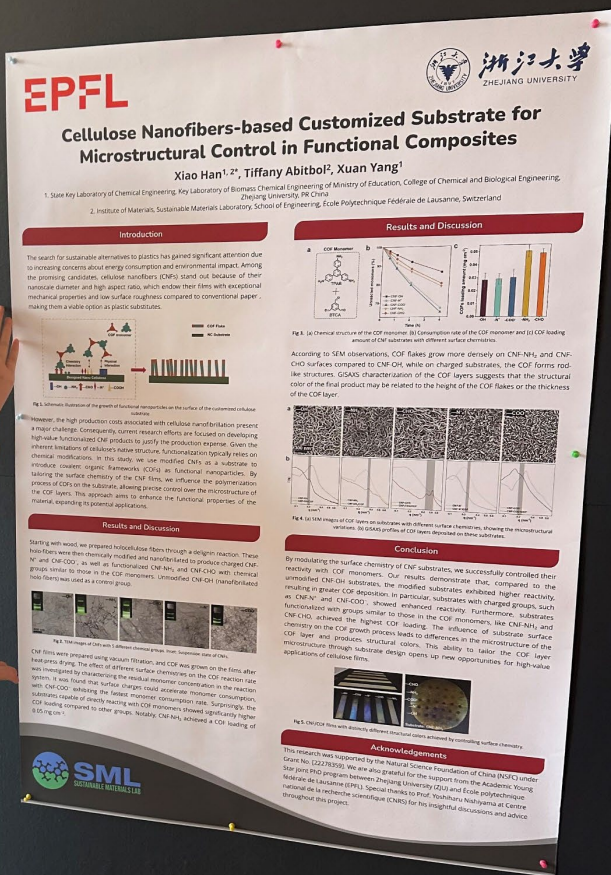


Posters MSE 493

Prof. Tiffany Abitbol
2024

Prepping for the poster session

Xiao Han (PhD candidate) sharing her work in the poster session of the EPNOE Junior conference in Sept 2024 in Vienna



Long assignment – Poster!

	Given	Deadlines!
Poster	15 October (already open)	29 Oct - deadline to fill in poster sign up sheet! 13 November at 23:59 - deadline to send TAs the poster for printing 13 November at 23:59 - deadline to submit your teaser slide 19 November - poster session in class (where you present your teaser slide and poster, and evaluate posters of others)

✓ **October 15** ✎



ASSIGNMENT

Posters! long assignment ✎



ASSIGNMENT

Poster session teaser slide ✎



Add an activity or resource

- 2 files that you will need to submit before Nov 14
- You submit them here - in October 15 week



Posters! long assignment

[Assignment](#) [Settings](#) [Advanced grading](#) [More ▾](#)

*see Oct 15 Moodle for more details
Sign up sheet is also this week (Oct 15)

Opened: Tuesday, 10 September 2024, 00:00

Due: Wednesday, 13 November 2024, 23:55

Use this return assignment to upload your poster as a pdf or PowerPoint in A0 size.

In this assignment, we will evaluate your ability to understand, summarize, and present scientific literature in a clear and approachable way.

So, what's this assignment all about?

1. Organize in a group of 3 students
2. Pick a scientific article in the field of ELMs that you all find interesting. No review articles. If you are unsure about your selection please discuss with the TAs and Prof.
3. Read the article and make sure your group understands the key points - discuss together!
4. Summarize and present the article in a poster format. The poster should be clear, concise, and show the main results and conclusions from the selected paper. Make sure to reference appropriately. *P.s. Did we mention? Posters should look good.*
5. In addition to the poster, prepare a 1-slide teaser that briefly summarizes what your poster is about.
6. Please use this sign up sheet by **OCT 29** to indicate your team members and the article you have chosen:

[Poster sign up sheet](#)

The sign up sheet also indicates the schedule for the day.

The first 30 min of the class, each group present their teaser slides in 3 min maximum, and then we will have two sessions, where each team is either assigned the role of presenter or evaluator.

7. As a presenter, you are expected to present your poster (5-7 min) to your classmates, TAs, and prof.
8. As an evaluator, you are expected to listen to your classmates presentations and fill in an anonymous grading sheet. Note the grading sheets will be provided ahead of the class and printed to facilitate your work.

