

Theoretical Computer Science Meets other Disciplines

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All information here:

<https://ml2.inf.ethz.ch/courses/tcsod/>

...including these slides

link on "mystudies"

Today we discuss

- Organization
- You choose your paper

Today we discuss

- Organization
 - Goals
 - What you should do
 - Grading
- You choose your paper

What is this seminar?

Theoretical
Computer Science
(TCS)

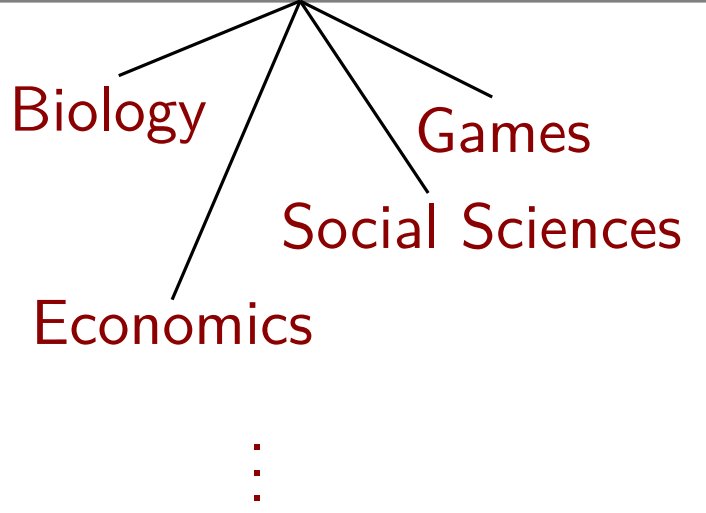
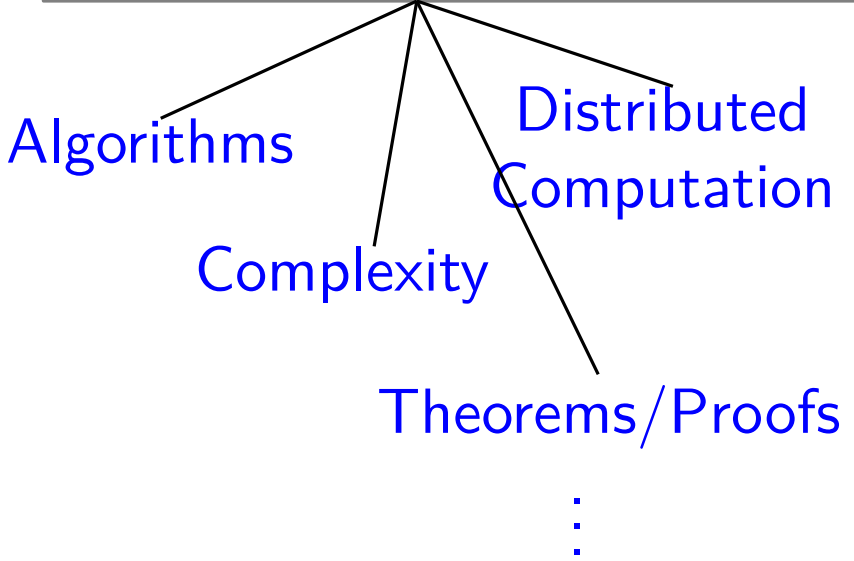


Other Disciplines

Theoretical
Computer Science
(TCS)



Other Disciplines



Theoretical
Computer Science
(TCS)

