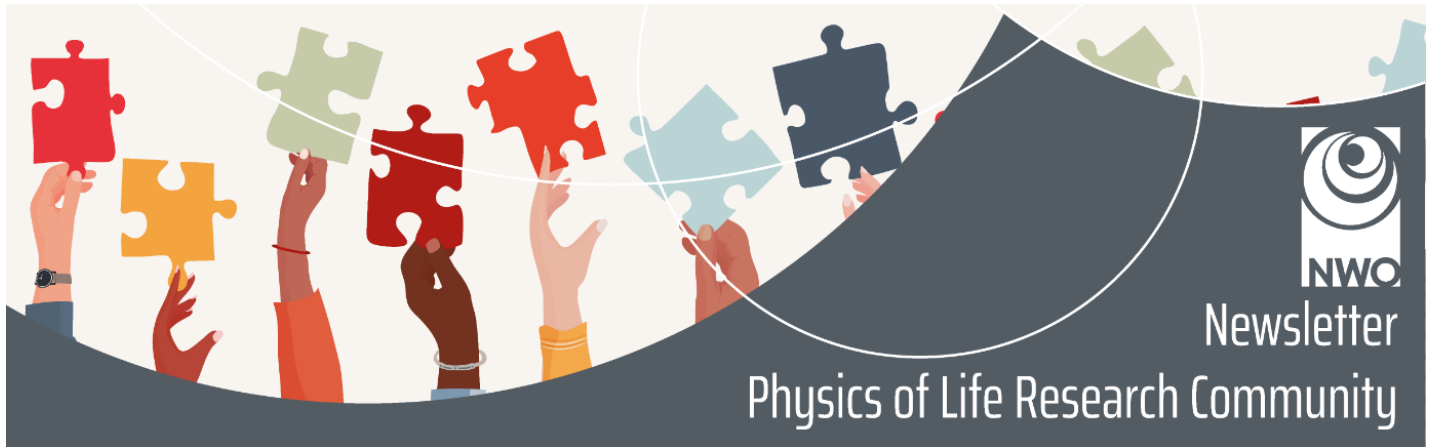




Newsletter Physics of Life Research Community
2 September 2025

Dear registered members of the research community physics of life,

Please find below the latest newsletter. We are eager to hear about any suggestions you may have, and we look forward to meeting you at our assemblies in October and/or November.

Please spread the word about our community with all your POL colleagues! They will receive future newsletters and event invitations by registering, without any obligations, following this link:

<https://www.nwo.nl/en/register-for-research-community-for-physics>

Content of this newsletter:

- New appointments, grants, prizes, and other news
- News from the committee, the Round Table Physics, and the change of our chair
- Community meetings: Physics of life seminar series, PI meeting at NWO Biophysics, the Physics of life calendar
- Projects granted by NWO
- Bio sketch by Lisa Tran (UU)

Best regards,

on behalf of the research community committee POL,

Kristin Großmayer (TUD), Naomi Chrispijn and Rosanne van Beek (NWO, Dutch Research Council)



NWO Physics of Life research community committee:

Prof. Alessandra Cambi (RUMC)
Prof. Remus T. Dame (LEI)
Dr. David Dulin (VU)
Dr. Kristin Großmayer (TUD; chair)
Dr. Johannes Hohlbein (WUR; Round Table Physics member)
Prof. Lukas Kapitein (UU)
Prof. Armagan Kocer (UT)
Dr. Nicholas Kurniawan (TU/e)
Dr. Kasia Tych (RUG)
Dr. Jeroen van Zon (AMOLF)

Secretaries: Dr. Naomi Chrispijn and Dr. Rosanne van Beek (NWO)

