BOOK OF ABSTRACTS

Young Algaeneers Symposium

MAY 26-29 | WAGENINGEN

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Young Algaeeners Symposium 2026

Contents

Welcome Message	3
Committee	5
Management and Advisors	11
Speakers	12
Working Group Mentors	18
Programme	24
Workshops	29
Abstracts Young Algaeener Talks	31
Abstracts Poster Presentations	78
Sponsors	132

Welcome Message

Dear Algaeneers,

Welcome to YAS26, the **10th anniversary edition** of the **Young Algaeneers Symposium (YAS)!**

From the 26th to the 29th of May 2026, the next generation of Algaeneers is gathering at Wageningen University and Research (WUR), a hub of algae research and the place where the YAS originated in 2012!

The first YAS team was a group of students from WUR, motivated by making a conference **by and for Early-Career Researchers and Entrepreneurs in the Algae field**. They created an innovative format with room for lab experiences, discussions and new ideas. Even more than that, they also sought to amplify the voices of young scientists at the forefront of algae research.

We are incredibly grateful that now for the 10th time this mission has been carried onwards by generations of passionate Young Algaeneers, who are supported by **the European Algae Biomass Association (EABA).**



First YAS committee 2012 in Wageningen with the first Chair, Lenny de Jaeger (far right)

For our anniversary edition, let's have a look at how YAS evolved

YAS originated in **2012** in **Wageningen** and a month later there was a supporting event in Almería. The next YAS was held in **2014** in **Montpellier** by INRA, CNRS, UPMC, and Inria. In **2016** it was held in **Malta** and was organized by the Marie Skłodowska-Curie Innovative Training Network 2020. In Malta the concept of steering groups was first introduced. Even a research paper came out of this edition in Algal Research! YAS**2018** took place in **Oban** organized by SAMS, in cooperation with Marie Curie ITN.

After the 2018 edition, the concept of YAS lay dormant until Jean-Paul Cadoret and Vítor Verdelho from the **European Algae Biomass Association** (EABA) revived YAS as a branch of the EABA. Back then a formal place for young people was missing in the EABA and there was a need to formalize a network of young algaeneers. Thus, the YAS concept was merged with the AlgaEurope "Young Algaeneers Corner", which gave Young Algaeneers the chance to give flashtalks. All this should serve to establish the next generation of Algae Researchers/Entrepreneurs and connect the young with the senior generation to ensure the flow of tools, knowledge and experience. Young Algaeneers should be given the chance to voice their opinions and influence the direction of the field.

Thus, in **2021** and **2022**, YAS came back as part of the EABA in an **online** version due to the pandemic. In **2023** it took place in **Faro**, in **2024** in **Vannes** and in **2025** in **Almería** - breaking with the biannual tradition of YAS and bringing it back every year, encouraged by great interest and passion from the YAS community!

In this anniversary edition we want to celebrate what has been achieved in establishing an inclusive and supportive community for everyone aspiring to delve deeper into the world of algae. We also want to look ahead to how we can serve and connect Young Algaeneers better, facilitate exchange between generations of researchers and entrepreneurs and make our voice heard more clearly in the community and beyond.

"*To me personally, YAS was the event where I could build my network of peers. Not future bosses, but colleagues! What I remember about that event, was the power of the student driven conference. It was extremely dynamic and honest. Basically everyone was excited to "teach" about their project, not only dazzle with the results. I liked also the vulnerability of participants openly sharing how their approaches are failing and we could collectively try to fix them. I'm looking forward to the event and I hope you will be having as much fun organising this event as we did ten years ago*!" Anna Matuszyńska - YAS2016

What awaits you at YAS26?

This year, YAS26 is packed with fresh formats and exciting activities designed to inspire, connect, and challenge the next generation of algae innovators.