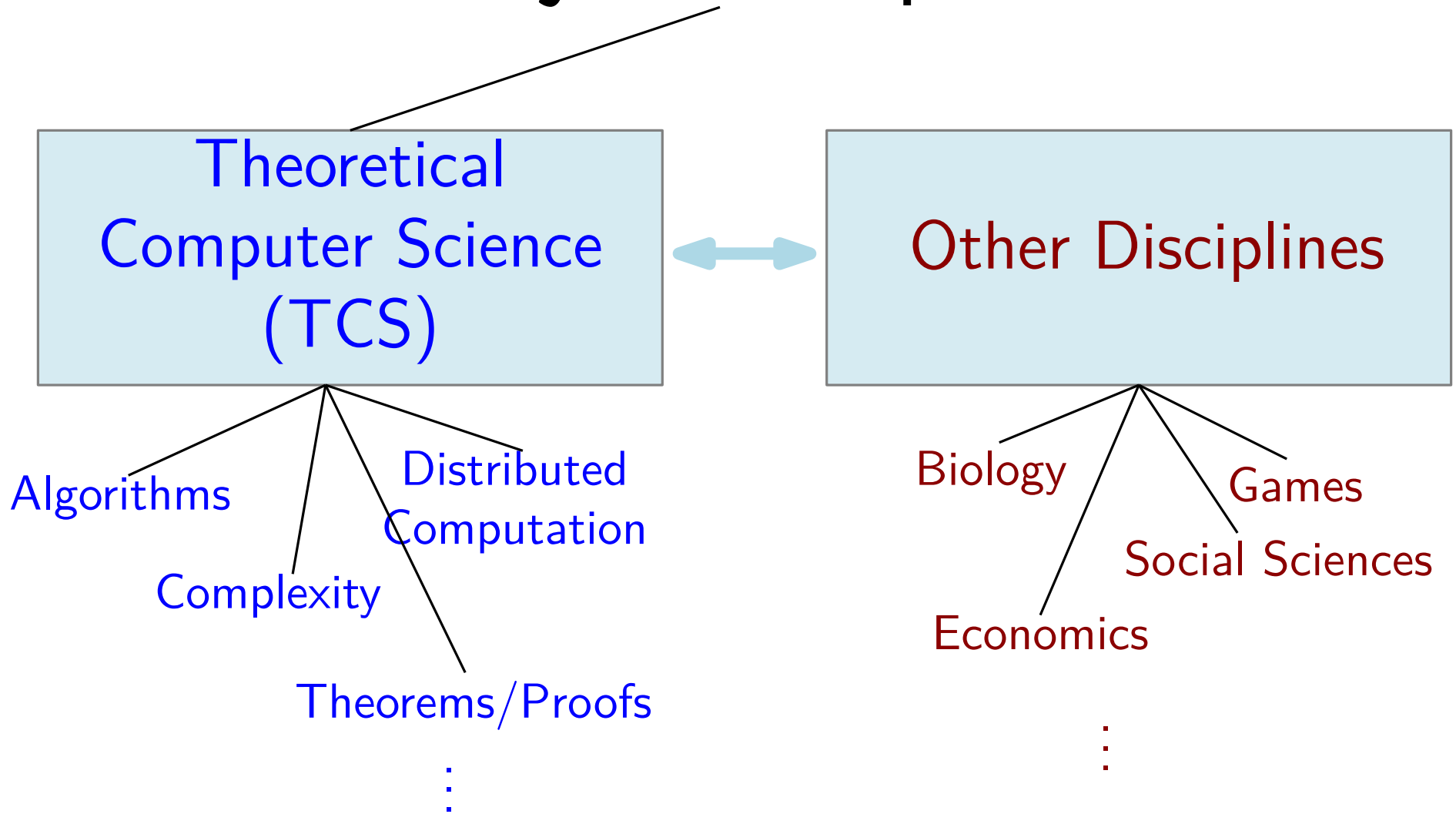


Other Disciplines

Algorithms
Complexity
Theorems/Proofs
Distributed
Computation
⋮

Biology
Economics
Games
Social Sciences
⋮

not just computers!





Top **TCS** conferences keywords

Boring?