Website: www.nwobiophysics.nl/pol




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Team
NWO Domain Science

New appointments, grants, prizes, and other news

- The **election pledges of NWO and the Knowledge Coalition** are published. Their main message: Choose knowledge for a resilient and future-proof Netherlands. The three opportunities identified by NWO are: knowledge for major societal issues, scientific talent, and a national digital infrastructure strategy. [Read more >](#)
- The ERC announced the winners of its latest Advanced Grant competition. The funding, worth in total €721 million, will go to 281 leading researchers across Europe, amongst **Wouter Roos (RUG)**. His proposal entitled 'Label-free assembly of RNA containing viruses, one particle at a time' was selected for funding. [Read more >](#)
- **Markus Weingarth (UU)** received an ERC Proof of concept grant for his project on in vitro & biodistribution analysis of morphology-controlled polymeric gene delivery nanocarriers (POLYMORPH). [Read more >](#)
- **Timon Idema (TUD)** was awarded a Comenius Leadership Fellow grant to work on co-creation of interactive open textbooks as an educational tool. [Read more >](#)
- EMBO has announced sixty-nine new members. The appointment recognizes her outstanding achievements in life sciences. EMBO members help shape the future direction of life sciences by actively participating in EMBO initiatives. **Gijsje Koenderink (TUD)** is one the new EMBO members elected. [Read more >](#)
- Nominate your PhD student for the **Ehrenfest-Afanassjewa thesis award**, which is annually awarded by the Dutch Physics Council. The award recognizes an outstanding PhD thesis in the field of physics, defended at a Dutch university in the previous year. Nominations are also open for the **Minerva Prize**, which is awarded annually by the DPC and NNV to an outstanding young female or non-binary physicist in the Netherlands with an overall performance that scientifically excels in any subfield of physics. Both prizes include a sum of 5k€ and an invitation to present the work at a NWO Physics in January 2026. Nomination deadline 1 October 2025. [Read more >](#)
- The NATO Innovation Fund and Earlybird Venture Capital led a \$35 million Series A round in **Portal Biotech**, a pioneering biotechnology company headquartered in London. This represents one of Europe's largest investments into a life sciences tools company and positions Portal Biotech as the leading innovator set to deliver the "holy grail" of full-length single-molecule protein sequencing. This never-before-accomplished breakthrough promises transformative impact on drug discovery, precision medicine, and global biosecurity. [Read more >](#)
- ZonMW Off Road grant awarded to **Megan Farell (AMOLF)** to study how immune cells know when to stop [Read more >](#)
- NWO has published a new **KIC call for proposals 'Biochemical Diversity'**. This Call for proposals focuses on increasing the sustainability of production processes by developing and refining key enabling technologies. [Read more >](#)
- NWO has assigned 24 applications for Computing Time on the National Computer Facilities. RUG researchers **Siewert-Jan Marrink and Patrick Onck**, and UvA researcher **Jocelyn Vreede** are granted time on Snellius for their projects 'Multiscale simulations of (bio)matter', 'Designing a DNAJB6 super-chaperone', and 'Simulation of biomolecules' respectively. Are you also interested in using Computing Time on National Computing Facilities? [Read more >](#)
- Nominations are open for the **IUPAP Medal for the Physics of Life**, with a deadline of 31 October 2025. The award recognizes outstanding achievements in Biological Physics, and will be awarded during the [ICBP 2026 meeting](#) in Genova, Italy, from 28 June – 5 July 2026. [Read more >](#)
- NWO has opened the **Tulip Fund**, a new instrument that enables universities to attract renowned international scientists from outside the EU. Nominations can be submitted by knowledge institutions until 31 March 2026. [Read more >](#)

Do you have a news flash or research highlight that you would like to share with the Dutch PoL community through the newsletter? Please let us know by sending an email to ResearchCommunity-PoL@nwo.nl.

News from the physics of life research community committee

The PoL research community committee meets twice a year to discuss (NWO-) policy related issues and find ways to strengthen the Dutch PoL research community. In terms of community building, two years ago we re-initiated the PoL seminar series (KNAW biophysics talks) and discussed them during our Spring meeting. If you, as a community member, have any input we are happy to hear about it. There is budget available for community building, so bottom-up initiatives can be evaluated for funding. Note that this can only be done if the initiative does not meet the criteria for the [WBO funding instrument](#).

Additionally, this committee takes an active role in the monitoring of large research projects funded by NWO. During our May meeting, Anna Akhmanova gave a presentation about the progress of the project 'On form and growth: Correlative molecular imaging of microtubule structure and dynamics'. As this is a very interdisciplinary project, the chair of the research community committee chemistry of life, Bert Janssen, also joined the discussion. Suggestions and ideas were shared to maximise the impact of the project. We also discussed the (lack of) continuity grants and the difficulties in the EM landscape.