	Team Members	Article title	Article URL
Group 1	Aliana Desmeules	Engineered composite material	direct.com/science/article/pii/S
	Clarys Coiffier		
	Lucie Caulier		
Group 2	Adrien Borgeat		
	Aurélie Vuagniaux		
	Patrick Klemme		
Group 3	Charles Malmasson		
	Mizuki Watanabe		
	Arthur Micallef		
Group 4	Luka Roche		
	Noah Studer		
Group 5	Sven Mahon		
	Gaëtan Massonet		
	Anaëlle Frey		
Group 6	Lucie Zhou		
	Marine Debouvry		
	Bénédicte Lunven		
Group 7	Antoine Fotius		
	Pierre-Arnaud Vals		
Group 8	Laura Cheng		
	Natacha Kruzic		
	Thomas Artru		
Group 9			
Group 10			
Group 11			
Group 12			

- Sign up sheet linked on Oct 15
- You have until Oct 29 to fill in this sign up sheet
- 36 students = 3 students per group, **12 groups**
- (Group 1 – good start but you picked a perspective)
- **If you don't have a team, I will assign you one – should I do this by Oct 21?**

Poster schedule (2nd tab)

A	B	C	D
Poster Schedule			
Poster set up from 2-2:15			
Pitch for all from 2:15-2:45			
	Presenter	Evaluator	What posters you need to evaluate?
Group 1	3-3:45	4-4:45	7 and 8
Group 2	3-3:45	4-4:45	8 and 9
Group 3	3-3:45	4-4:45	9 and 10
Group 4	3-3:45	4-4:45	10 and 11
Group 5	3-3:45	4-4:45	11 and 12
Group 6	3-3:45	4-4:45	12 and 7
Group 7	4-4:45	3-3:45	1 and 2
Group 8	4-4:45	3-3:45	2 and 3
Group 9	4-4:45	3-3:45	3 and 4
Group 10	4-4:45	3-3:45	4 and 5
Group 11	4-4:45	3-3:45	5 and 6
Group 12	4-4:45	3-3:45	6 and 1

- Very important that you have your group number on your poster
- Stick around your poster during the “presenter slot”
- Hit up/evaluate your assigned posters during your evaluation slot

Make sure to fill in your group # and the poster # of you are evaluating!
We will print 2 forms per group ahead of the class

Poster number:

		Score Range (0–2)		
		2	1	0
Target	Comment	Strongly agree	Agree	Disagree
Poster design	Text is legible, and figures and tables are properly labelled and easy to understand.			
Oral presentation	Delivery is clear, with a coherent flow that is easy to follow. The presenters demonstrate a deep understanding of the article.			
Clarity and structure	Poster is logically built and flows coherently. Appropriate references are given when needed. Visuals are used to highlight important information and support the discussion.			
Content	Poster provides sufficient context and background on the article. The most important aspects are highlighted. The main idea of the article and the key takeaways are communicated clearly.			
Critical evaluation	Poster includes a critical analysis of the article. Presenters clearly state their impressions of the article and offer suggestions for further improvement of the study.			
Answering questions	Presenters' responses to questions demonstrate a knowledge of subject matter. They were able to improvise with new ideas to certain questions and adapt due to their general knowledge of the topic.			

Total Score:

What will the poster session look like?

- Put up your posters (we will help)
- We will start with a PowerPoint slide pitch from each team (2-3 min); slides will be submitted in advance (Nov 13, 23:59)
- Each poster team is assigned to a session, either in the role of evaluator or presenter
- As a presenter, your job is to present your poster and answer questions (5-7 min; timed)
- As an evaluator, your job is to evaluate posters (we will give you a grading sheet)

What will the poster session look like?