COMMUNICATIONS
CACM.ACM.ORG OF THE **ACM** 11/2016 VOL.59 NO.11

SEX

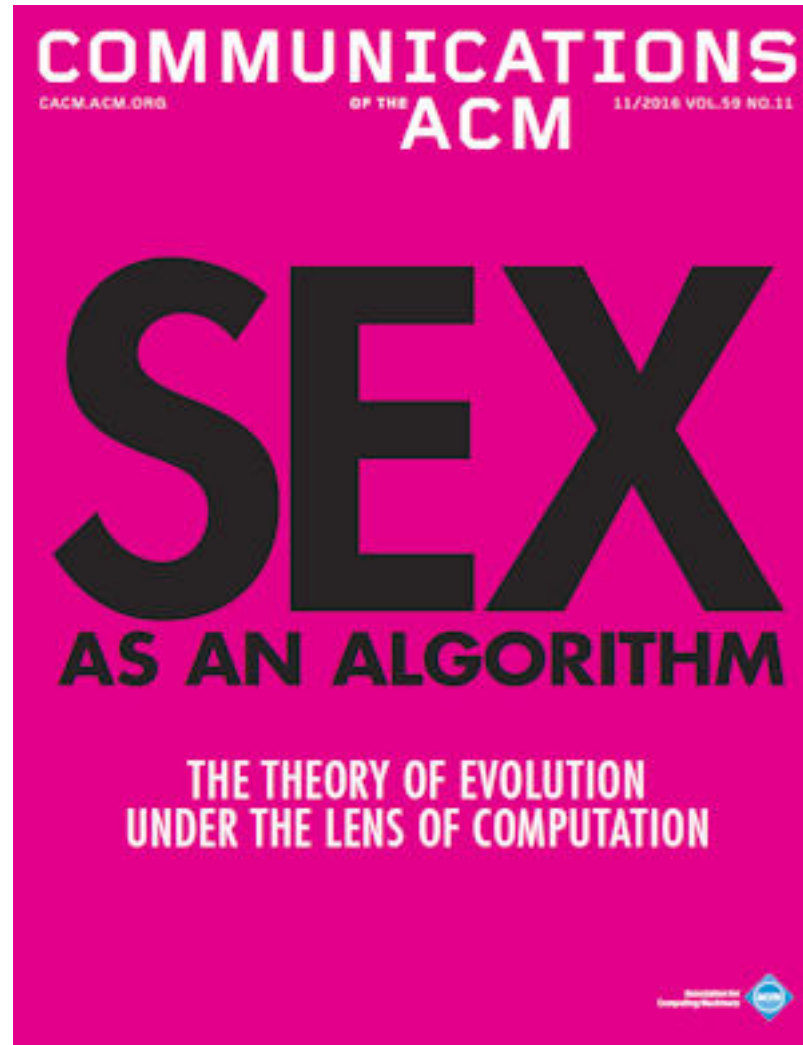
AS AN ALGORITHM

**THE THEORY OF EVOLUTION
UNDER THE LENS OF COMPUTATION**