Connecting with running NWO projects has multiple aims, ranging from providing well-substantiated advice regarding NWO funding in general, sharing tips and tricks on e.g. management of a consortium, outreach etc. all in order to strengthen the Dutch PoL field. Some best practices can be taken along in the discussions with PIs when they will present the progress of their projects to the committee. Especially the way this consortium is organised and the regularity of their internal meetings is an aspect that could be of inspiration to other consortia.

Within the ENW XL funding scheme, this role of the research community committees is currently being implemented: the project leader has to identify a so-called external advisor that preferably also has a link with a relevant research committee. This advisor will have annual contact with the PI and NWO. Multiple (former) members of the research community committee Physics of life are acting as external advisor for OC ENW XL projects.

The RCC POL also organises the annual group leader session at NWO Biophysics. Kristin Großmayer and David Dulin volunteered to organise this years' edition together with Naomi Chrispijn and Rosanne van Beek. We have already shaped this years' programme, but if you have an idea for the future, we're always eager to hear about it.

News from the Round Table Physics

On behalf of the Research Community committee Physics of Life Johannes Hohlbein partakes in the Round Table Physics (RTP). We hereby share with you the what is currently being discussed at the RTP:

- Evidence based CV: A pilot is being conducted at the Veni - Science Domain 2025. The word limit of the research idea will be expanded from 100 to 500 words in the pre-proposal. Based on feedback from the Science community, NWO decided to explore whether an expansion of the word count for the research idea will provide the committee with more context for the assessment of the Evidence Based CV. The assessment criteria of the assessment procedure will stay the same.
- Extra funding is available to support the organisation of scientific meetings and consultations. The budget for 2025 has been increased from 600k€ to 900k€. This funding instrument is open for applications with a research question in the science domain. [Read more >](#)
- The RTP is writing a letter to the Domain Board Science where they express their concerns about the decision to abandon the Vidi interviews from 2026 onwards. The RTP's main argument is that the steeply increasing quality and availability of AI makes it an increasing risk that proposals are written partially or completely with an AI tool. This cannot be tested without an interview. This letter will be shared with the other Round Tables in the Science domain and the Domain Board.
- The topic of the annual strategy day with the seven Round Tables in the Science Domain and the Science Domain Board will be "AI and Big Data". This strategy day takes place at the beginning of November at NWO Utrecht.
- The Round Table Physics is organizing their first Heidag on 10 October. The three main topics that will be discussed during this Heidag are: "Suitable instruments for collaboration with HBO", "Consolidation of big investments and knowledge preservation", "Partial funding".

More information about the Round Table Physics can be found [here](#).

Passing of the gavel: change of the chair of the Research community committee

From the 1st of July 2025 Kristin Großmayer (TUD) took over the role as chair from the research community committee Physics of life from Kristina Ganzinger (AMOLF). Kristina has been a member of the committee since December 2019 and acted as chair since September 2023. Rosanne van Beek and Naomi Chrispijn met with Kristina and Kristin to reflect on Kristina's time in the committee, the power of the Dutch POL community, and the ambitions for the future.

Looking back, Kristina realizes and also stresses how much this committee did over the last 6 years. When listing some of the successes, we notice that they are nowadays so much integrated that Kristin just regarded them as common practice. As a team, we realize that all such initiatives take effort to get them established and to keep them going.



Figure created with Copilot

Successes since 2019

During Kristina's time in the committee the link with the Round Table Physics (RTP) highly improved. In 2020, the idea in our committee was born to strengthen the link by having an **overlapping member of the committee with the Round Table**. **John van Noort**, the chair back then, put a lot of effort in getting the idea to fly. In 2023, this direct link between committee and Round Table is implemented for all physics committees, not only POL, and later even copied by our colleagues from chemistry. Around the same time, we implemented a similar construction of overlapping committee members in the **NWO Biophysics programme committee** as well: two members of the research community committee now also sit on the programme committee to ensure that the conference aligns with the needs of the community. This connection of our committee to the meeting ties everything together.

