







Project partners:

- 1. A4F, Algafuel, SA (A4F)
- 2. Mikrobioloogicky Ustav AV CR V.V.I (IMIC)
- Forfarmers Corporate Services BV (FF)
- Instituto de Biologia Experimental e Tecnológica (IBET)
- International Flavors and Fragrances IFF (Nederland) BV (IFF)
- Laboratorio Nacional de Energia e Geologia I.P. (LNEG)
- 7. Phycom BV (PHY)
- Upfield Research and Development B.V. (UPF)

MULTI-STR3AM

A sustainable multi-strain, multi-method, multiproduct microalgae biorefinery integrating industrial side streams to create high-value products for food, feed and fragrance

BBI-2019-SO1-D2 - Produce components for various materials, including for food and feed, from microalgae

Collaborative project

Start date of the project: 01/05/2020

Duration: 60 months

Deliverable 6.15

Report on participation in knowledgesharing events for year 4

WP	6	Communication and dissemination
Task	6.4	Organisation of and participation in knowledge sharing events (M1-M60)

Dissemination level ¹	PU	Due delivery date	30/04/2024
Nature ²	R	Actual delivery date	30/04/2024

Lead beneficiary	A4F
Contributing beneficiaries	IMIC, FF, IBET, IFF NL, LNEG, PHY, UpF

¹ Dissemination level: **PU** = Public, **CO** =/ Confidential, only for members of the consortium (including the BBI), **CI** =Classified, information as referred to in Commission Decision 2001/844/EC.

² Nature of the deliverable: **R**: Document, report (excluding the periodic and final reports), **DEM**: Demonstrator, pilot, prototype, plan designs, **DEC**: Websites, patents filing, press & media actions, videos, etc., **OTHER**: Software, technical diagram, etc.

WP 6:	A4F	Author
	A4F	Approval by WP leader
	A4F	Approval by coordinator

Document Version	Date	Partner	Comments ³
V1	23/03/2024	Mariana Doria/ A4F	Creation
V2	24/03/2024	Mariana Doria/ A4F	Modification
V3	30/04/2024	Mariana Doria/ A4F	Final

³ Creation, modification, final version for evaluation, revised version following evaluation, final

Deliverable abstract

This deliverable refers to all knowledge-sharing events, such as networking events, industry salons and conferences, for year 4, to disseminate results and gain relevant knowledge.

This deliverable is part of Task 6.4, on the "Organisation of and participation in knowledge sharing events". The goal is twofold: to promote the project results and contribute to the awareness of potential of microalgae as a source of food and feed ingredients as well as high-value compounds.

The third year (M37-M48) was defined by the dissemination plan as the first part of the dissemination development phase. The main objective was to increase visibility, mostly through communication activities: conferences, articles, press releases, website, and other social media; with the participation of all partners.

The consortium was able to take part in 44 dissemination and communication activities during this period.

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1. Dissemination and Communication Activities

The MULTI-STR3AM consortium is concerned to give fair publicity to the project and its innovative applications, in favour of the dissemination of scientific and technological knowledge and communicate with policy makers and consumers about characteristics and advantages of these new products.

The deliveries on Dissemination Plan (D6.1, D6.8, D6.12, D6.17) and Communication Plan (D6.2, D6.9, D6.13, D6.18) detail the overall goals of these activities, important stakeholders, and key messages to address, besides the performance indicators (KPIs).

Objectives of the fourth year

The fourth year (M37-M48) was defined by the dissemination development phase. This phase of the dissemination plan has as main goal to sustain and increase visibility and engagement of the target groups defined. This phase has been implemented by each partner and the consortium alike, investing on disseminating the project's results in conferences, articles, press releases, website, and social media.

In terms of dissemination, the project partners will benefit from the awareness raised through communication activities to identify any low hanging fruits that can later benefit dissemination efforts.

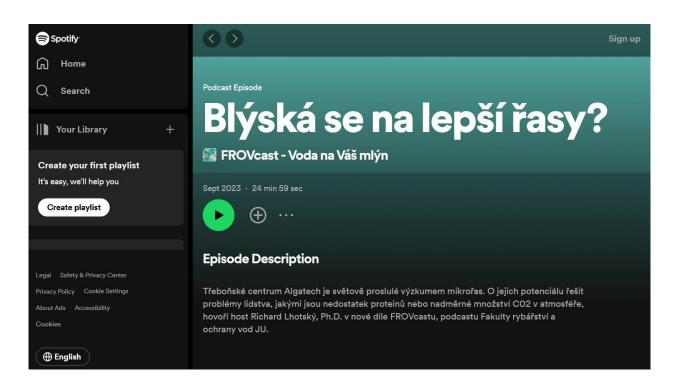
2. Activities carried out for the period M37-M48 (May 2023-April 2024)

In total, 44 activities were identified by the MULTI-STR3AM consortium during May 2023 and April 2024. In this section, all these activities will be briefly described according to the different means of communication and dissemination.

Number of persons reached was estimated per each activity, and classified among scientific community, industry representatives, general public, policy makers, media, investors and customers.