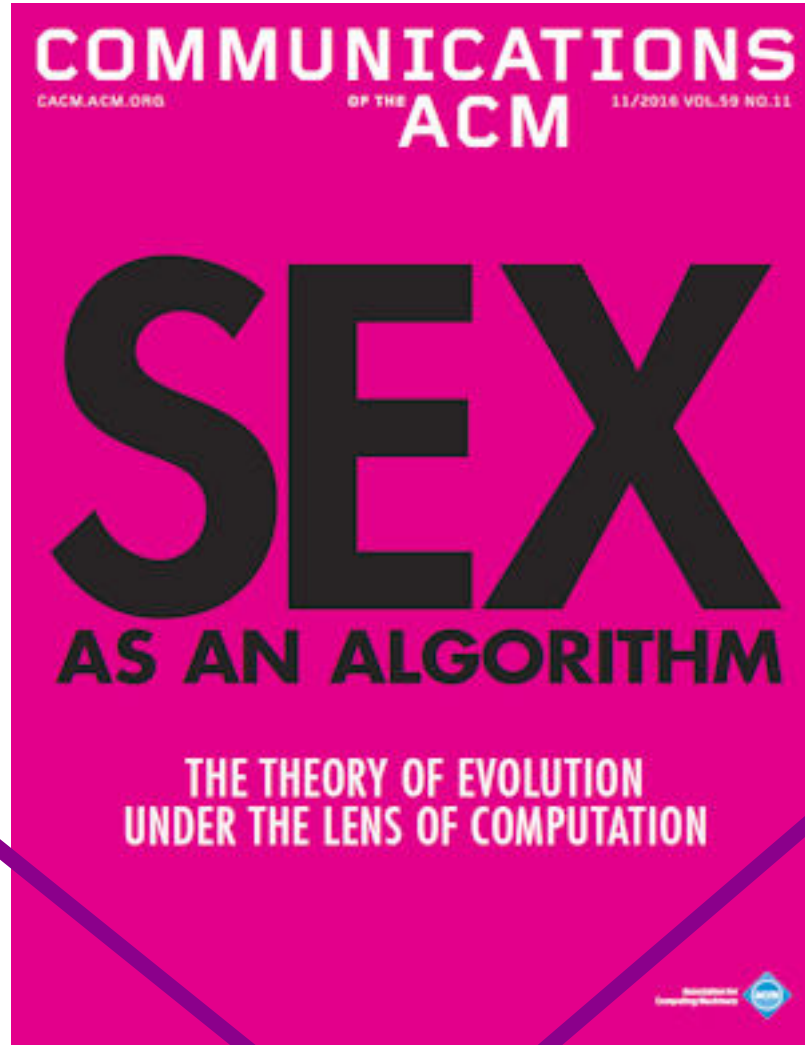
'Famous' Algo

Multiplicative
Weights
Update Algorithm



Biology

Evolution under
natural selection
in the presence
of sex

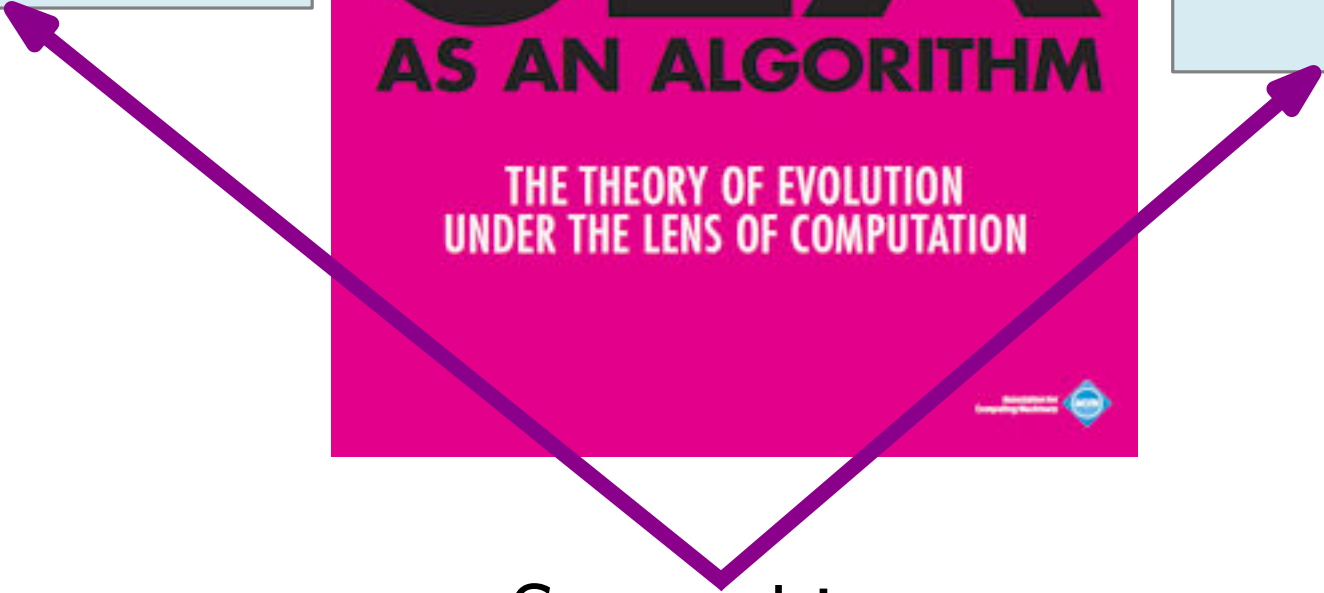