Another achievement that really stands out is the reintroduction of the Biophysics talks, now the **NWO Physics of life seminar series**. These events are well received by the community and serve as important means to stay connected throughout the year. We like the regularity of the meetings and its spacing related to NWO Biophysics. In this way there are three annual moments where community members can gather. Both Kristina and Kristin find it valuable that during these seminars PhDs and PDs are not only welcome to attend, but that they are also given the floor to present their work. We are **grateful to the community members who volunteered to organize the seminars** and to the RTP who provide budget for this. One suggestion from Kristina for the future: advertise that people can actively approach the organisers to suggest their PhD/PD to give a talk. Good representation is essential to keep up the existence of these seminars and make them valuable. Therefore, she urges PIs to try to attend these assemblies, as this also shows their commitment to the community. You never know what you get out of it!

Kristina also points out that the **newsletter** is by now regarded as a standard aspect of our means to be connected to the community. Kristin notes that to her, the POL newsletter was there from the beginning, including the introductions of new PIs. Funnily, she was the first PI who introduced herself via our newsletter in 2021, together with Louise Jawerth. The newsletter creates awareness about awarded or upcoming grants, running research projects, relevant information about science policy, and new PIs in the field. Both Kristina and Kristin emphasize that this is a very valuable tool to keep the community together and engage its members. Multiple other research community committee have been inspired by us and have also started circulating newsletters.

Plans and ambitions for the future

Challenging times are ahead of us in terms of current budget cuts and Kristin shares that her ambition is to **further enhance community building**, as this is essential to make ourselves **future proof**. Besides keeping the best practices going, such as the seminars and the newsletter, she wants to further include community members in the activities. She encourages community members to come up with bottom-up initiatives for community building. The committee will evaluate them and can allocate budget for events. Kristin and Kristina underline that the **Dutch community is very strong in biophysics research, with a special emphasis on method development**. Kristin would also like to give this more attention within the community, as we should **cherish the expertise available**. One way of doing this is by organizing a day specifically focused on different research methods. It can also be integrated it in the seminar series, in which the different institutes and universities present themselves with a focus on how we can work together to make optimal use of the different expertise available within the community.

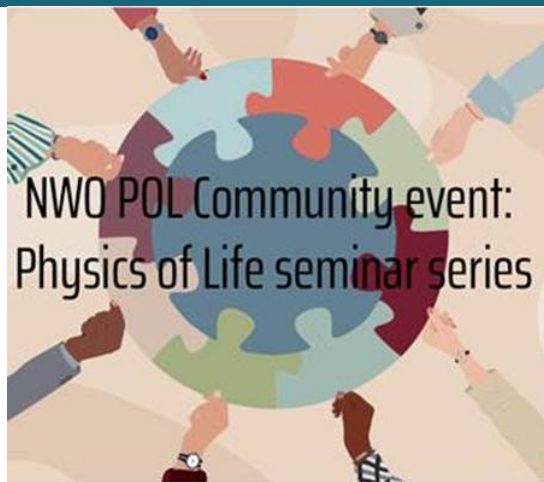
Additionally, Kristin highlights the importance of **exploiting other funding sources** and help the community to get familiar with alternative possibilities. The first step we are taking into this direction is by giving the floor to the Topsector Life Science and Health during our PI meeting at NWO Biophysics in Veldhoven.

Kristin will also keep a close eye on the **AI developments and its impact on the community**. She is curious in what way AI will affect our way of thinking, how we exchange ideas and knowledge.

In the past Kristina and Naomi took some steps to **connect internationally**. To this end we had meetings with PoLNET in the UK and with Kasia Tych, who acted as ambassador of the Biophysical Society. Kristina advises her successor to continue these endeavors, as regular exchanges with similar networks helps us to increase visibility on an international level. We can also unitedly lobby for funding if relevant. She recognizes that many people are already connected internationally on an individual level, but not as a broader community. This could help to fuel future collaborations and to have a more uniform voice as a community. So, if you as a community member have concrete ideas on how to approach this, we are very happy to hear about them!