The core of the conference are the Young Algaeneer Talks, where our participants get the chance to take the stage and present their research in a concise 5 minute talk. We are also proud to also welcome 5 renowned experts from across the algae sector as invited speakers, who will share cutting-edge insights and perspectives on biotechnology, sustainability, and future trends: Maria Barbosa (WUR), Vincent Doumeizel (UN), Alexander Mathys (ETH Zurich), Julie Zedler (Friedrich Schiller University Jena) and Susan Løvstad Holdt (DTU) - welcome and thank you for passing on your experience to the next generation!

We are also bringing back the popular Working Groups, however with a twist: In this edition we call them “Case-Study groups”, since real-world case-studies have been provided by leaders from Science and Industry. They are conference participants, YAS-Sponsors and colleagues from WUR as well as leaders from local algae companies who shared our vision of sparking new ideas by bringing old challenges and new minds together! Many thanks for your dedication and welcome!

We also bring the 3rd edition of the Innovation Competition, in which entrepreneurial algaeneers that passed an online pre-selection are pitching their business ideas to an audience of peers and experts. Food Luck to AlgaLipid, FISHFIT and Algrid!

During YAS26 we are offering a full field-day, complete with a visit to AlgaePARC and 2 consecutive hands on workshops. We are grateful that the Young Algaeneers can choose from six amazing workshops, covering innovative, culinary, artistic and entrepreneurial themes: “Algae Printing Lab”, “Storytelling”, “Algae Mixology”, “Mycopunk”, “Change Agency Skills for Algaepreneurs” and “Digital Tools for Algae Innovation”. For those who can’t get enough of real-world applications, we also have a trip to Lgem planned after the conference!

As part of our anniversary celebrations, we are pleased to welcome five YAS-Alumni who will look into the past and future of YAS and the Algae sector together with Rene Wijffels from WUR, who accompanied the very first YAS edition at WUR back in 2012.

To add to our anniversary package, we have introduced the YAS anniversary tickets, which enables Bachelor and Master students to join the YAS talks at a strongly reduced price. This makes YAS more inclusive and gets the even younger generation on board as well!

Beyond the science, YAS26 is about community, experience and celebrating our anniversary! We will meet up for a Pubquiz and enjoy a Storytelling night, both led by Emma Holmes, a local comedian and storyteller. Our anniversary dinner will be celebrated in Slot Doddendael, a beautiful Dutch Castle and of course we will also have a cake!

As we will learn in our Storytelling and “Change Agency Skills for Algaepreneurs” workshops, transporting the passion and fascination with algae into the everyday life of people is vital to push the algae sector forward. The part that Art plays in this endeavor can’t be overstated, so we are especially happy that a local Artist, Marina Stavrakaki, has designed beautiful algae illustrations for the YAS anniversary. We are also thrilled to be joined by Wanda von Bremen, an internationally acclaimed environmental photographer and artist, who will document YAS in connection with her longstanding work on algae and kelp.

We are incredibly proud and grateful for our collaboration with Morgan Rae from L’eautelier. Together with the Hotel Wander, she will open her Seaweed Suite™ to the public for the first time! The Seaweed Suite™ is a traveling concept for a sustainable seaweed-based hotel sector that aims at no less than transforming the hospitality sector and our travel-footprint. On top of a Seaweed Suite™ tour, Young Algaeneers will also make their own prints with algae-based pigments in the “Algae Printing Lab”. As an anniversary extra, we are grateful for Morgan sourcing special seaweed-based T-shirts that participants could purchase and can print during the workshop.

We are extremely grateful to all our wonderful sponsors, who not only make YAS possible but even went the extra mile to provide case-studies to YAS! Special thanks go to our Gold-Sponsors, Schott and Algreen!

We also warmly thank the Chair for Bioprocess Engineering (WUR) for their support, especially Prof. Maria Barbosa who accompanied us during the process of organizing YAS.

Last but not least - without the relentless support from the EABA-team this conference would not have been possible!

We wish you all an enjoyable and enriching conference. Get ready for many more fun surprises, from algae snacks to YAS birthday specials! Let's forge connections that stay with us and create new visions for the future of the algae sector together!