2.1. Communication Campaign (e.g. Radio, TV)

2.1.1. Podcast of the Faculty of fishery and water protection, Southbohemian university. Topic – microalgae



Partner	Date	Online/ Offline	Means of verification, References & Links					
IMIC	30 September 2023	Online	https://o	https://open.spotify.com/episode/30XZgJyr5dRTYgoeDOliwz				
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached (estimated)	100	10	50	10	15	5	5	195

2.1.2. Podcast of the Academy of Sciences of the Czech Republic, including presentation of bakery products with microalgae



11. 01. 2024

Skrytěnky, zlativky, krásnoočka nebo třeba parožnatky – mnohé z řas mají poetické názvy. Stanou se někdy důležitou součástí našeho jídelníčku? Nebo už jí jsou, aniž bychom to tušili? Poslechněte si, jak se řasy dají využít v kuchyni, medicíně nebo průmyslu. Richarda Lhotského z <u>Centra Algatech</u> při <u>Mikrobiologickém ústavu AV ČR</u> jsme se při příležitosti <u>Týdne Akademie věd</u> zeptali, jak se řasy zkoumají a jak se v tomto oboru daří propojovat vědu a byznys.

Partner	Date	Online/ Offline	Means of verification, References & Links							
IMIC	7 November 2023	Online		https://www.avcr.cz/cs/pro-verejnost/aktuality/PODCAST-LIVE-Rasy-na-taliriRichard-Lhotsky-predstavuje-vyzkum-mikroras-v-praxi/						
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total		
Persons reached (estimated)	100	10	50	10	15	5	5	195		

2.2. Exhibition

2.2.1. Future of Protein Production



Partner	Date	Online/ Offline		Means o	of verification	, References &	& Links	
PHY	11 October 2023	Offline		https://wv	vw.futureofpi	roteinproducti	ion.com/	
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached (estimated, given the number of attendees)	100	250	10	50	20	20	50	500

2.2.2. Food Ingredient Europe; including a stand



Partner	Date	Online/ Offline		Means o	of verification	n, References 8	& Links	
PHY	28 November 2023	Offline		<u>https</u>	:://www.figlo	bal.com/fieur	<u>ope</u>	
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached (estimated, given the number of attendees)		1400	24000					25400

2.3. Organisation of a Workshop

2.3.1. Workshop for Princeton University (including presentation)



Opening lecture about centre and ongoing projects.

Partner	Date	Online/ Offline		Means of verification, References & Links						
IMIC	6 June 2023	Offline			N)				
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total		
Persons reached	20							20		

2.3.2. Talent Academy for southbohemian students

Most successful collaboration with a district government. In 2023 most talented secondary school students chosen by natural sciences teachers tried work in our Institute and Southbohemian University. One of the tasks was to analyse toxins from poppy seed sweets, algal bloom and toxic plant, other group worked in microbiology lab, others did picture analysis of dead and living algae cells after staining.



Nejnadanější studenti ze všech gymnázií v kraji se letos účastní dalšího kola TalentAkademie Jihočeských nadějí. Aktuální běh je zaměřený především na přírodní vědy. Studenti během několika dní absolvují exkurze na Fakultu zemědělskou a technologickou a Fakultu rybářství a ochrany vod v Českých Budějovicích, užijí si debatu s předním českým biochemikem Liborem Grubhofferem nebo se dozvědí více o tématu vodní stres ve světě a v Česku. Mezi vrcholy programu bude patřit beseda s českým egyptologem a archeologem Miroslavem Bártou. Akademii zpestří svou přednáškou i známý novinář a vysokoškolský učitel Václav Moravec.



Talentovaní studenti v pondělí zavítali na pracoviště Centra řasových biotechnologií v Třeboni. | Vídeo: Jana Urhanová





Partner	Date	Online/ Offline	Means of verification, References & Links						
IMIC	12 June 2023	Offline	https://jir	https://jindrichohradecky.denik.cz/zpravy_region/nadani-studenti-nahledli-pod- ruce-trebonskym-vedcum-zahrali-si-i-na-detektivy- 20.html?fbclid=lwAR3tn2bPVII4F1emocgF- YSyKwwFWFwvVOXJbr4FzHijyvzcyRbjWBFiCg					
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total	
Persons reached	50							50	

2.4. Other

2.4.1. MULTI-STR3AM Newsletter #4



MULTI-STR3AM Newsletter #4

Dear subscriber,

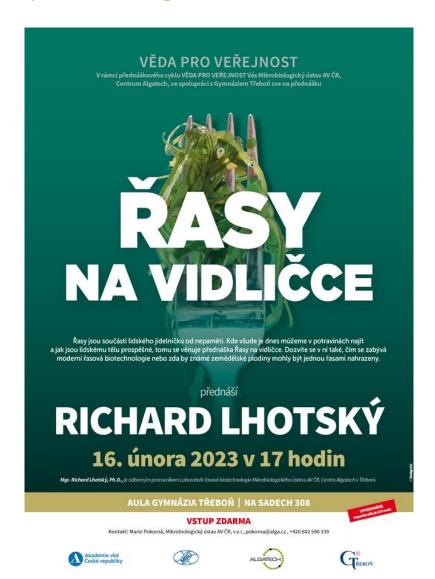
Welcome to the fourth newsletter of the MULTI-STR3AM project. We highlight the main events organised by the MULTI-STR3AM project as well as the most recent results regarding the multi-biorefinery. Scroll up to learn more about the project!





