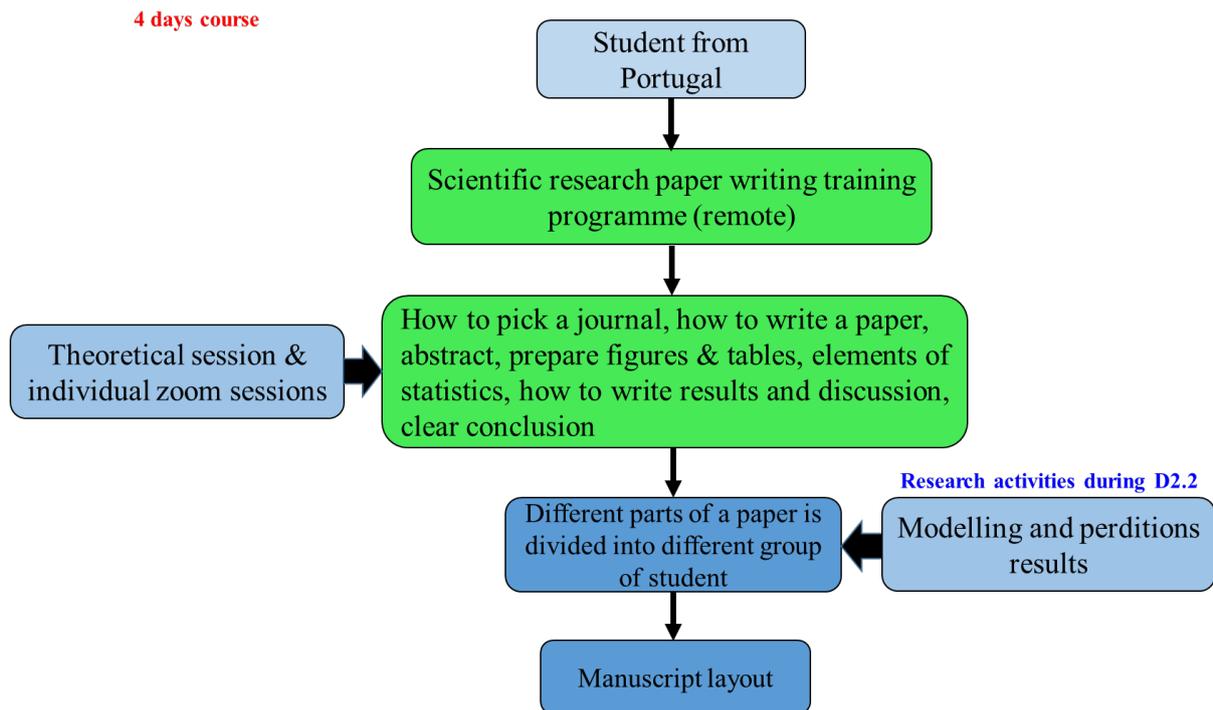


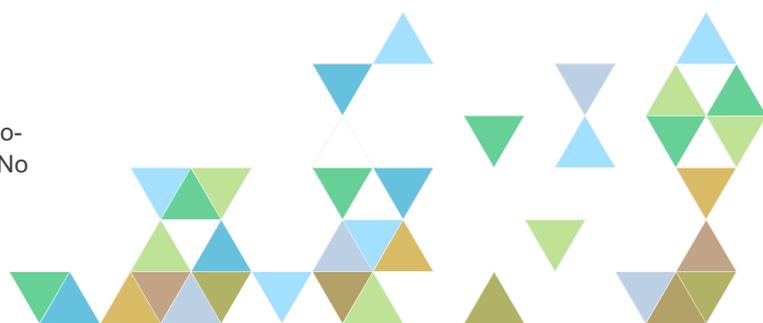
Figure 1: Planning of the training programme on scientific paper writing.