Overall, we are a very well-organised and strong community, which we should try to keep as strong as it is. It is the committee's responsibility to facilitate this and everyone can contribute. **We encourage all Dutch biophysicists to reach out to us** if you have anything you would like to share, ranging from positive to negative things, and from small to big. Even if you think your comment is too small or irrelevant, it may be more relevant than you think, so don't let that stop you from getting in touch! **Communication with you all, the community, is vital for us to properly represent you** at the Round Table Physics and to take actions where relevant. So, join events whenever you can! It really helps the community to share your time, ideas, and work together. This makes it more relevant for everyone to be part of the community.

Physics of Life seminars



Supported by the NWO Physics of Life Roundtable, the Physics of Life Community met in Utrecht in June. Our keynote speaker was **Seppe Kuehn from the University of Chicago**, who presented his group's work on simple approaches to understand metabolic communities. From our local community, Louise Jawerth (LEI) discussed two different ways for aging in molecular condensates. In addition, three junior group members – Philipp Savakis from Frank Bruggeman/Bas Teusink's groups (VU), Janni Harju from Chase Broedersz's group (UvA) and Arthur Hernandez from Luca Giomi's group (LEI) – presented their work. As usual, there was an informal lunch with the attending PIs before the talk and a borrel with everyone after the talk.

The next meeting of the Physics of Life Community is set for **Fri Nov 28 in Amsterdam**, organized by Florian Berger, Iona Ilie and Udo Sen, who joined the organizing team as Marianne Bauer rotated off. The keynote speaker will be **Sonja Contera from Oxford**.

NWO Biophysics & annual PoL group leader meeting: last chance to register



Last chance to register and submit an abstract for an oral presentation, demo abstract or poster!

NWO Biophysics 2025 will take place at NH Koningshof Veldhoven on 6 & 7 October. Expect an exciting programme filled with various renowned speakers, interactive sessions and plenty of networking opportunities with other biophysicists. Please visit the website for information on the keynote and plenary speakers. <https://www.nwobiophysics.nl/>

Would you also like to contribute to NWO Biophysics? The deadline for poster abstract submissions is **4 September**. More details: <https://www.nwobiophysics.nl/abstracts>.

Group leader session at NWO Biophysics: Monday 6 October 16:50 in the Baroniezaal

The NWO research community physics of life will inform you about their role of our committee within NWO and what we have recently achieved.

This years' session will focus on the current situation for biophysicists in The Netherlands and what we as biophysicists bring to society and what opportunities are ahead of us or can be created. To this extent we will discuss with Petra Schwille and Gijsje Koenderink on what they have achieved for the SynCell community and about their ambitions. We will also get more information about the bèta in bestuur en beleid (BiBB) initiative by Liedewij Laan and we will hear more about the [Nationale Technologiestrategie](#) and the Actieagenda relevant for the POL community: Biomolecular & Cell Technologies.

As always, there will be plenty of room to get to know your fellow group leaders active in the PoL field, with a special emphasis on introducing new members of the community. More info: www.nwobiophysics.nl/pol

We hope to see many of you there to connect with us.

Physics of life calendar <https://nwobiophysics.nl/calendar>



Help your fellow biophysicists to be aware of the interesting conferences available.

Submit information on conferences, symposia, workshops, meetings, colloquiums etc. via <https://nwobiophysics.nl/calendar>

The picture is a screenshot of the longlist of calendar items listed on our website.