Partner	Date	Online/ Offline		Means o	of verificatior	, References 8	& Links	
A4F	6 June 2023	Online		https://www.r	multi-str3am.	com/en/press	-news?news	
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached								
(estimated, given the number of subscribers, plus visitors to the website and LinkedIn post)	150	100	100	20	20	10	40	440

2.4.2. Public presentation "algae on a fork"



Partner	Date	Online/ Offline	Means of verification, References & Links					
IMIC	16 June 2023	Offline	https://www.alga.cz/c-77-prednasky.html					
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total

Participation in activities organised jointly with other EU project(s)

2.5.1. From Ulva aquaculture to food and feed production

Organization of a roundtable on biorefinery of micro and macroalgae.

From Ulva aguaculture to food and feed production:

state-of-the-art, bottlenecks, risks and gaps



Program, Day 1 - 23rd May

09:00 Welcome

Rui Pereira & Sylvia Strauss Welcome and site safety information Bruno Sommer Ferreira (A4F Board Member) Welcome from A4F Muki Shpigel (Action Coordinator) Welcome and Cost businesses

Session 1 - Post-harvesting processes and other emerging issues

- 09:20 Alex Goldberg Progress and Challenges in Ulva bio refinery. How to scale up?
- 09:45 Jessica Adams Pilot-scale biorefining
- 10:10 Laurie Hoffman Application of Ulva spp. in packaging
- 10:35 Rosário Domingues Lipids from Ulva sp. with add value as nutrients and bioactive phytochemicals for healthy food and functional ingredients
- 11:00 DISCUSSION TIME FOR TOPIC Moderators: Anna Fricke & Alex Goldberg
- 11:30 Coffee Break

Session 2 - Round-table of MULTI-STR3AM project

- 11:50 Antonio Martínez Project CIRCALGAE
- 12:00 Cristina Matos Project MULTI-STR3AM
- 12:10 Oystein Arlov SINTEF
- 12:20 Urd G. Bak Project SEAMARK;
- 12:30 DISCUSSION TIME FOR TOPIC Moderator: Mariana Doria
- 13:15 Lunch

Session 3 - Ulva in Food

- 14:25 Alan Critchley (online) Seaweeds/ Seawheat cultivation onland via commodity to specialty phyconomy (to outer space)
- 15:10 Raquel Godinho New Food Products Development algae potential and hallenges
- 15:35 Sylvia Strauss Development of Ulva food products and their consumer acceptance
- 16:00 Anna Fricke Ulva for integrative urban farming the food4future approach
- 16:25 DISCUSSION TIME FOR TOPIC Moderators: Sylvia Strauss & Umair Ahsan
- 16:55 Coffee Break

Session 4 - Ulva in Feed

- 17:15 Jens Legarth Fermented plant protein/seaweed improves animal health
- 17:30 Muki Shpigel The use of Ulva sp. in Integrated Multi-Trophic Aquaculture systems (IMTA) An Ecological Approach for a Sustainable mariculture
- 17:45 Umair Ahsan Use of Ulvaspp. in animal diets: opportunities and challenges
- 18:00 DISCUSSION TIME FOR TOPIC Moderators: Sylvia Strauss & Umair Ahsan
- 18:30 Closing















Partner	Date	Online/ Offline		Means of verification, References & Links					
A4F	23 May 2023	Offline		<u>ht</u>	tps://seawheat	tcost.haifa.ac.il/			
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total	
Persons reached	25	13						38	

2.6. Participation to a Conference

2.6.1. International Conference on Algae Extracts (including presentation)



June 7th, 2023 From 9:00 AM to 12:30 PM (10:00 AM to 01:30 PM CET)

09h00 | Conference opening - Vítor Verdelho, A4F

09h15 | A4F: Pioneering Algae Research and Development for Sustainable Solutions - Sara Badenes, A4F

09h30 | EXTRATOTECA: Microalgae Extracts for High Value Products - EXTRATOTECA Consortium (WP leaders)

10h00 | Amino acid based biostimulants from animal manure -Montse Jorba, LEITAT Managing Technologies

10h20 | Microalgal-based $\omega 3$ HUFAs-rich Extracts Downstream Processing Strategies - Alberto Reis, LNEG

10h40 | Microalgae Biorefineries from lab to industrial scale - Cristina Matos, A4F

11h00 | Coffee break

11h20 | A sustainable, healthy and delicious protein that meets market and planet's needs - *Derek Latil, Algemy*

11h40 | Algae Extracts: Regulations and Limitations. Is Green Always Worth of Blue Sustainability Chips? - Silvio Mangini, Archimede Ricerche srl

12h00 | The Algae4IBD project - Scouting/Screening/Scaling algae extracts for IBD patients - Benoit Queguineur, Algaia

Partner	Date	Online/ Offline		Means of verification, References & Links					
A4F	7 June 2023	Online			https://icae.ex	tratoteca.pt/			
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total	
Persons reached	109	39	8					156	

2.6.2. 6th Internacional Conference WASTES 2023

Coimbra, 8-10 September 2023.

Oral Presentation: "EFFECT OF Nannochloropsis sp. CELL DISRUPTION ON MICROALGAE LIPID EXTRACTION YIELDS".