### 2.5.1. Detail plan for the training programme

Dr. Froeyman from UGENT will provide the pre-recorded videos of theoretical course and students can watch them at their own pace in a no synchronize mode. After the theoretical session, the learned content will be applied in the individual zoom sessions. This theoretical session will guide young researchers through all stages of the publication process. It is meant to guide them through all principles of publication, using a broad variety of tools and principles that can be used to take control of one's publication strategies. This allows PhD students to take off on a flying start: knowledge and skills that would otherwise be the result of a long process of trial and error are now ready-at-hand for them to use at the very beginnings of their scholarly career. The theoretical content of the recorded session is briefly outlined below:

► **How to pick a Journal.** In this part, we will tackle the subject of how to pick the right journal for a given paper. If a journal is selected, before start writing, it's easier to tailor the paper to the requirements of the journal, for example by inserting references to debates that were held in that specific journal. On the other hand, if a paper is first written and then a journal is selected, it's often easier to be original. This session will focus on:

- Introduction to different factors that determine journal choice such as journal rankings, subject, acceptance rate, review time.
- Introduction to the online tools to select a journal.
- A general method or algorithm to select the best journal for the publication.



- **Assignment:** Students will be divided into small groups and asked to apply this method to their own works.
- ▶ **Writing a paper.** There are many academics with very idealistic ideas about academic publishing. Although idealism can, on many occasions, be a very laudable disposition, in the case of academic publishing, it can be a severe impediment. Idealistic academics tend to want to write down exactly how they see and perceive their research, and might regard any adaptation to their audience, or to the requirements of journal, as a defeat, a ‘dumbing down’ of their argument, or as a regrettable compromise. Academic publishing, contrary to journalism or popular non-fiction, has been thought as ‘the real deal’, unbothered by compromise or worries about whether the audience will understand it or not. At present it is believed that this view is deeply mistaken. A journal article is not an exact depiction of someone research, set in stone until the end of times. Rather, it is a means of communication with other peers, and, as any kind of communication, it needs to be constantly adapted to its audience and to its context. This course will offer a large number of tips on how to write clearly and concisely. In this part of the course, we will give 12 simple and very pragmatic rules for improving the attendees academic writing, making it easier for other academics to read, understand and (hopefully) use the results of the intended research. The 12 simple rules are:

1. **Refer to, and engage with, other papers in the same journal:** Why? Because journal editors like the idea of having continuous debates. Think about it: if one would run a journal, what would he/she rather have? A random collection of articles every couple of months that have little or nothing to do with each other? Or a series of articles that react upon each other, criticize each other, and give different perspectives on the same continuing topic?
2. **Read other papers in the same journal to familiarize yourself with its style:** Some journals are very formal; others are open to a somewhat more colloquial writing style. Some journals like harsh criticisms and fiery attacks, while others regard them as a rude or impolite. Some journals are interested in risky hypotheses in new ideas, while others want to back up every single thing authors say with sound and verified research. Sometimes, journals mention these kinds of things on their websites or style guides, but often, these are what the philosopher Michael Polanyi called ‘tacit knowledge’: unwritten rules only known by insiders.
3. **Stay well within the word limit: The reason is simple, but often forgotten:** Editors (at least those that publish on paper) have only a limited amount of pages at their disposal, and if authors exceed their word limit, they might be forced to publish one article less in a volume, or try to find another article that is actually quite a lot below the world limit (in order



to compensate for the one with extra words). In both cases, lengthy papers' chances of getting published, or getting published quickly, drop. If authors can submit the paper that was well under the word limit, however, they have a chance of getting picked to 'fill up' a volume that only had a limited number of words left.

4. **Always have a structure: This is by far the most important rule:** Everything we read needs a structure. If a given piece of writing does not have a clear structure by itself, then readers will impose a structure on it: they will force the content of what was written into a predetermined scheme, and if necessary, re-interpret or even blatantly ignore some of the piece's content. As an academic, this is the worst that can happen: if someone thinks a paper has a different argumentative structure than it actually has, he or she will almost inevitably misunderstand it. Hence, it is vitally important that the structure of the paper is made as clear as possible.
5. **Don't jump back and forth:** This rule is a more general version of the previous one. The main reason why meta-language makes a text heavier and more boring to read, is that it 'jumps'. It switches levels, from meta- to content level and back again, and every 'jump' in a text takes away energy from the reader, energy which therefore cannot be spent on understanding the content of what is being said in your text. This does not only hold for jumps between meta-level and content level, but also between subjects, between method and result, between styles, or even between tenses. Of course, this doesn't mean that an author should never change subject or anything. What it does mean, is that every single 'jump' in an article should be there for a very good reason, and that authors should at all costs avoid jumping back and forth. One of the best ways to avoid these 'jumps' is to use transition words and referential pronouns. Transition words are words that make it clear how a sentence relates to a previous one for example: is this new sentence a summary, an example, a remark, a bit of nuance, ... By using these words (words such as 'hence', 'furthermore', 'in contrast', 'for example'), authors help the reader to navigate through the text, and create a smooth feeling, a kind of 'flow', that makes the text easier and more comfortable to read.
6. **One thing at a time:** This is very simple: at any point, do only one thing at a time: make one argument per article, one point per part of your article, one subpoint per paragraph, and one idea per sentence.
7. **Watch prepositions:** Prepositions are one of the hardest (and usually the latest) things to get right as a non-native English speaker. There is a