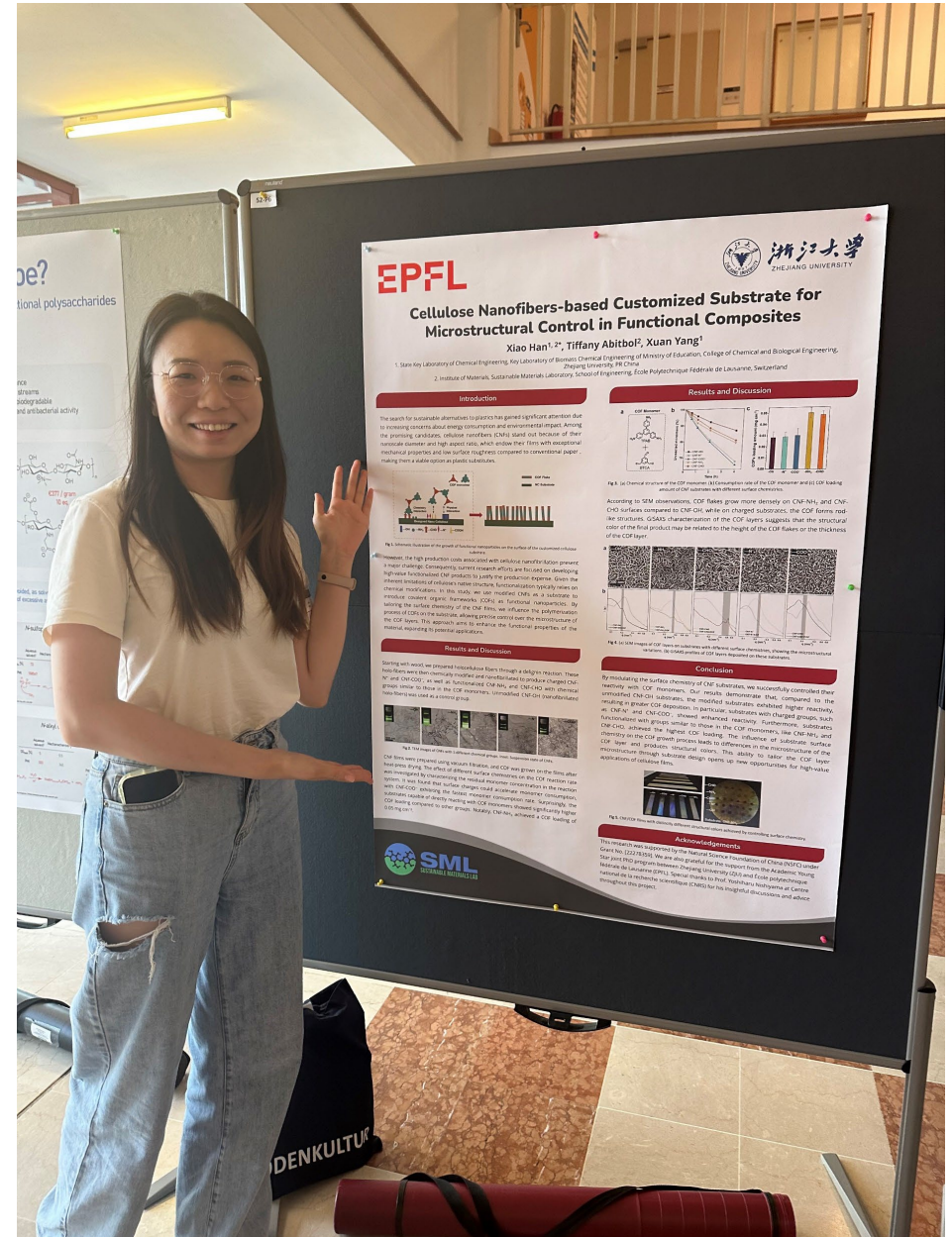
- Already think of who you want to work with, choose your article, etc., you will upload these details on the Oct 15 Moodle
- Grading sheets will be provided (already posted on Nov 19 Moodle)
- [Link to google drive sign up sheet](#) (team, article, schedule)
- Snacks
- Lots of learning

What's in a teaser slide?

- High level overview of what your article is about and the context for why it is important/why you chose it
- Can be based around a graphical abstract
- Poster #
- Ref for your paper: title, authors, year published, journal etc., DOI, etc.,

What's in a poster?

- Expanded version of teaser
- Generic - Title, Authors, Abstract, Introduction, Materials & Methods, Results, Discussion, References
- You don't have to use the generic headlines (you can)
- Don't forget your paper details!
- Don't forget your poster number!



