

Writing Science autumn 2021

The sessions:

Week	Paper	Topic	Assignment
34		Intro	Welcome to Writing Science
35	1	Reading	How to read a scientific paper
36	1	The science	Discussing the first article
37	1	ABT	Writing a bad first draft
38	1	Peer feedback	Talking about writing
39	2	Citation and referenc- ing / reading	Learning citation and referencing / reading second article
40	2	The science	Discussing the second article
41			
42	2	TMB	Communicating science and TMB
43	3	Reading and drafting	Analysing and discussing a project plan
44	3	ABT and TMB	Using ABT and TMB in your project plan
45	3	Project plan	Drafting a project plan
46	3	Peer feedback	Talking about the writing
47			
48		1st of December!	Deadline for project description

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Writing Science autumn 2021

34		Intro	Welcome to Writing Science
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Introduction to «Writing Science» and how to read a research article.

Agenda:

Writing exercise

2. Introduction with names and subject they find interesting in physics (10 minutes)

3. Group discussion (5 min)

In groups of 3-5 make a prioritised list of 3 things you expect to learn from Writing Science. Share the top two with the whole group.

What is Writing Science?

Find all the information you need at

<https://www.mn.uio.no/fysikk/studier/ressurser/writing-science/>

Writing exercise

Discussion

What did you write about?

How was it to write like this?

See you all at Writing Science next week!

Writing Science autumn 2021

35	1	Reading	How to read a scientific paper
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1. Warm-up exercise (2 min)

Keep writing about a given topic (an atom) for 60 seconds. Train yourself to not stop.

4. Paper 1: The Higgs boson (8 min)

Group discussion: What are some of the different strategies for reading a paper?

5. Individual work, start reading the paper (20 min).

6. Group discussion (10 min)

What is this paper all about?

7. Reflection when writing

“Today, I learned...”

Next week: We will discuss the article and answer questions related to the article.

Writing Science autumn 2021

36	1	The science	Discussing the article
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1. Warm-up exercise (3 min)

Keep writing about a given topic (a cup of coffee) for 60 seconds.

2. Main assignment (30 min):

In groups of two-three, discuss the paper that you have read. Use the following questions as a guide:

1. What is the topic?
2. What did we know before the start of the experiments (if any)?
3. What was unknown?
4. What is the aim of the research?
5. Which methods did they choose?
6. What (if any) choices do the authors make along the way?
7. What are the main conclusions?
8. Were there any surprising results?
9. What are the unanswered questions?
10. How does this paper move the field forward?

Group discussion (12 minutes)

Plenary discussion about reading the paper. Difficulties, surprises, strategies etc.

3. Reflection on the writing process.

“Today, I learned...”

Next week: We will write a bad first draft using a well-known writing technique in science!

Writing Science autumn 2021

37	1	ABT	Writing a bad first draft
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1. Warm-up exercise (3 min)

Keep writing about a given topic (a bear) for 60 seconds.

2. A model: AND – BUT – THEREFORE

Introduction. The model is useful to understand and discuss research papers. Look at examples provided while you study this method.

Scheme:

A sentence introducing the topic. (Big picture)

AND

A paragraph highlighting what we know. (Latest findings)

BUT

A paragraph highlighting what the researchers DIDN'T know. (The research gap)

THEREFORE

A paragraph introducing the methods used. (Approach to problem)

A paragraph about the results. (We have filled the knowledge gap!)

A brief paragraph highlighting the implications. (Big picture)

3. Assignment: Write a 200 word summary (a bad first draft!) of the Higgs boson-paper. Your audience is a bachelor student in physics (30 min).

4. Reflection on the writing process.

“Today, I learned...”

Next week: BRING 3 PRINTED COPIES OF YOUR TEXT.

Writing Science autumn 2021

38	1	Peer feedback	Talking about writing
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1. Warm-up exercise (3 min)

Keep writing about a given topic for 60 seconds.