whole system to it, with its own specific logic, but the easiest way to find the right preposition is to use google Ngram-viewer (Link). Just type in two or more alternatives (such as “anchored in” and “anchored to”) and check which is more common. In 99.9% of the cases, the most common option is also the right one.

- 8. Use of commas:** The main aim of every good writer should be to make life easier for the readers: authors should aim at helping them understand what they are saying. Commas are a great tool for this: whenever there is a long sentence with a complicated structure, the use of commas will ease understanding. By using them, authors can signal to readers upfront whether a certain collection of words is simply an adjective or an adverb, or an entirely new coordinate or subordinate clause. Some people are afraid of using commas because they are afraid of making mistakes. This should not be the case. There are of course several very well-defined cases where authors must use a comma, but it’s never explicitly forbidden to use one. In short, if someone reads a sentence out loud and finds himself/herself taking a tiny little pause to catch his/her breath: that’s where one can (and usually should) put a comma.
- 9. The two most important paragraphs:** Of course, authors should take care of every single paragraph they write, but there are two that need extra special consideration: the first paragraph and the final one. The reason is simple: the first paragraph determines people’s first impression (which is vitally important), and determines whether people will read on and, if they do, whether they’ll pay attention or not, and whether they will read with a critical intention or with an open mind. The final paragraph determines what people will remember from your article. With respect to the first paragraph, there are three things one needs to do: First, authors need to draw the reader’s attention. Second, they need to explain why this paper is important (which is not necessarily the same as drawing his or her attention). And third, they need to show that they are serious scholars and know what they are doing. The final paragraph determines what people will remember from this paper. Therefore, it is needed to be sure that the central point of the paper (of which there is only one, cf. rule nr 7) is right there, and that people know it actually is the central point. Making remarks about future possibilities for research can be useful, but try to limit these to not much more than a couple of sentences. If not, then people will only remember the research you could have done (but didn’t), instead of the research authors actually did do.
- 10. Be concise:** One very common mistake most beginning writers of any kind make is trying to include everything they believe they have to say in their book or article. Academics are especially susceptible to this for



two basic reasons. The first is their passion and interest for their subject, and the second is the fact that (usually) they spend a lot of time on a single topic, or even on a very small detail of a single topic. As an academic, it can be very hard to decide to leave a seemingly insignificant remark out of an article, because there are often weeks, or even months, of research behind such a detail. Sadly, including everything authors think is interesting, or everything they think people need to know, into one single paper never works: it obscures its structure (see rule nr 4), it makes authors jump from one subject to another (see rule nr 6), and end up doing several things at once (see rule nr 7). Therefore, authors should always start from the premise that, no matter how interesting your research is, they will always have some interesting parts of it that never see daylight. Even when they have written the first draft of their paper, it's still a good idea to delete some parts of it, despite the fact that authors believe that they are interesting and make valid points. All of this might seem a pity, but it really isn't. The great writer Ernest Hemingway referred to this as the 'Iceberg theory of writing'. Just as we can only see the top of an iceberg rising above sea level because it is supported by a much bigger part of it that is still under water, every good piece of writing needs a much bigger amount of ideas, phrases or wordings that were omitted, deleted or ignored, and will therefore remain invisible. Hence, when omitting something from a paper that refers to weeks' worth of research, authors shouldn't see it as lost, but as an invisible but necessary way of supporting everything that did make it into the final version of the paper.