'Famous' Algo

Multiplicative
Weights
Update Algorithm

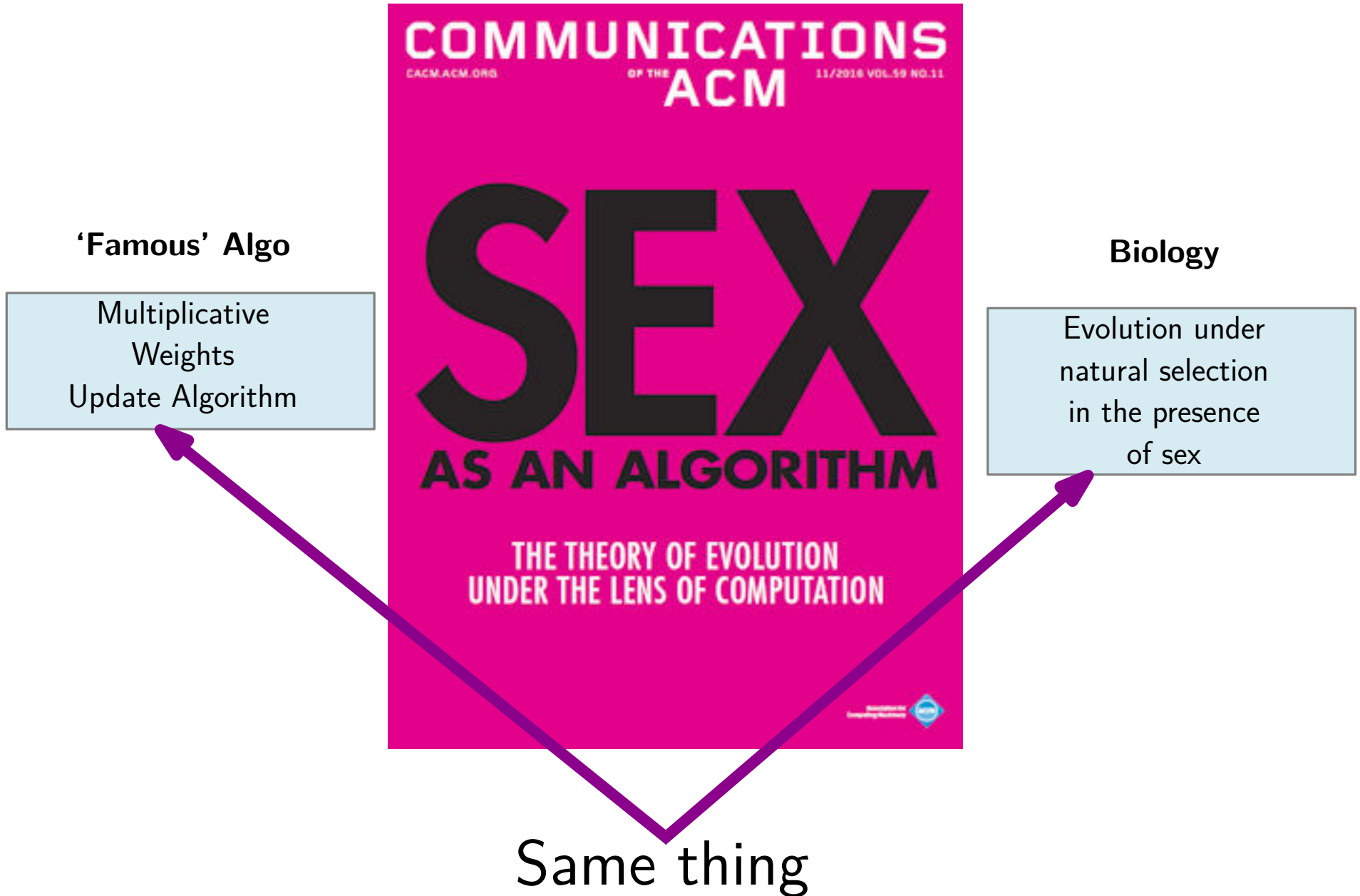
Biology

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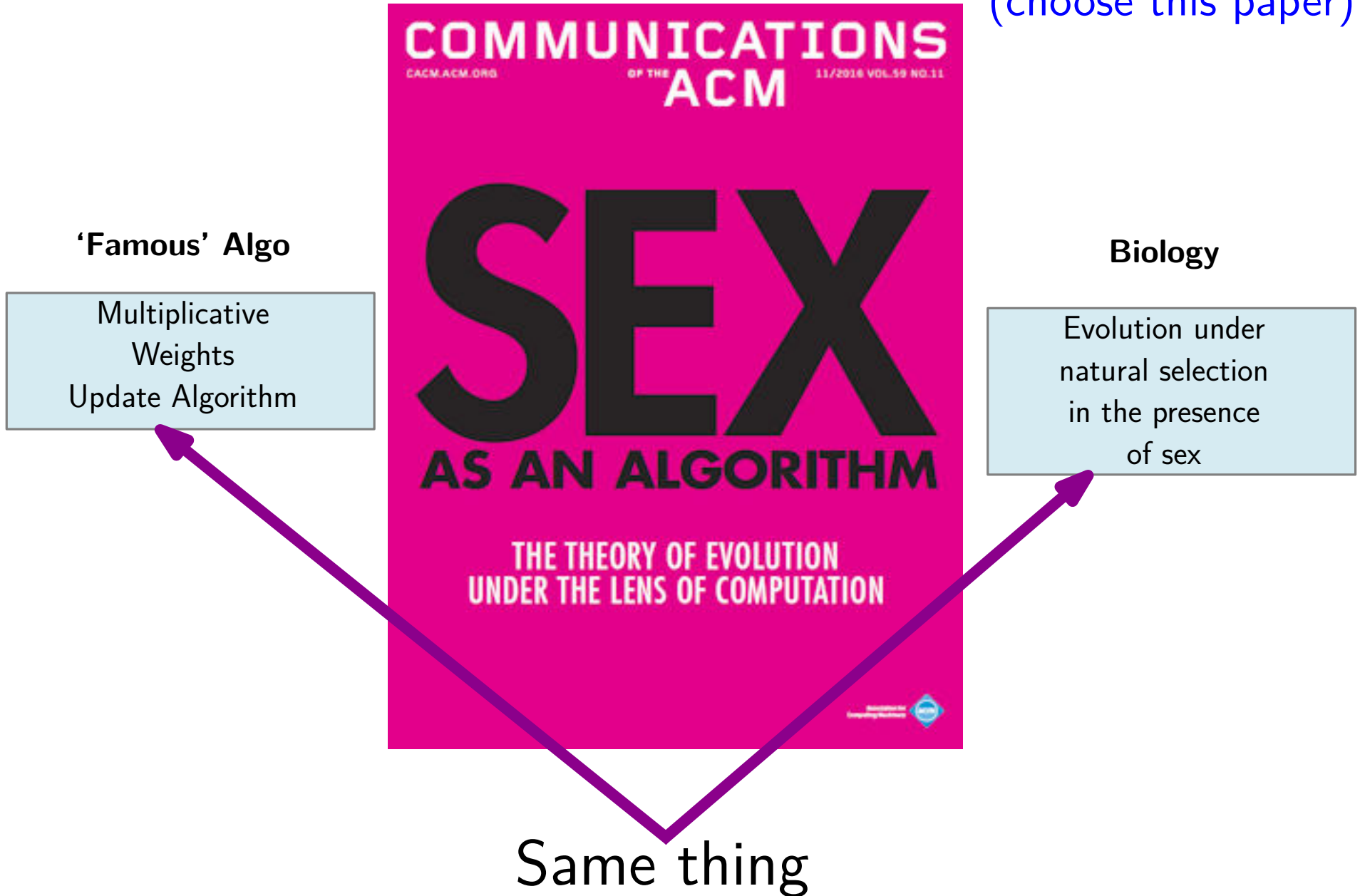