- Let's agree on a medium size!

A2 = 420 by 594 mm

- Set the slide size directly on your PowerPoint slide
- Make sure the resolution of text and images is good at 100%

How to reference? (Example from intro of Joshi paper on color/shape)

Natural systems, from unicellular organisms to mammals, employ unique actuation mechanisms using their own tissues for many adaptation and survival behaviors, ranging from locomotion to reproduction. For example, bacterial flagella function as molecular motors driven by ATP hydrolysis¹; plants have evolved seed pods that open in response to favorable growth conditions or move to disseminate progeny to other locations²; the musculoskeletal system of animals enables transportation and agility.³ Color modulation is another phylogenetically widespread and mechanistically diverse evolutionary adaptation. Cyanobacteria change their color to optimize light absorption depending on their environment⁴; trees change the color of their leaves for metabolic conservation.⁵ Remarkably, cephalopods combine mechanical actuation of their tissues with color change to perform changes in visual appearance.⁶ In most of these examples, living cells play a crucial role in converting chemical fuel into various forms of molecular motion and pigmentary changes.

REFERENCES

1. Nakamura, S., and Minamino, T. (2019). Flagella-Driven Motility of Bacteria. *Biomolecules* 9, 279. <https://doi.org/10.3390/biom9070279>.
2. Hofhuis, H., Moulton, D., Lessinnes, T., Routier-Kierzkowska, A.-L., Bompfrey, R.J., Mosca, G., Reinhardt, H., Sarchet, P., Gan, X., Tsiantis, M., et al. (2016). Morphomechanical Innovation Drives Explosive Seed Dispersal. *Cell* 166, 222–233. <https://doi.org/10.1016/j.cell.2016.05.002>.
3. (2018). Muscles and Skeletons: The Building Blocks of Animal Movement. In *Animal Locomotion*, A. Biewener, S. Patek, A.A. Biewener, and S.N. Patek, eds. (Oxford University Press). <https://doi.org/10.1093/oso/9780198743156.003.0002>.
4. Grébert, T., Doré, H., Partensky, F., Farrant, G.K., Boss, E.S., Picheral, M., Guidi, L., Pesant, S., Scanlan, D.J., Wincker, P., et al. (2018). Light color acclimation is a key process in the global ocean distribution of *Synechococcus* cyanobacteria. *Proc. Natl. Acad. Sci.* 115, E2010–E2019. <https://doi.org/10.1073/pnas.1717069115>.
5. Archetti, M., Döring, T.F., Hagen, S.B., Hughes, N.M., Leather, S.R., Lee, D.W., Lev-Yadun, S., Manetas, Y., Ougham, H.J., Schaberg, P.G., and Thomas, H. (2009). Unravelling the evolution of autumn colours: an interdisciplinary approach. *Trends Ecol. Evol.* 24, 166–173. <https://doi.org/10.1016/j.tree.2008.10.006>.
6. Mäthger, L.M., Denton, E.J., Marshall, N.J., and Hanlon, R.T. (2009). Mechanisms and behavioural functions of structural coloration in cephalopods. *J. R. Soc. Interface* 6, S149–S163. <https://doi.org/10.1098/rsif.2008.0366.focus>.

How to reference? (Another example from Joshi paper on color/shape)

We sought an alternative approach to simultaneous cell-driven actuation and color change based on the well-known phenomena of pH-responsive hydrogels.¹⁵ Polyionic hydrogels bearing appropriate electrostatically charged functional groups can undergo reversible size change if those functional groups change their charge state at different pH values. For example, the carboxylate groups of mannuronate and guluronate in alginate have pK_a values of 3.4 and 3.7, respectively.¹⁶ At pH values above the pK_a , the carboxylate group is deprotonated and negatively charged, leading to swelling of the gel. At pH values below the pK_a , the protonation of the carboxylate group decreases water solubility and drives out water by comparison, de-swelling the gel. This general principle has been used for drug delivery,¹⁷ hydrogel origami,¹⁸ and soft robotics,¹⁹ among other applications. A limitation of pH-responsive hydrogels is that the pH change must come from an external source—a mechanism that limits practical deployment. Instead, we demonstrate a system wherein the pH change is driven by living cells within and surrounding the gel. Research has been conducted on the confinement of microbes to a hydrogel matrix for specific deployable systems, where the matrix is designed to support cell growth.^{7,20,21} However, due to the dynamic swelling behavior of pH-responsive hydrogels, we designed our system to act as a repository for populating the surrounding medium with *E. coli* during each half cycle after medium changes.