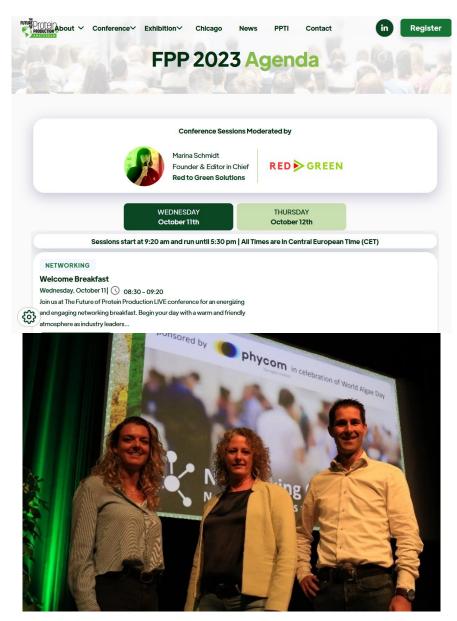


Wastes aims at bringing together academia and industry experts from the Waste Management and Recycling sectors, from around the world, offering state of the art knowledge and sharing experiences with all in attendance.



Partner	Date	Online/ Offline		Means o	of verification	, References 8	& Links	
LNEG	8 September 2023	Offline		<u>h</u>	ttps://www.w	astes2023.org/		
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached								
(estimated, given the number of attendees)	360	55	40	10	10	5	20	500

2.6.3. Future of Protein Production 2023



Partner	Date	Online/ Offline		Means o	of verification	, References &	& Links	
PHY	11 October 2023	Offline		https://wv	vw.futureofpı	roteinproduct	ion.com/	
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached								
(estimated, given the number of attendees)	100	250	10	50	20	20	50	500

2.6.4. EFIB 2023 - European Forum for Industrial Biotechnology and the Bioeconomy



EFIB 2023 – Industrial biotechnology for a sustainable and resilient global Europe

24 October 2023 @ 8:00 am - 25 October 2023 @ 5:00 pm CEST

EuropaBio is pleased to announce that this year's edition of EFIB, Europe's Leading Event on Industrial Biotechnology and the Bioeconomy under title 'Industrial biotechnology for a sustainable and resilient global Europe', will take place 24-25 October 2023 in Rotterdam, The Netherlands.

EuropaBio is partnering with local hosts HollandBio and ChemistryNL to bring EFIB 2023 to Rotterdam.

Now in its 16th year, EFIB will be dedicated to exploring how industrial biotechnology and the bioeconomy supports European competitiveness. EFI brings together professionals from across the value chain to discuss advancements from industrial biotechnology and its contribution towards positioning Europe as a global leader in addressing societal and sustainability challenges. Participants include industry of all sizes, as well as the community that enables industry to deliver, including researchers, policy makers, regulators, and global organisations.

Our two-day programme includes inspiring plenaries, a start-up pitching hour and will explore our four thematic areas – Food, Feed & Nutrition; Sustainable Biomaterials; Bioprocesses & Technologies; and Sustainable Finance – as well as new frontiers like biomanufacturing. The programme i complemented by the exhibition: including start-ups and SMEs in our SME Village, the academic poster presentation in our Innovation Campus, and exhibitors from industry and national associations. Interested in exhibiting? Check out our sponsorship page.

Attending EFIB 2023 will allow you to learn about the latest market trends and research findings in industrial biotechnology and network with key stakeholders.

Register He

Partner	Date	Online/ Offline		Means o	of verification	, References 8	& Links	
A4F	24-25 Octobe 2023	r Offline			https://efibf	orum.com/		
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached								
(estimated, given the number of attendees)	700	1500	200	100	50	100	200	2850

2.6.5. AlgaEurope Conference, 2023 | Prague, 12-15 December 2023

A. Oral presentation: "Application of countercurrent chromatography for the efficient recovery of Docosahexaenoic acid (DHA N-3) from microalgae"; José Cheel, IMIC.



Partner	Date	Online/ Offline		Means o	of verification	, References 8	ն Links	
IMIC	12, 13, 14 December 2023	Offline		https://algae	urope.org/co	inference-prog	gram-2023/	
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached (estimated, given the number of attendees)	300	200	50	40	30	5	10	635

B. Oral presentation: "Development of thin-layer cascades for microalgae cultivation milestones"; Jiri Masojidek, IMIC.



Conference •

Sponsors & Partners Call for Abstracts

Athens

Previous Conferences

1edia ▼ Cont

Tickets

Angela Wulff (University of Gothenburg): From research idea to business - a bumpy road

09:40 am - 10:55 am: Session 12: Biomaterial

09:40 am - 09:55 am: Klaas Hellingwerf (Photanol B.V.): Modeling of glycolate production by synechocystis in pilot-scale photo-bioreactors

09:55 am - 10:10 am: Eri Adams (Galdieria, Co., Ltd): Utilisation of an Extremophile, *Galdieria*, for precious metal recovery and a circulating society

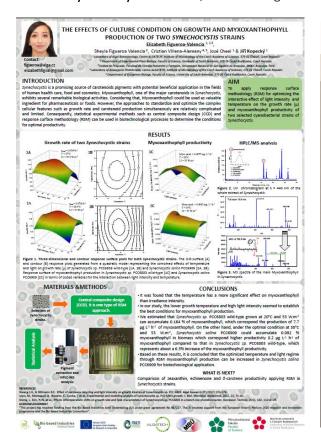
10:10 am - 10:25 am: Arianna Rizzo (Nantes University): Diatoms frustule refractive index heterogeneity can be related to waveguiding properties?