Same thing

Why is this interesting?



Why is this interesting? **You** tell us
(choose this paper)



What you have to do

What you have to do

(how to pass get a good grade)

Grading

Your **grade**:

- Presentation (**70%**)

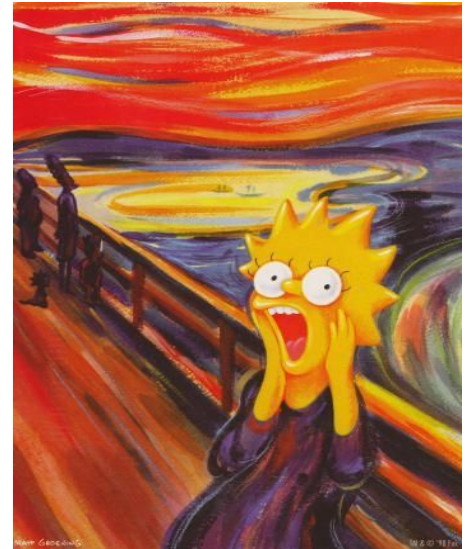
- (Active) Participation (**30%**)

Grading

Your **grade**:

- Presentation (**70%**)

- (Active) Participation (**30%**)
 - Attend **at least 5** days (mandatory)
 - Ask relevant questions to the speaker



Grading

Your **grade**:

- Presentation (**70%**)

what you did not understand,
want to know better, want to
repeat, curiosity,...,almost
everything

- (Active) Participation (**30%**)

- Attend **at least 5** days (mandatory)
- Ask **relevant** questions to the speaker

Grading

Your **grade**:

- Presentation (**70%**)

questions **help** the speaker!

- (Active) Participation (**30%**)

- Attend **at least 5** days (mandatory)
- Ask **relevant** questions to the speaker

Grading

Your **grade**:

- Presentation (**70%**)

we do this seminar (and learn)
all **together**

- (Active) Participation (**30%**)

- Attend **at least 5** days (mandatory)
- Ask relevant questions to the speaker

Grading

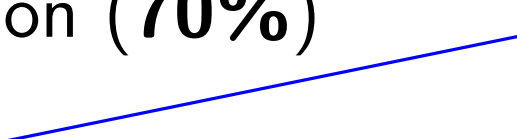

Your **grade**:

- Presentation (**70%**)
 - Clarity
 - Depth

- (Active) Participation (**30%**)
 - Attend **at least 5** days (mandatory)
 - Ask relevant questions to the speaker

Grading

Your **grade**:

- Presentation (**70%**)
 - Clarity  learn **how to present**
 - Depth  learn **how to read**
theory paper
- (Active) Participation (**30%**)
 - Attend **at least 5** days (mandatory)
 - Ask relevant questions to the speaker

Grading

Your **grade**:

- Presentation (**70%**)

- Clarity

let's see how

- Depth

- (Active) Participation (**30%**)

- Attend **at least 5** days (mandatory)

- Ask relevant questions to the speaker

What you do (your presentation)