SynCell2025  (Stanford, US)	9 - 11 September 2025	International conference on engineering synthetic cells and organelles
Physics of Adaptation & Decision Making in Biology  (Amsterdam)	16 September 2025	Mini-symposium at Science Park Amsterdam - Eulerzaal CWI.
CGTM 2025  (Ljubljana, Slovenia)	22-25 September 2025	Workshop "Coarse-graining Tissue Mechanics"
The 3rd Dutch Structural Biology Meeting  (Delft)	26 September 2025	It aims to bring together scientists in the Netherlands who are interested in structural biology (PhD, Postdoc and PI level), to showcase their research, discuss opportunities and challenges, and to enable the exchange of knowledge and ideas.
Biomembrane Days 2025  (Berlin, DE)	29 September - 1 October 2025	A triannual workshop that highlights recent advances in understanding the morphology and molecular organization of biomimetic and biological membranes.
CellMech 2025  (Leuven, BE)	30 September - 3 October 2025	CellMech brings together physicists, biologists, engineers, and mathematicians to discuss the advancements in cellular mechanobiology.
NWO Biophysics (Veldhoven, NL)	6 - 7 October 2025	NWO Biophysics is the annual Dutch conference on physics of life
CELL PHYSICS 2025  (Saarbrücken, DE)	7 - 9 October 2025	International meeting intended to be an interdisciplinary platform for scientific exchange between participants from cell biology and biophysics, both represented in roughly equal numbers.
Emerging Trends in Physics of the Cell  (Munich, DE)	15 - 18 October 2025	Conference: Emerging Trends in Physics of the Cell
Dutch Microscopy Days  (Groningen)	27, 28 October 2025	The first day will focus on electron microscopy. The second day on light microscopy.
Cell Bio 2025  (Philadelphia, US)	6 - 10 December 2025	The joint meeting of ASCB and EMBO, where the cell biology community gathers to share science, support one another, and spark new ideas.

Projects granted by NWO



The projects listed are the projects granted by NWO that have a connection with Physics of Life. Please follow the links for full granting information.

Veni

[Read more >](#)

From design to function: DNA origami nanomachines for protein folding

Eva Bertosin (UU)

DNA nanotechnology is emerging as a powerful technique for building increasingly complex structures with any desired shape, tuneable dynamics, and switchable conformations. I will employ DNA origami to develop nanostructures that mimic the function of the eukaryotic TRiC chaperonin system, an intricately regulated protein complex that folds client proteins. This bottom-up engineering approach allows full control over structural conformations, which cannot be achieved with current protein design methodologies. My project will not only yield deep insights into protein folding and chaperone function but also serve as a stepping stone toward designing nanomachines that carry out novel complex functions.

Cracking the histone code with nanopores

Xiuqi Chen (TUD)

Our DNA contains instructions for life, but these instructions are influenced by special proteins called histones. Like switches, histones can be modified to turn genes on or off. Understanding these modifications is crucial for treating diseases like cancer, but current methods can't decode the effects of the complex histone modifications on our genes. I will develop a groundbreaking novel technology using tiny molecular sensors called nanopores that can simultaneously read both histone modifications and their associated DNA sequences. This new method will help scientists better understand how genes are regulated and potentially lead to more effective treatments for various diseases.

Open Competition XS

[Read more >](#)

Cracking the histone code with single-molecule nanopore sequencing

Xiuqi Chen (TUD)

Cellular DNA is wrapped around histone proteins with chemical modifications that are crucial for gene expression. It is extremely difficult to detect multiple co-existing modifications while pinpointing their genomic location. Existing methods either measure the DNA or the histone modifications separately. I aim to develop a method that, for the first time, can measure both simultaneously. I will covalently link histone proteins to the DNA and use nanopores to sequence DNA and histone modifications simultaneously at the single-molecule level! This innovative approach will provide unprecedented insights into histone modifications and gene expression, with major impact to human biology and medicine.

SF-TA: Towards scattering-free measurements in transient absorption spectroscopy

Volha Chukhutsina (VU)

Optical spectroscopy has been indispensable to the progress of photobiology and photophysics. Its most powerful implementation is called transient absorption spectroscopy (TA). TA is a technique for studying ultrafast photophysical and photochemical processes. However, TA measurements are rarely performed on highly scattering samples such as plant leaves, intact algae or protein crystals. As a result, many questions related to photobiology and photosynthesis that can only be studied in vivo remain largely unaddressed. The aim of this project is to develop a scatter-free TA setup (SF-TA) that is highly suitable for measurements on the most relevant photosynthetic and photobiological samples

Life under tension: relaxing membrane stress with a flippase DNA nanomachine

Cees Dekker (TUD)

Recently, scientists embarked on an incredibly ambitious goal: to build a living synthetic cell from the bottom up. Such a synthetic cell must be able to grow over time by incorporating new phospholipid molecules into its cell membrane. When administering lipids, they are however asymmetrically incorporated into one leaflet of the membrane, which leads to a stalling of growth and rupturing of the cells. Here, we propose to include a DNA-origami 'flippase' artificial enzyme that can flip lipids across the bilayer leaflets, enabling unlimited growth of mechanically stable synthetic cells, thus overcoming one of the major bottlenecks towards synthetic cells.