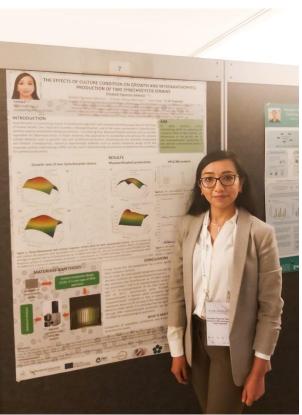
10:25 am - 10:40 am: Elvira Rakova (Algae Scope Italy): Maximizing value and sustainability: the multistream product approach for macroalgae-based carbon mitigation and circular economy advancement

10:40 am - 10:55 am; liri Masoiídek (Centrum Algatech): Development of thin-laver cascades for microalgae cultivation; milestone

Partner	Date	Online/ Offline		Means c	of verification	, References &	& Links	
IMIC	12, 13, 14 December 2023	Offline		https://algae	urope.org/co	inference-prog	gram-2023/	
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached								
(estimated, given the number of attendees)	300	200	50	40	30	5	10	635

C. Poster presentation: "The effects of culture condition on growth and Myxoxanthophyll production of two Synechocystis strains"; Elizabeth Figueiroa-Valencia





Partner	Date	Online/ Offline		Means o	of verification	, References &	& Links	
IMIC	12, 13, 14 December 2023	Offline		https://algae	urope.org/co	inference-prog	gram-2023/	
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached								
(estimated, given the number of attendees)	200	100	30	30	10	1	5	376

2.7. Pitch Event

2.7.1. Presentation and visitor conference on sustainability issues related to food, packing, recycling, re-use etc.



Partner	Date	Online/ Offline	Means of verification, References & Links					
PHY	29 November 2023	Offline		<u>w</u>	ww.engage.ifm	.eng.cam.ac.uk		
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached		75						75

2.8. Social Media

2.8.1. MULTI-STR3AM LinkedIn profile



MULTI-STR3AM

Research Services

886 followers



The new press release of MULTI-STR3AM is now available on the project's website https://lnkd.in/d74UfaaV

Don't miss the most recent news about the project and the exciting start of a new biorefinery for multi-species and multi-products.

Circular Bio-based Europe Joint Undertaking (CBE JU)

#multistr3am #project #pressrelease #biorefinery #microalgae #products #food #feed #fragrance





 Can microalgae help us overcome the reduction of arable land and protein shortage worldwide due to global warming?

Cultivation of autotrophic microalgae doesn't require arable land and uses carbon dioxide, from waste CO2 gas streams, as a source of carbon. Some autotrophic microalgae produce alternative proteins, which are increasingly accepted by

iBET - Instituto de Biologia Experimental e Tecnológica's team members are working on the downstream processing of microalgae within the MULTI-STR3AM project, with a focus on the extraction and purification of proteins using Aqueous Biphasic Systems, a sustainable technology.

👉 Despite proteins being abundant in some microalgae, the challenge remains of working with crude microalgae extracts with high-complexity of compounds

| Current target applications: feed and food applications

Case-study: Arthrospira platensis (Spirulina sp.) with \geq 70% of proteins and with ~14% in its dry weight matter of phycocyanin, which is a valuable blue pigment with anti-oxidant and therapeutic properties.

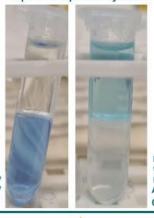
Circular Bio-based Europe Joint Undertaking (CBE JU)

#multistr3am #microalgae #biorefinery #foodindustry #protein #aqueousbiphasicsystem #food #feed





Aqueous Biphasic Systems



Protein migrated to the upperphase After Mixing and Centrifugation

Protein was in the bottom-phase Initially

3 reposts



On the 16th and 17th of May, the MULTI-STR3AM Consortium has reunited in Lisbon, Portugal, in the installations of A4F-Algae for Future and LNEG for an indepth discussion on the project's progress and more recent results.

The Consortium Meeting counted with the participation of all partners A4F-Algae for Future, LNEG, ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci., iBET - Instituto de Biologia Experimental e Tecnológica, Phycom, ForFarmers, IFF and Upfield that had the opportunity to further enhance their connection with a meeting dinner.

This was a valuable opportunity to reinforce the long and successful collaboration between all partners.

Read more about MULTI-STR3AM project at the website https://lnkd.in/d6-wXyW

#multistr3am #project #consortiummeeting #microalgae #biorefinery #food #feed #frangrance

Circular Bio-based Europe Joint Undertaking (CBE JU)









The MULTI-STR3AM Consortium meeting has reunited all the project's partners in Lisbon, Portugal: A4F-Algae for Future, LNEG, iBET - Instituto de Biologia Experimental e Tecnológica, ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci., Phycom, ForFarmers, IFF, <u>Upfield</u>. This was an opportunity to visit several sites where the project is being developed:

- ALGATEC Eco Business Park, where algae biomass is being produced for the project by A4F-Algae for Future, is an entrepreneurial park that welcomes companies and projects in the algae and microalgae sector. https://algatec.eu/en/
- The MULTI-STR3AM biorefinery installed by A4F-Algae for Future was producing Spirulina extracts using filtration techniques during the visit. It also includes a demonstration unit for solvent extraction and drying.
- The Lisbon Experimental Unit of A4F-Algae for Future, a GMO compliant unit with 10 m3 of capacity, to test and optimize biological and engineering solutions for the production of new microalgae strains and products. https://lnkd.in/eTci36i
- The LNEG Infrastructure for pilot scale testing in microalgae-based biorefineries with 2 m3 of capacity directed to biomass production and downstream processing including a solar dryer.
- ← The LNEG Infrastructure for lab scale testing in microalgae-based biorefineries within the Bioenergy and Biorefinery Unit, acting as the Microalgae Platform of the Biomass and Bioenergy Research Institute (BBRI). https://lnkd.in/eQUvuZx3

Follow the project's results in the MULTI-STR3AM website https://lnkd.in/d6-wXyW

#multistr3am #project #consortiummeeting #microalgae #biorefinery #food #feed #fragrance

Circular Bio-based Europe Joint Undertaking (CBE JU)





On the 23rd of May, MULTI-STR3AM has organised a round-table event on biorefining "Multi-perspective on biorefineries for micro- and macroalgae" within the Seawheat - COST Action workshop, held in Lisbon, Portugal. The workshop counted with the presence of seaweed experts from all parts of the globe and was live streaming for other participants to join in.

The MULTI-STR3AM round-table has discussed the main challenges in the biorefinery processes for seaweed and microalgae to reach commercial scale and viability. It counted with the participation of representatives of ongoing initiatives in the EU, on micro- and macroalgae biorefineries:

- # Antonio Martínez, CIRCALGAE project https://www.circalgae.eu/

#projects #event #microalgae #seaweed #biorefinery #roundtable

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3 reposts



On the 13th of May, iBET - Instituto de Biologia Experimental e Tecnológica has participated on the open day of ITQB NOVA, where the general public was invited to put the lab coat on and experiment the scientific side of things. 🏌 🔬 💡

iBET - Instituto de Biologia Experimental e Tecnológica was present to share with the public all about "Microalgae: the sustainable micro-biofactories of the future", where MULTI-STR3AM project was also explained for the general public, in particular the cultivation side of microalgae.

Visit the website to learn more about MULTI-STR3AM: https://lnkd.in/d6--wXyW

#multistr3am #project #openday #microalgae #cultivation #public

Circular Bio-based Europe Joint Undertaking (CBE JU)









Don't miss this video where ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci. explains its work behind heterotrophic growth of microalgae species, and the strain selection and optimization procedures to ensure the best heterotrophic growth performances, a work developed within MULTI-STR3AM project.

#multistr3am #project #video #microalgae #heterotrophy #growth #cultivation



Research of heterotrophic strains

youtube.com





Check this video from Phycom where the chef Joris Schildknecht explains its passion about vegan food and the advantages of microalgae for such products. Two recipes for producing vegan food products with microalgae are shown, highlighting the bright future that awaits microalgae food products.

MULTI-STR3AM project is working to bringing microalgae food products to the market, with the help of Phycom for the development of heterotrophy cultivation.

To know more about the project, visit the webpage https://lnkd.in/d6--wXyW

#multistr3am #project #microalgae #food #vegan #recipes #chef

https://lnkd.in/d7bTD3ev

Circular Bio-based Europe Joint Undertaking (CBE JU)



Joris Schildknecht: Algae in meat alternatives

youtube.com





Check this video from Phycom where the chef Bas Cloo talks about food transition and the interest of algae as a creative culinary ingredient. Bas explains how microalgae can be easily applied to food products as crackers, smoothies and for creating vegan mayonnaise.

MULTI-STR3AM project is working to bringing microalgae food products to the market, with the help of Phycom for the development of heterotrophy cultivation.

To know more about the project, visit the webpage https://lnkd.in/d6--wXyW #multistr3am #project #microalgae #food #foodtransition #recipes #chef

https://lnkd.in/dNZ9wT9K

Circular Bio-based Europe Joint Undertaking (CBE JU)



Bas Cloo: Algae as creative culinairy ingredient.

youtube.com

COmment • 1 repost



Another summer holidays have gone by but not without the presence of algae! A4F-Algae for Future, coordinator of the MULTI-STR3AM project, has developed several summer activities for kids and adults to learn more about seaweed and microalgae!

Take a look at the following activities and enjoy the ending of summer time! 💡 🔏

Watercolor Activities PT: https://lnkd.in/d8rpHZHC EN: https://lnkd.in/dHSnuEe3

Observing Microalgae Growth Guide PT: https://lnkd.in/dKqGhP_v EN: https://lnkd.in/ddKRwAQY

Search Algae Words https://lnkd.in/dZyyRsDh

Spirulina Crackers Recipe PT: https://lnkd.in/dPFSiqU2 EN: https://lnkd.in/dD9M-VCf

Algae Pressing Guide Pr PT https://lnkd.in/dM9-tkkW EN https://lnkd.in/da4mcdw8

#multistr3am #microalgae #summer #activities #recipes #watercoloring #microalgaegrowth #wordsearch #pressing Circular Bio-based Europe Joint Undertaking (CBE JU)





MULTI-STR3AM

886 followers 8mo • 🔇

Exciting Partner News: Phycom Receives €9M Investment to Accelerate Growth

Our project partner Phycom announced that they secured a significant investment of over €9 million from esteemed partners: Corbion, Phase2.earth, Invest-NL and Invest International.