Some notes:

- All things citable text should be cited
- Ordered, use a software (not manual)
- Outside of punctuation

How to reference? (Another example from Joshi paper on color/shape)

REFERENCES

1. Nakamura, S., and Minamino, T. (2019). Flagella-Driven Motility of Bacteria. *Biomolecules* 9, 279. <https://doi.org/10.3390/biom9070279>.
2. Hofhuis, H., Moulton, D., Lessinnes, T., Routier-Kierzkowska, A.-L., Bomphrey, R.J., Mosca, G., Reinhardt, H., Sarchet, P., Gan, X., Tsiantis, M., et al. (2016). Morphomechanical Innovation Drives Explosive Seed Dispersal. *Cell* 166, 222–233. <https://doi.org/10.1016/j.cell.2016.05.002>.
3. (2018). Muscles and Skeletons: The Building Blocks of Animal Movement. In *Animal Locomotion*, A. Biewener, S. Patek, A.A. Biewener, and S.N. Patek, eds. (Oxford University Press). <https://doi.org/10.1093/oso/9780198743156.003.0002>.
4. Grébert, T., Doré, H., Partensky, F., Farrant, G.K., Boss, E.S., Picheral, M., Guidi, L., Pesant, S., Scanlan, D.J., Wincker, P., et al. (2018). Light color acclimation is a key process in the global ocean distribution of *Synechococcus* cyanobacteria. *Proc. Natl. Acad. Sci.* 115, E2010–E2019. <https://doi.org/10.1073/pnas.1717069115>.
5. Archetti, M., Döring, T.F., Hagen, S.B., Hughes, N.M., Leather, S.R., Lee, D.W., Lev-Yadun, S., Manetas, Y., Ougham, H.J., Schaberg, P.G., and Thomas, H. (2009). Unravelling the
11. Greca, L.G., Lehtonen, J., Tardy, B.L., Guo, J., and Rojas, O.J. (2018). Biofabrication of multifunctional nanocellulosic 3D structures: a facile and customizable route. *Mater. Horiz.* 5, 408–415. <https://doi.org/10.1039/C7MH01139C>.
12. Rivera-Tarazona, L.K., Bhat, V.D., Kim, H., Campbell, Z.T., and Ware, T.H. (2020). Shape-morphing living composites. *Sci. Adv.* 6, eaax8582. <https://doi.org/10.1126/sciadv.aax8582>.
13. Wang, W., Yao, L., Cheng, C.-Y., Zhang, T., Atsumi, H., Wang, L., Wang, G., Anilionyte, O., Steiner, H., Ou, J., et al. (2017). Harnessing the hygroscopic and biofluorescent behaviors of genetically tractable microbial cells to design biohybrid wearables. *Sci. Adv.* 3, e1601984. <https://doi.org/10.1126/sciadv.1601984>.
14. Nawroth, J.C., Lee, H., Feinberg, A.W., Ripplinger, C.M., McCain, M.L., Grosberg, A., Dabiri, J.O., and Parker, K.K. (2012). A tissue-engineered jellyfish with biomimetic propulsion. *Nat. Biotechnol.* 30, 792–797. <https://doi.org/10.1038/nbt.2269>.
15. Liu, X., Gao, M., Chen, J., Guo, S., Zhu, W., Bai, L., Zhai, W., Du, H., Wu, H., Yan, C., et al. (2022). Recent Advances in Stimuli-Responsive Shape-Morphing Hydrogels. *Adv. Funct. Mater.* 32, 2203323. <https://doi.org/10.1002/adfm.202203323>.

Some notes:

- Double check your citations: spelling, journal, and content!
- Choose reliable sources
- Avoid if possible webpages