Warmly,

The YAS 2026 Organizing Committee



Committee



Chair, Team-Coordination, Program

Elisa Werner

Doctoral Researcher in cyanobacterial biotechnologies, University of Turku, Finland. Develops bioengineering strategies for the heterocystous N-fixing cyanobacterium Anabaena



Vice-Chair, Team-Coordination, Program, Registrations

Sheyma Khemiri

Postdoctoral Researcher at LEAF–Linking Landscape, Environment, Agriculture and Food Research Center (ISA, University of Lisbon), co-leading the AltProtein sub-project within the VIIAFOOD agenda and developing microalgae-based food solutions.



Local-team lead, Sponsoring, Logistics, Social Program

Oscar Elizondo Sada

Doctoral Researcher in Biotechnology Engineering at Wageningen University & Research (Bioprocess Engineering group), developing enzyme-assisted biorefinery processes for red seaweed valorisation through downstream processing and innovative enzymatic technologies.



Logistics, Program, Social Program

Inge Braak

Doctoral Researcher in Biorefinery Processes at Wageningen University & Research (Bioprocess Engineering group), developing sustainable biorefinery strategies to produce high-value compounds from carbon-capturing cyanobacteria within the CYANOVA project.



Logistics, Budget

Luca Buscaglia

Doctoral Researcher in large-scale photobioreactors at Wageningen University & Research (Bioprocess Engineering group), focusing on the monitoring, automation, and optimisation of large-scale PBR systems within the LOCALITY project.



Social Media, Program

Gloria Sciuto

Doctoral Researcher in Agri-Food Biotechnology at the University of Catania, focusing on the valorisation of agri-food by-products through microalgal cultivation to obtain high-value biomass for food, feed, and bioactive compound applications.



Logistics, Innovation Competition

Áureo Cutillas Farray

Doctoral Researcher in Microalgae Cell Factories at Wageningen University & Research (Bioprocess Engineering group), engineering synthetic CO_2 fixation pathways in *Nannochloropsis oceanica* to support sustainable solar fuel production.



Innovation Competition

Ben Schwedhelm

Founder and CEO of MySpirulina, where he developed the first smart Spirulina windowsill farm, making it possible to grow and enjoy fresh Spirulina at home while promoting sustainable and nutritious food solutions.

Advisors



Arianna Rizzo

PhD, CSO Blue2, EABA



Daniel Figueiredo

PhD student, GreenCoLab



Serena Fasiello

Microalgae & Seaweed Technician, Groote Aqua Aboriginal Corporation

EABA Advisors



Christie de Vrij
Managing Director and Owner of Building on Events since 2009, in the Netherlands. She organized international events, including EABA conferences, events and webinars. In YAS, she manages the participant registrations.



Lisandra Meinerz
Assistant Manager EABA and Production Manager at A4F. Experienced with microa production in laboratory and outdoor industrial scale. In YAS, she takes care of accountability.



Jean-Paul Cadoret
EABA Vice President & Algama Food's Chief Scientific Officer. He has followed YAS since its beginning in 2012 and he took part in many following editions as speaker and working group mentor.



Vitor Verdelho

EABA General Manager. After a long experience in the field of algae and particularly in novel food. He has recently found Cell4Food, a deep-tech startup whose goal is to develop cellular agriculture technologies to produce food based on cells from fish, molluscs and crustaceans. He shared his experience with the young algaeneers, bringing innovative ideas.



Carlos Unamunzaga

EABA President and General Manager of Fitoplancton Marino, S.L. With extensive experience in the algae sector and microalgae biotechnology, he has contributed to the development of innovative algae-based products and applications. Through his work within both industry and EABA, he actively supports the growth, visibility, and collaboration of the European algae community.