- 11. Vary sentence length:** Of course, being concise doesn't mean that you should make all your sentences as short as possible. A text with only short sentences will seem boring, dull and blunt. On the other hand, a text that contains only long sentences will seem overly complicated, confused, and equally boring. The trick is to vary between the two. Generally speaking, academics have a tendency towards writing too much long sentences, although there are some who favour too much short sentences as well. Again, it is vitally important to know authors writing habits here: if someone has an (unconscious) bias towards writing long sentences, he/she should counter that by writing a very short sentence from time to time. If, on the other hand, someone tends to write short sentences, it's a good idea to throw in a somewhat longer and more complicated sentence from time to time.
- 12. Watch out for passive forms:** This is a tricky rule. For most kinds of writing (fiction, journalism, popular non-fiction,) the rule is to avoid passive forms as much as possible. The way passive forms are tolerated, encouraged or even tacitly obliged differs strongly from discipline to



discipline. In literary science, for example, passive forms are often avoided just as much as in fiction. In much of the experimental and ‘hard’ sciences, however, using passive forms is an absolute must, since there is a generally accepted opinion (based on nothing at all, really) that using passive makes a text sound more scientific or objective. The general trick here is to use as little passive as the tacit norms. If authors work in the humanities and are not doing quantitative or experimental research, they need to try to avoid it as much as possible. If authors work in the ‘hard’ sciences, they can use the passive voice for the explanation of your methodology and the set-up of their experiment (because that’s where they really have to use it), but they need to try to stick to the active voice in the introduction and in the interpretation of their results.

- **Assignment:** Student receive assignment to apply these tips to their own papers.
- ▶ **How to write an abstract.** Writing an abstract is something very different than writing an article. When writing an article of at least several thousand words, the central point is managing the readers’ attention and energy. Authors want to make something that is interesting to get into, exciting to read and relatively easy to understand. The main way of reasoning here is that a given reader can only (in the case of academic writing, another academic) read a limited number of articles per day or week. In the case of an abstract, things are different. It’s not a problem at all to read dozens and dozens of abstracts on a single day, and when someone starts reading an abstract, He/She usually doesn’t have problems making it to the end. Basically, a reader can ride out the entire abstract based solely on the energy and attention authors get from the initial spark of interest that was there when he or she saw the title of the abstract. This means that, in an abstract, there is no need for energy-management techniques such as the variation of sentence length or the avoidance of jumps. For example, in an article, it’s a good idea to avoid meta-language, or at the very least make only scarce use of it. But in an abstract, authors can use as much meta-language as they want. In this part, we look at the writing of an abstract and we will discuss why it is important to have a good abstract. The focus is on the relation between the structure of an abstract, a paper, and the research presented there. Again, this part contains an ex-cathedra teaching moment based on real examples drawn from ISI Web of Science, and an assignment in which the students work on their own and each other’s abstracts. This session will focus on:
  - Relation between the structure of an abstract, a paper and the research presented there
  - Make use/watch out for jargon
  - Pay special attention to the very first sentence
  - Teaching moment based on real example drawn from ISI Web of Science
  - **Assignments:** Student work on their own and each other’s abstracts



**Paper written, what now?** Authors might think their work is practically done when they've written the first complete version of their paper, but every draft paper first needs to several rounds of feedback, preferably through different people. This part treats the process and events between the stage of the writing process and the eventual acceptance of a paper by a journal. It offers advice on how to get quality feedback, and how to integrate this feedback in a written paper. This session will focus on:

- Review process with particular emphasis on the decoding of rejection letters, the importance of which is often underestimated
- Formal feedback by reviewers
- Dealing with rejections: desk rejection, normal rejection, revise and resubmit
- **Assignments:** Students will be asked to work on their rejection letters

▶ **Paper published, what now?** If a paper is got published what is next? In today's academic context, the number of published papers is still increasing immensely, but the number of scholars is not increasing at the same pace. This means that academics are having less time to read papers. Therefore, authors need to make sure they stand out of the crowd. At this stage of the training programme, we focus on the afterlife of the research paper:

- What is a good title for a paper?
- Getting paper online
- A word on copyright
- Essential role of citations
- Tips and tricks on how to get cited
- Presenting a paper in conferences
- Tracking citations of published works

▶ **PhD papers & monograph.** In the old days, writing a PhD meant writing a lengthy book, preferably in several volumes. Since then, however, journal articles have surpassed books as the primary means of scholarly communication. PhD's were still an exception for a long time, but since the last decade, the idea of a PhD as a collection of (published) articles has gradually gained importance. In this part, we briefly discuss the writing of papers in combination with the writing of a PhD.