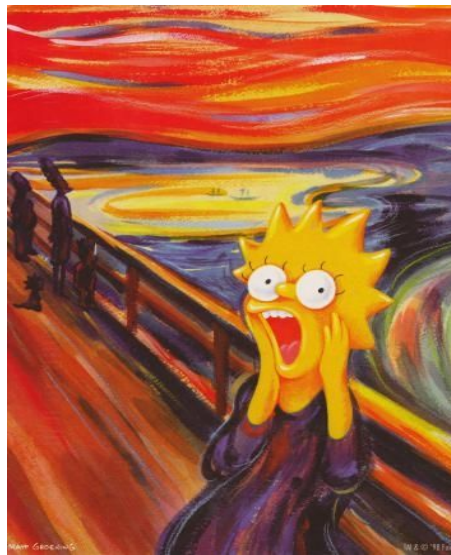
- read and **understand** your paper (and related material)



- give a presentation of **25min** about your paper

What you do (your presentation)

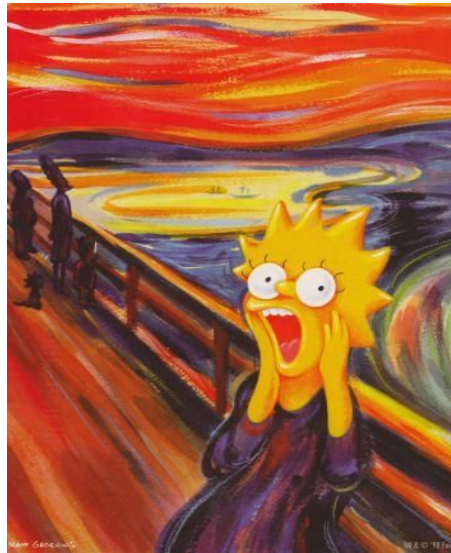
- read and **understand** your paper (and related material)



- give a presentation of **25min** about your paper

What you do (your presentation)

- read and **understand** your paper (and related material)



step by step!!

I help you!!!

- give a presentation of **25min** about your paper

What you do (your presentation)

- read and **understand** your paper (and related material)
- write a **short report (1-2 pages)** describing:
 - **what** you find interesting/worth presenting
 - **how** you want to present
- prepare your presentation (**slides** for a **25min** talk)
- give a presentation of **25min** about your paper

What you do (your presentation)

- read and **understand** your paper (and related material)
talk to me (ask **any time any question**)



- write a **short report (1-2 pages)** describing:
 - **what** you find interesting/worth presenting
 - **how** you want to present

I give you **feedback/suggestions**



- prepare your presentation (**slides** for a **25min** talk)

I give you **feedback/suggestions**



- give a presentation of **25min** about your paper

Timeline

20 days before your presentation

- send me your **short report**

10 days before your presentation

- send me your **slides**

Day of your presentation

- be there :-)

Timeline

20 days before your presentation

- send me your **short report**

10 days before your presentation

- send me your **slides**

Day of your presentation

- be there :-)

plus **4 more** days

Timeline

20 days before your presentation

- send me your **short report**

10 days before your presentation

- send me your **slides**

Day of your presentation (reschedule **not possible**)

- be there :-)