DEVELOPMENT OF GELATIN-*LAMINARIALES SP.* NANOFIBERS INCORPORATED WITH *HAEMATOCCUS PLUVIALIS* ASTAXANTHIN

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Key words: *Haematococcus pluvialis; astaxanthin; laminariales sp.; nanoencapsılation; electrospinning*

Kelp powder has important nutritional value with promising sources of bioactives and minerals [1]. Astaxanthin, is one of the most potent natural antioxidants, requires effective encapsulation because of its susceptibility to degradation [2]. In this study, gelatin was primarily used as a biopolymer carrier for the nanoencapsulation of novel hydrophilic astaxanthin powder obtained from *Haematococcus pluvialis*. Gelatin was combined with kelp (*Laminariales sp.*) extract solution which was filtered through 1:1 acetic acid/water solvent [3]. Two formulations were prepared in the process: a control-GLK (20% wt/v gelatin with kelp extract solution) and a second formulation (named GLKA) using the same base enriched with 0.1% wt/v hydrophilic astaxanthin. A slight pH increase (from 2.74 ± 0.01 to 2.78 ± 0.01) and total dissolved solid fraction decrease (2.33 ± 0.02 to 2.27 ± 0.01 g/L) obtained after astaxanthin addition. Significant increase in ppm dissolved oxygen from 2.96 ± 0.38 to 3.68 ± 0.11 mg/L is attributed to prevention of oxygen consumption by scavenging reactive oxygen species, causing more oxygen in dissolved form. The observed electrical conductivity values (GLK: 4.54 ± 0.06; GLKA: 4.57 ± 0.10 mS/cm) are associated to ionic functional groups generated through intermolecular interactions among kelp, and facilitation ion transport by astaxanthin. This trend was validated with the ionic distribution of Na, Mg, S, Cl, K in the fiber matrix by Energy Dispersive Spectroscopy (EDS) elemental mapping as shown in Figure 1. Average nanofiber diameters measured from Scanning Electron Microscopy (SEM) images and astaxanthin affected morphology, evidenced by decreased fiber diameters and the presence of new capsule-like structures.

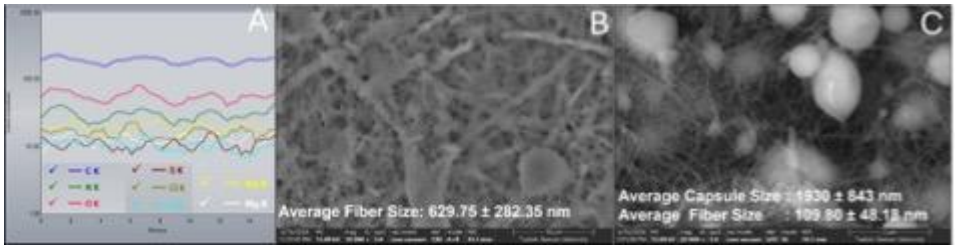


Figure 1: Elemental mapping of GLK (A), SEM images of GLK (B), GLKA (C) nanofibers.

C=O keto group and C–H out-of-plane bendings confirmed carotenoid structural integrity within the fibers by Fourier transform infrared spectroscopy (FTIR). A mean water contact angle of 37.65° (GLK) and 23.03° (GLKA) indicating overall hydrophilicity, and increased surface wettability upon astaxanthin incorporation. Results revealed that developed biofilm nanomaterial could be utilized as an edible coating for seafood products to delay lipid oxidation and extend shelf life.

References

[1] Kim, S.K., Bhatnagar, I. Physical, chemical, and biological properties of wonder kelp—Laminaria. Advances in food and nutrition research, 64 (2011) 85-96.

[2] Panagiotakopoulos, I. Nasopoulou, C. Extraction methods, encapsulation techniques, and health benefits of astaxanthin. Sustainability, 16 (2024) 10859.

[3] Cetinkaya, T. Bildik, F. Altay, F. Ceylan, Z. Gelatin nanofibers with black elderberry, Au nanoparticles and SnO2 as intelligent packaging layer used for monitoring freshness of Hake fish. Food Chemistry, 437 (2024) 137843.