Screen for proteins that regulate variability in cancer cells

Maike Hansen (RU)

Despite advances in treatment, cancer continues to claim millions of lives globally, largely due to relapse after therapy. A key contributor to this relapse is the ability of cancer cells to enter a drug tolerant state that facilitates the subsequent emergence of resistance. Drug tolerance is caused by underlying variations in gene activity, also known as gene expression variability. If and how we can target variability remains unknown. This project will systematically identify protein regulators that influence gene expression variability. By pinpointing these master regulators, we will uncover new ways to block early stages of drug resistance in cancer.

Surface warming, salinity gradients, and microbial self-organization in marine systems

Uddalok Sen (WUR)

Rising surface water temperatures due to climate change are accelerating evaporation from marine environments. This intensifies the natural salinity gradient typically present in oceanic waters, with potentially dramatic effects on microbial ecosystems. One key process likely to be affected is bioconvection—a fluid motion driven by upward-swimming microalgae that influences nutrient distribution and microbial spatial organization. This project investigates how evaporation-enhanced salinity gradients alter bioconvection patterns in photosynthetic microalgal communities. By combining high-resolution imaging with mathematical modelling, we aim to uncover new insights into how surface warming may reshape microbial dynamics in marine ecosystems on both the micro- and macro-scales.

Open Competition M

[Read more >](#)

SuperAssembly: Tunable high-speed self-assembly at the super-resolution

Uddalok Sen (WUR)

The evaporation of a fluid volume containing dispersed colloidal particles can be harnessed to develop bottom-up materials in a process known as evaporation-induced self-assembly. While most prior research has focused on the final structure of the self-assembled particles in multicomponent systems, how the particles arrive at the interface remains largely unexplored. Through high-speed super-resolution microscopy experiments, this project aims to unravel the self-assembly dynamics in a unidirectionally evaporating binary liquid containing a binary colloidal dispersion. The findings of this project will provide fundamental mechanistic insights into tunable colloidal self-assembly by modulating the liquid composition, particle shape, and particle interactions.

How nanoplastics change proteins

Sander Woutersen (UvA)

Plastic nanoparticles are everywhere, including in our own bodies, and there is increasing evidence that these nanoparticles affect our health. The biological effects of nanoparticles are ultimately due to their interaction with proteins, the molecules that catalyze all reactions in the cell. However, whereas intensive research is being done on the bio-logical effects of plastic nanoparticles, very little is known about the underlying nanoplastic-protein interactions that give rise to these biological effects. In this project, we use advanced spectroscopy methods investigate how plastic nanoparticles change the structure and aggregation behavior of proteins.

KIC

Demand by Consortia – S [Read more >](#)

ComplexJets: Physicochemical complexities encountered during jetting in piezo acoustic inkjet printing

Uddalok Sen (WUR)

Co-applicant: Detlef Lohse (UT)

Co-funder: Dr Marjolein v.d. Linden (Canon Production Printing)

ComplexJets is a research program that studies the inkjet printing process of complex multicomponent inks in a consortium consisting of Wageningen University and Research, University of Twente, and Canon Production Printing. The scientific goal of the ComplexJets program is to gain more insight into the inkjet printing process of complex multicomponent inks. Special attention will be paid towards sustainable and environmentally friendly water-based inks, and inks with complex compositions (colloidal particles, polymers, surfactants), in which the physicochemical hydrodynamics are essential. The findings will greatly improve and expand the functionality of inkjet printing to meet the requirements of future.

Future Optical Broadband Systems research programme [Read more >](#)

Next generation detectors and light sources for imaging and spectroscopy (NextDeLights)

Jeroen Kalkman (TUD)

Co-applicants: Steven van den Berg (HHS), Arjan Lock (HHS), Joke Korevaar (HHS), Renate van den Bos (Erasmus MC)

In this project, researchers will work together with industry to improve light sources and detectors for the development of new devices for spectral and optical coherence tomography imaging. The developed devices will be applied in the agro-food, semiconductor and in particular to healthcare, where they will contribute to, respectively, improving food yield, better quality control, and early skin cancer detection and diagnosis.