plus **4 more** days

Schedule

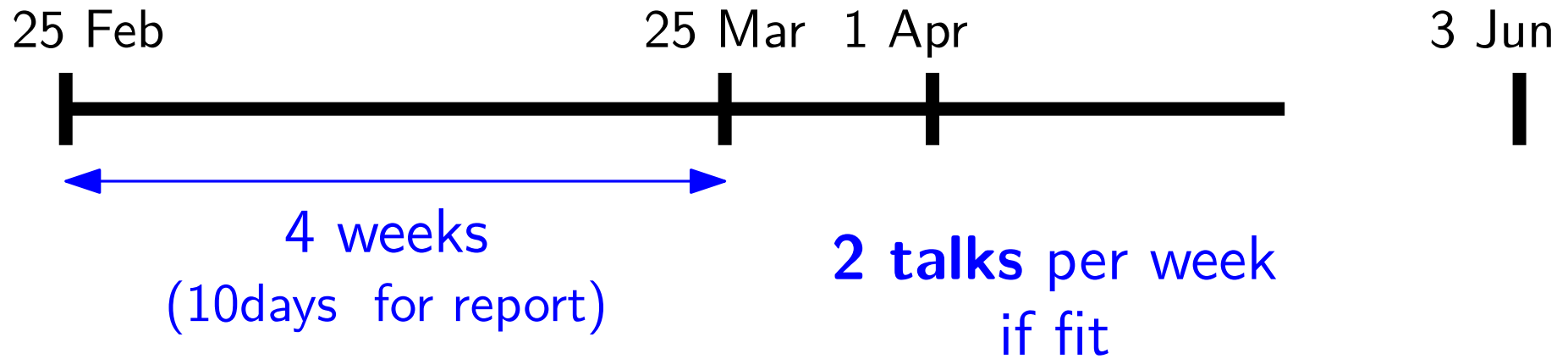
25 Feb

25 Mar 1 Apr

3 Jun



Schedule



Schedule

easier
papers
less time

25 Feb

25 Mar 1 Apr

3 Jun

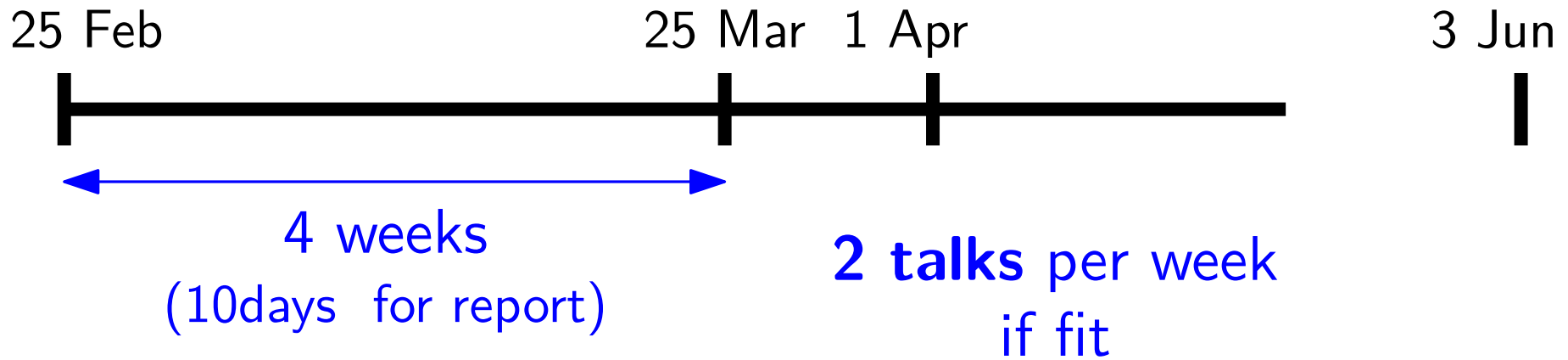


4 weeks
(10days for report)

2 talks per week
if fit

Schedule

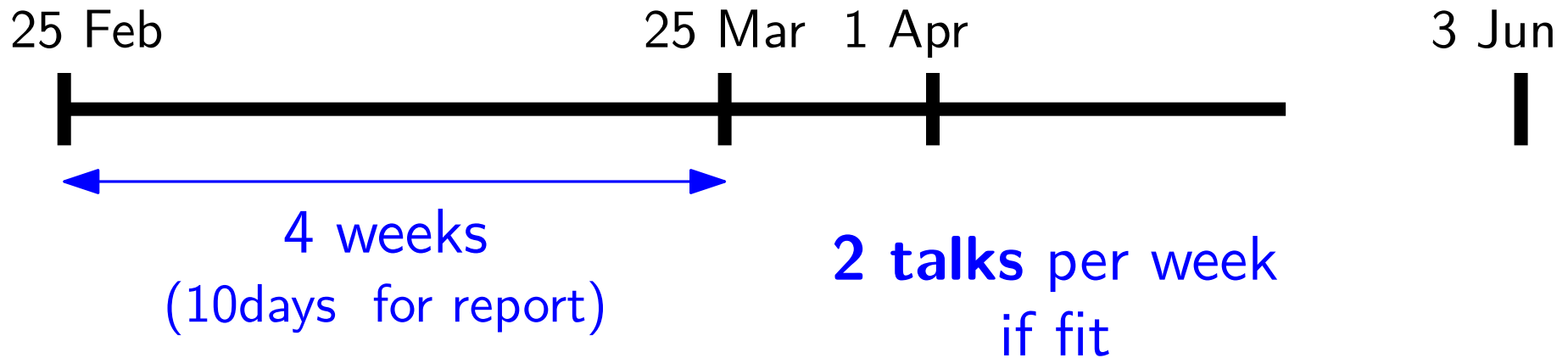
easier
papers
less time



Next week (4 Apr): I will give you two talks...

Schedule

easier
papers
less time



Next week (4 Apr): I will give you two talks...
... a **bad** talk and a **good** talk (on the same paper)

I guarantee only about the bad talk!

Conflicts with other lectures?

Never heard things like running time of **algorithm**,
dynamics programming, complexity, NP-hard, ...?

Please talk to me during the break

Ready to pick your
favorite paper?