This substantial investment is a testament to Phycom's groundbreaking technology for large-scale microalgae cultivation, which promises top-tier quality and sustainability. With the rising demand for alternative protein sources and a sustainable food system, Phycom's microalgae production is poised to revolutionize the future of nutrition. Reed the full press release at https://lnkd.in/d2GsUWf8

Circular Bio-based Europe Joint Undertaking (CBE JU)

#multistr3am #phycom #investment #microalgaeproduction



Phycom Receives Funding to Accelerate Growth





MULTI-STR3AM

886 followers 7mo • 🕓

During the last 18 months, the MULTI-STR3AM project as achieved several important results:

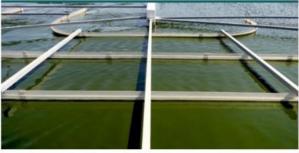
- 👉 Integration of industrial side streams (effluent rich in nitrogen and industrial brine effluent) as feedstock for microalgae cultivation: Dunaliella salina and Nannochloropsis sp.
- 👉 the biorefinery has produced 26 microalgal biomass samples for testing in food, feed and fragrance applications
- 👉 First trials by end-users have started to incorporate microalgal biomass in the applications
- 👉 Data gathered from all technical activities for the development of a life-cycle analysis and techno-economic analysis

#multistr3am #project #microalgae #food #feed #fragrance #effluents #microalgaecultivation #biorefinery #trials #lifecycleanalysis #technoeconomicanalysis

Circular Bio-based Europe Joint Undertaking (CBE JU)



Project results during the last 18 months















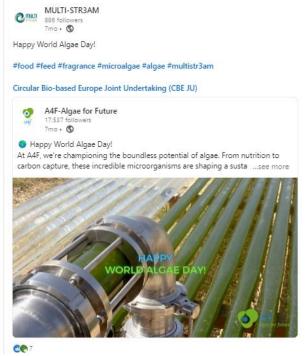


Joana Ortigueira presented the "Environmental assessment of an industrial-scale microalgae production system through process modelling", resulting from the social, environmental and economic life cycle assessment task performed by LNEG under the MULTI-STR3AM project, on the Global Symposium on Bioenergy and Biorefineries associated to the 11th World Congress of Chemical Engineering, in Buenos Aires, Argentina. The still ongoing work focused on the environmental analysis of the production of autotrophic strains for the extraction of various fractions to be used by end-users in the development of food, feed and fragrance applications.

#multistr3am #project #biorefinery #environmentalanalysis #sustainability #networking

Circular Bio-based Europe Joint Undertaking (CBE JU)







MULTI-STR3AM

Check it out!

🔋 Results in Brief article about MULTI-STR3AM was published at CORDIS website in six languages.

https://lnkd.in/dQVavHaB

CORDIS belongs to the Research and Innovation community platform of the European Commission and complements the Funding and tender opportunities website, where you can apply for funding and search for partners.

This article is part of the CORDIS Results Pack on algae innovation, listing 11 ongoing EU projects:

https://lnkd.in/eVA4wQ2J

cordis.europa.eu • 3 min read CO João Nunes and 46 others

Visit the links and continue to follow up on MULTI-STR3AM developments. + https://lnkd.in/d6--wXyW

#CORDIS #EUresearchResults #multistr3am #project #microalgae #food #feed #fragrance #microalgaecultivation #biorefinery

Circular Bio-based Europe Joint Undertaking (CBE JU)



O MULTI-STR3AM reposted this

Circular Bio-based Europe Joint Undertaking (CBE JU) 18,704 followers

2d • 🕥

The CBE JU-funded MULTI-STR3AM project is turning an abandoned industrial site in #Portugal into a #microalgae #biorefinery.

This innovative project combines multiple #algae strains and processing methods, along with industrial by-products, to produce valuable #biobased ingredients such as food, feed, and fragrances.

Learn more in the latest #CBEachievements: https://lnkd.in/d92BJv2N

#bluebioeconomy



A multi-product microalgae biorefinery for food, feed and fragrance

cbe.europa.eu • 3 min read

€00 You and 136 others

1 comment · 6 repos

Partner	Date	Online/ Offline		Means	of verificatior	, References &	k Links	
A4F		Online		https://ww	w.linkedin.con	n/company/mul	ti-str3am	
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached (summing all views and estimated audience of the LinkedIn	3911	3333	3233	410	267	141	718	12013

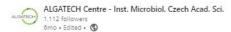
5 reposts

2.8.2. ALGATECH Centre – Inst. Microbiol. Czech Acad. Sci. | IMIC LinkedIn profile



Třeboň, Jihočeský

1K followers



Overview of industrial cultivation of microalgae

#Microalgae are an extraordinary resource important for human nutrition and animals - proteins, lipids, polysaccharides, pigments, antioxidants and other biologically active substances. In addition, they have great potential for use in cosmetics, pharmaceuticals, medicine, but also in industry - in wastewater treatment, CO2 sequestration, production of polymers and fuels.

Overview of the most used microalgae and especially the methods of their cultivation on an industrial scale are presented in the review of the Czech-Italian author team led by the ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci. - Solar bioreactors used for the industrial production of microalgae.