- Advantages or disadvantages of writing papers in combination with a traditional PhD monograph
- How should one go about integrating research papers in one's PhD trajectory?
- Writing a PhD in articles
- Writing PhD as a monograph

▶ **How to publish books?** There used to be a time when books were just about everything academics published. Those days are long gone, and since the last couple of decades, journal articles have overtaken books as the most important means of



scholarly communication. Nevertheless, in many disciplines there is still ample reason to write a book. A book gives you a chance to bring a longer, more complicated or more extensive story to the fore. A book also gives you more visibility within your field. It is seen as a sign of academic intellectual maturity and is sometimes (particularly in the U.S.) even a requirement for a tenured position. In the final part of the training programme, we discuss the differences between book publishing and article publishing.

- Rationale behind book publishing
- Writing of good book proposals
- An overview of book chapters
- One or (at most) two sample chapters
- An overview of the competition
- A description of someone field
- A description of potential audience
- What publisher should choose
- Can your book be uses as a teaching tool?

► **Preparation of figures & tables.** Tables and figures play a crucial role in enhancing the overall quality and impact of a research paper. Well-prepared tables and figures in a research paper help you present complex data in a concise and visually appealing manner, as well as enable journal reviewers, editors, and later readers to get a quick overview of a research findings. Therefore, it is essential to ensure that the tables and figures in a research manuscript are flawless, effective, and attractive. This session will explain how to construct a table, figure, or text with best format for presenting the data based on the formatting instruction below:

- Table and figures in a research manuscript are self-explanatory.
- Do not repeat the contents of tables and figures within the text.
- Present values and details consistently in tables and text (e.g., abbreviations, group names, treatment names).
- Write clear, informative titles for the tables and figures, and label column heads, axis labels, figure labels, etc., clearly and appropriately.
- Follow the target journal's instructions for preparing tables and figures.
- Seek permission from the copyright holder and acknowledge the source if the included tables or figures have already been published.

► **Elements of statistics & methodology of scientific research.** For any research it is important to explain whether a research is scientific or not. This course will discuss about basic idea behind research methodology, basic steps for scientific research the types of descriptive research and ethics used for any research. The following topics will be discussed during this session.



- Definition of research methodology
- Identification of a particular issue (topic of your research)
- Collecting the information to provide the evidence for any particular solution of a problem
- Analysis of the data collected with support of appropriate statistical analyses
- Disseminating results
- Use the information into meaningful way

► **Elements of result & discussion.** The results section is a section containing a description about the main findings of a research, whereas the discussion section interprets the results for readers and provides the significance of the findings. This session will discuss about how to write an effective “Result and discussion” based on the following topics:

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- State the major findings of the study
- Explain the meaning of the findings and why the findings are important
- Relate the findings to those of similar studies
- Consider alternative explanations of the findings

Relevance of the findings

- Acknowledge the study’s limitations
- Make suggestions for further research
- Avoid conclusions that are not supported by the data



### 3. Calendar and Schedule

Table 2: Training program agenda outline for D3.2.

| Year: Feb-April 2022; Location: Portugal; Date/Time: |              |  |          |
|--|--------------|--|----------|
| Schedule   | Expert       | Course description   | Partners |
| Day 1  | Dr. Froeyman | <p>Theoretical course (recorded session)</p> <ul style="list-style-type: none"> <li>▶ How to pick a journal</li> <li>▶ How to write a paper</li> <li>▶ How to write an abstract</li> <li>▶ Paper written, what now</li> <li>▶ Paper published, what now</li> <li>▶ PhD papers &amp; monograph</li> <li>▶ How to publish books</li> </ul>   | UGENT    |
| Days 2 & 3   | Dr. Froeyman | <p>Individual zoom session with Dr. Froeyman:</p> <ul style="list-style-type: none"> <li>▶ Theoretical content will be applied in the individual zoom-session.</li> </ul> <p>Assignments:</p> <ul style="list-style-type: none"> <li>▶ Students will apply the learned method to their own paper based on the relevant activities during D2.2</li> <li>▶ Students work on their own and each other's abstracts</li> <li>▶ Students will apply the learned method to their own paper</li> <li>▶ Students asked to work on their (or other's) rejection letters</li> </ul> | UGENT    |