2. Peer feedback (40 min)

The rules:

- We're a team working on a project together.
- We will only talk about the structure of the draft summary
- We will listen and make notes

Spend no more than 10 minutes per text.

Follow the set of instructions below.

1. The writer reads his/her text. Read slowly.
2. Each of the readers say one thing they liked. The writer listens.
3. The readers discuss each paragraph/section of the text. The writer listens.
4. The readers suggest where the writer could spend his/her time revising.
5. Optional: The writer asks questions for clarification.

3. Make a list of the three things you will do to start editing your text

4. Reflection on the writing process.

"Today, I learned..."

Next week: The science library will visit us to talk about citation and referencing! Remember to grab a copy of the second article on your way out, spend next week reading the article.

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39	2	Citation and referenc- ing / reading	Learning citation and referencing / reading second article
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1. Warm-up exercise (3 min)

Keep writing about a given topic for 60 seconds.

2. Main assignment:

The science library will visit us and talk about citation and referencing, more will be available here soon.

Next week: We will start discussing the second article, spend this week reading.

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40	2	The science	Discussing the second article
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1. Warm-up exercise (3 min)

Keep writing about a given topic for 60 seconds.

2. Main assignment (30 min):

In groups of two-three, discuss the paper that you have read specifically for your research direction. Use the following questions as a guide:

1. What is the topic?
2. What did we know before the start of the experiments (if any)?
3. What was unknown?
4. What is the aim of the research?
5. Which methods did they choose?
6. What (if any) choices do the authors make along the way?
7. What are the main conclusions?
8. Were there any surprising results?
9. What are the unanswered questions?
10. How does this paper move the field forward?

Group discussion (12 minutes)

Plenary discussion about reading the paper. Difficulties, surprises, strategies (10 minutes)

3. Reflection on the writing process.

“Today, I learned...”

Next week: No writing science, good luck on your midterm exams! Spend some time learning about the different projects and supervisors available in your research group.

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42	2	The science	Communicating science and TMB
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1. Warm-up exercise (3 min)

Keep writing about a given topic for 60 seconds.

2. A model: THE MESSAGE BOX (10 min)

Introduction. This model is useful when writing any text related to your research.

Scheme:

Issue: What are you trying to accomplish through your research? One sentence that frames the main goal of your project in a broad context.

Problems: What problems are you trying to solve with your research? This sections explains your main issue, as well as all other problems you might investigate.

So what: Why should the world care about your research? What are the consequences (good or bad)? Make your audience interested!

Solution: How are you going to try solve the problems you've identified? The solution might be more research, if so, expand on this!

Benefits: What are the benefits from solving your problems? This is the section where you tell the public why solving these problems will be for the greater good of science.

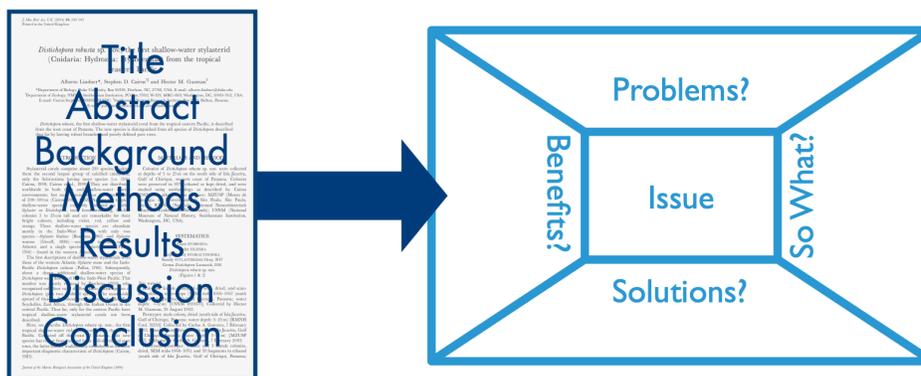


Image: The message box is a tool for communicating science, developed by COMPASS Science Communication Inc. (2017), "The Message Box Workbook" (<https://www.COMPASSscicomm.org/>)

3. Assignment: Fill out the message box using the article specific for your study direction. (30 min)

4. Reflection on the writing process.

"Today, I learned..."