NWO Domain Applied and Engineering Sciences

Open Technology Programme [Read more >](#)

Degrading gradients

Ruud Weusthuis (WUR)

Co-applicant(s): Mark Bisschops (WUR), Max Fürst (RUG), Cees Haringa (TUD)

Sugar and oxygen gradients frequently occur in industrial-scale bioreactors and commonly have a detrimental effect on yield, productivity, and product quality. Reducing or even preventing the occurrence of these gradients is therefore of eminent importance but attempts to realize this by improving the bioreactors have so far only been partially successful. We are proposing a completely new approach to solve this challenge by changing the microorganisms, not the bioreactor.

Bio sketches

This publication is a combined publication with the mini-profiles of the Tych lab blog: <https://www.ktsinglemolecule.com/blog>
Do you want to introduce yourself? Contact us via [email](#).

Lisa Tran (UU)



Job title: Assistant professor (UD1) at the Debye Institute for Nanomaterials Science, Utrecht University

Subject area: Bioinspired materials, soft matter physics by training

How did you get into science?

When I was younger, I didn't even have the notion of science as a career. My family immigrated to the United States from Vietnam and worked in manual labor or service-oriented jobs. My mother has always wanted to be a teacher though, so she instilled in me a love of studying. I had sprawling interests when I began my bachelor studies and, after a year of exploring, ended up pursuing a double degree in physics and philosophy. I appreciated the deductive reasoning involved in both studies. It was only when I started a research project in the area of fluid dynamics (fiber sedimentation) that something clicked – building and troubleshooting experimental setups, collecting and analyzing data can be great fun and gratifying work. My advisor then suggested that I apply to physics graduate programs, and the rest followed from there. That I am now an assistant professor of physics is due in large part to support from my family and mentors.

Where else have you worked/studied?

I did my bachelors at New York University in New York City, obtained my PhD at the University of Pennsylvania in Philadelphia, and did my postdoc at Columbia University (all within a ~150 km radius of where I grew up). It is a fun adventure to now be across the Atlantic and living in the Netherlands.

What are your hobbies/what do you do for fun?

I became a mom earlier this year, so my baby has been keeping me quite busy! I enjoy going on walks with my daughter in the greenery around Utrecht.

Could you share some tips and tricks for someone thinking about pursuing a career in science in academia?

In my opinion, the most important trait of a scientist/academic is knowing how to reframe failure. Science is built on “failure” (e.g. trial and error, null results are valuable, etc.). Given how tight the academic market job is, you have to remain persistent. Viewing “setbacks” as valuable experiences helps with this. But what is also important is to be open to people and to seek out meaningful connections and collaborations. You build your scientific network this way --- you end up learning and seeing things in a new way (advancing your science), but your collaborators can also become your champions/mentors. They can help you to identify opportunities and to navigate grant/job applications. As they say, science is a team effort.

Who are your scientific role models?

My past mentors/advisors have really shaped how I view science. From them, I learned that the foundation for good science is a strong community built on trust, mutual respect, and having fun. Because of my positive experiences during my PhD, I now strive to foster a welcoming environment within my own group by being supportive and generous.

What does your working area (desk, office) look like and what does it say about you?

I am a bit of a neat freak, but I am also a maximalist when it comes to décor. My desk itself is clean and clear of clutter. Next to my desk, I have frames of preserved, structurally colored insects that I show to visitors and students when I explain my group's research, as well as a large tree that I inherited from the previous occupant, a retired biophysics professor. On the walls, I have pictures of our microscopy data, pictures of the group from our outings, and also some inspiring images from the works of Yves Bouligand and Francoise Livolant. They made beautiful hand-drawn schematics about the organization of condensed biomacromolecular systems – a big source of inspiration for our work.



Contact

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Do you have a news flash or research highlight interesting for the Dutch PoL community that you would like to add to the PoL newsletter? Send us an email.

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