|       |  |   |                 |
|-------|--|---|-----------------|
| Day 4 | Dr. Kandpal,<br>Prof. Mouazen<br>& /Prof. Litaor | <p>Theoretical lectures</p> <ul style="list-style-type: none"> <li>▶ Preparation of figures &amp; tables</li> <li>▶ Elements of statistics &amp; methodology of scientific research.</li> <li>▶ Elements of result &amp; discussion.</li> </ul> <p>Assignments</p> <ul style="list-style-type: none"> <li>▶ Students will apply the learned method to their own paper based on the relevant activities during D2.2, or their own research.</li> </ul> | UGENT/<br>MIGAL |
|-------|--|---|-----------------|



## 4. Resource list

### Websites

[http://www.eua.be/Libraries/publications-homepage-list/define-thematic-report\\_-\\_pb\\_f\\_final-version](http://www.eua.be/Libraries/publications-homepage-list/define-thematic-report_-_pb_f_final-version) (EU-report on performance-based funding in Europe, with data on publication-based funding in the EU)

<http://www.scimagojr.com/journalrank.php> (home of the SJR-indicator)

<http://www.journalguide.com> (platform for information on review time, acceptance rate etc.)

<http://web.archive.org/web/20170103170903/https://scholarlyoa.com/> (archived version of Beall's list of predatory publishers)

[http://the-brooks-blog.blogspot.be/2011/09/journal-rankings-for-philosophy\\_29.html](http://the-brooks-blog.blogspot.be/2011/09/journal-rankings-for-philosophy_29.html) (with a comprehensive ranking of philosophy journals)

<http://www.apa.org/pubs/journals/statistics.aspx> (Information on psychology journals by the APA)

<http://www.andrewcullison.com/journal-surveys/> (Information on philosophy journals)

<https://readable.io>

<http://www.hemingwayapp.com/>

[http://www.albany.edu/sph/images/Bad\\_Abstract.pdf](http://www.albany.edu/sph/images/Bad_Abstract.pdf) (how not to write an abstract)

<https://majesticforest.wordpress.com/2014/08/15/papers-that-triumphed-over-their-rejections> (includes among others a list of rejected papers that won Nobel prizes)

<https://www.youtube.com/watch?v=meBXuTIPJQk> (Very useful video on presenting at conferences)

<https://books.google.com/ngrams> (Google Books Ngram Viewer)

<https://visme.co/blog/powerpoint-alternatives/> Visme's top 10 Powerpoint Alternatives

[http://www.albany.edu/sph/images/Bad\\_Abstract.pdf](http://www.albany.edu/sph/images/Bad_Abstract.pdf)

<https://scirev.org>



## Literature

Hermann, R., Berg, E., Dabbert, S., Pöchtrager, S. & Salhofer, K., Going Beyond Impact Factors: A Survey-based Journal Ranking by Agricultural Economists, *Journal of Agricultural Economics* 62/3, 2011, pp 710-732.

Engemann, K. & Wall H. A Journal Ranking for the Ambitious Economist, *Federal Reserve Bank of St. Louis Review* 91/3, 2009, pp. 127-39.

Serenka, A. & Dohan, M. Comparing the expert survey and citation impact journal ranking methods: Example from the field of Artificial Intelligence, *Journal of Infometrics* 5 (2011), pp 629-648.

Swan, A. (2006) The culture of Open Access: researchers' views and responses, in N. Jacobs (ed), *Open Access: Key Strategic, Technical and Economic Aspects*, Chandos, 2006, see <http://eprints.soton.ac.uk/262428/1/asj7.pdf>

## Other useful resources

The Scholarly Kitchen: <https://scholarlykitchen.sspnet.org>

From PhD to published: <http://www.phd2published.com/>

Times Higher Education: <https://www.timeshighereducation.com/>

The Chronicle of Higher Education: <http://www.chronicle.com/section/Home/5>

Voice of the Researchers: <https://www.facebook.com/VoiceOfTheResearchers/>

PhD Comics: <http://www.phdcomics.com/>

GetPublished: [www.getpublished.be](http://www.getpublished.be)

The Young Academy on Facebook: <https://www.facebook.com/JongeAcademie/?fref=ts>

The Dutch Young Academy on Facebook: <https://www.facebook.com/groups/102995879809064/>