Next week: We will start analysing a project plan.

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43	3	Reading and drafting	Analysing and discussing a project plan
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1. Warm-up exercise (3 min)

Keep writing about a given topic for 60 seconds.

2. Reading a project plan.

Read and analyse one of the example texts, and make notes of the structural elements used in the text.

Answer the following questions:

What is the master thesis project plan about?

Why is this topic important?

What is unknown?

How will the writer approach the problem?

How does the methods fit the problem?

What are the uncertainties regarding the project?

If successful, what will be the scientific contribution from the project?

Discuss your findings with another student.

3. Drafting a project plan.

On your own, answer the following questions (in writing)

- What is your master thesis project about?
- Why is this topic important?
- What is unknown?
- How will you approach the problem in the lab or in theory?
- How do the methods fit the problem?
- What are the uncertainties regarding the project?
- If successful, what will be the scientific contribution from the project?

4. Reflection on the writing process.

“Today, I learned...”

Next week: Let’s use the writing techniques we’ve learned on your own project.

Writing Science autumn 2021

44	2	ABT and TMB	Using ABT and TMB in your project plan
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1. Warm-up exercise (3 min)

Keep writing about a given topic for 60 seconds.

2. Main assignment (35 min)

Remind yourself about the two scientific writing tools we have been learning through these seminars. Let's use them to kickstart the writing of your project plan! You can choose whether you would like to start with "And-But-Therefore" or "The message box".

Remember the importance and power of writing a bad first draft. Start with whatever your thoughts lead you to, the key to success is to get rid of the blank page!

Both methods are available on the Writing Science 2021 webpage.

3. Make a list of the three things you will continue working on next week.

4. Reflection on the writing process.

"Today, I learned..."

Next week: Keep working on our project plans.

Writing Science autumn 2021

45	3	Project plan	Drafting a project plan
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1. Warm-up exercise (3 min)

Keep writing about a given topic for 60 seconds.

2. Master Thesis Project Plan. 35 minute writing time.

There are no rules for how to structure the project plan/description, but it might be helpful for you to think about it as a draft for the master thesis.

In the **introduction**, you may use the AND – BUT – THEREFORE-model to structure the first paragraphs. This will guide the reader towards your **research question** or goals.

A natural follow-up is to describe the **methods** you will use, and maybe describe how they are relevant to your work. Sometimes, these paragraphs will contain arguments for why you choose a specific method, structured similar to discussion sections.

Some also choose to set specific **milestones** for the project, deadlines for when to complete specific experimental or written tasks.

Optional: You may also consider writing a short paragraph on how this research will move the field forward, how you think this will **contribute** to the field, or some other reflections where you argue for the need for your research.

3. Reflection on the writing process.

“Today, I learned...”

Next week: BRING 3 PRINTED COPIES OF YOUR TEXT.

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46	3	Peer feedback	Talking about the writing
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1. Warm-up exercise (3 min)

Keep writing about a given topic for 60 seconds.

2. Peer feedback

The rules:

- We're a team
- We will only talk about the structure of the draft summary
- We will listen and make notes

Spend no more than 10 minutes per text.

Follow the set of instructions below.

1. The writer reads his/her text. Read slowly.
2. Each of the readers say one thing they liked. The writer listens.
3. The readers discuss each paragraph/section of the text. The writer listens.
4. The readers suggest where the writer could spend his/her time revising.
5. Optional: The writer asks questions for clarification.

3. Make a list of the three things you will do to start editing your text. The Submission deadline is December 1st.

4. Reflection on the writing process.

"Today, I learned..."

Optional: Send your draft to your Writing Science instructor for a short written feedback.