The review discusses species like Arthrospira (#Spirulina), #Chlorella, #Dunaliella, #Haematococcus, #Nannochloropsis, #Phaeodactylum, #Porphyridium and some others and provides a comparison of culture systems - circulating tanks, open ponds, cascades, sleeves, panels, tubular systems and others, including heterotrophic cultivation.

This paper is part of the MULTI-STR3AM Project.

Link: https://lnkd.in/eV7jVMAv

CCO 197

Picture: Cultivation plant in Hawaii. Photo courtesy of the Cyanotech Corporation, Kailua-Kona, HI



3 comments • 15 reposts

ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci.
1.112 followers
5mo • ©

ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci. (IMIC) has successfully completed the commercialization process of its unique #microalgae strain #Parachlorella. The bred strain is yellow, so it can only be grown heterotrophically. What is important, #lutein is its only pigment and in quantities that make this alga competitive with plants from which lutein is now commercially extracted. The commercialisation partner is the Dutch company Phycom, which is one of the largest European producers of microalgae under strictly controlled heterotrophic cultivation conditions. The company grows 500 tonnes of microalgae per year, but Phycom plans to increase its production significantly.

IMIC and Phycom are also partners in the European MULTI-STR3AM project.

Thanks are also given to the Transfer Center CAS (Technology Transfer Centre of the Czech Academy of Sciences) for their assistance in the technology transfer.

Images: Richard Lhotský ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci., Phycom



€€© 121 5 rep



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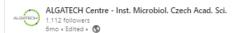
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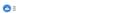


3 comments • 15 reposts



Our review Solar bioreactors used for the industrial production of microalgae is now free avalable for academics on ResearchGate web - https://lnkd.in/dfYjeu5d.

Supported by MULTI-STR3AM



1 repost



ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci.

1,112 follo 2w • 🕓

Great to be part of this project.



MULTI-STR3AM 886 follo 3w • 🔇

Check it out!

📋 Results in Brief article about MULTI-STR3AM was published at CORDIS website in six languages.

https://lnkd.in/dQVavHaB

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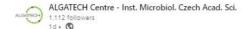
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#CORDIS #EUresearchResults #multistr3am #project #microalgae #food #feed #fragrance #microalgaecultivation #biorefinery

Circular Bio-based Europe Joint Undertaking (CBE JU)





V pátek 19. a v sobotu 20. dubna proběhla v Písku akce Den Země zaměřená v letošním roce na vodu. Součástí prezentací byla i mobilní laboratoř Biologické centrum AV ČR, v.v.i., ve které se prezentovaly i řasy a sinic. Na představení těchto mikroorganismů jako zdroje potravin se podílel i ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci. Mladí i dospělí návštěvníci se seznámili s tím, co mikroskopické řasy vlastně jsou, jak vypadají, jak se dají pěstovat v průmyslovém měřítku, a dokonce mohli některé ochutnat – chlorelové muffiny nebo řasové pusinky. Mikrořasy v potravinách jsou tématem probíhajícího projektu **#Potraviny_pro_budoucnost** v rámci programu Akademie věď ČR - **#Strategie_AV21** a Evropského projektu MULTI-STR3AM H2020 BBI JU.

Foto: Jitka Jezberová a BC AV ČR

#microalgae #chlorella

See translation



Partner	Date	Online/ Offline	Means of Verification, References X, Links					
IMIC		Online	Online https://www.linkedin.com/company/algatech-biotechnology/					
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total
Persons reached								
(summing all views and estimated, given the number of viewers and page followers)	3200	1600	370	200	175	50	50	5645

2.8.3. PHYCOM's LinkedIn profile

3 posts from PHY



Phycom

Food and Beverage Manufacturing Veenendaal, Gelderland

2K followers



We were invited to Lisbon as part of the MultiStr3am Project. It was a great stay, and so nice to meet everyone in person again!



The MULTI-STR3AM Consortium meeting has reunited all the project's partners in Lisbon, Portugal: A4F-Algae for Future, LNEG, iBET - Instituto de Biologia Experimental e Tecnológica, ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci., Phycom, ForFarmers, IFF, Upfield. This was an opportunity to visit several sites where the project is being developed:

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 with 10 m3 of capacity, to test and optimize biological and engineering solutions
 for the production of new microalgae strains and products. https://lnkd.in/eTci36i
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- The LNEG Infrastructure for lab scale testing in microalgae-based biorefineries within the Bioenergy and Biorefinery Unit, acting as the Microalgae Platform of the Biomass and Bioenergy Research Institute (BBRI). https://lnkd.in/eQUvuZx3

Follow the project's results in the MULTI-STR3AM website https://lnkd.in/d6--wXyW

#multistr3am #project #consortiummeeting #microalgae #biorefinery #food #feed #fragrance

Circular Bio-based Europe Joint Undertaking (CBE JU)





Heerlijke recepten en genoeg inspiratie van Bas! 😩

See translation



Check this video from Phycom where the chef Bas Cloo talks about food transition and the interest of algae as a creative culinary ingredient. Bas explains how microalgae can be easily applied to food products as crackers, smoothies and for creating vegan mayonnaise.

MULTI-STR3AM project is working to bringing microalgae food products to the market, with the help of Phycom for the development of heterotrophy cultivation.

To know more about the project, visit the webpage https://lnkd.in/d6--wXyW #multistr3am #project #microalgae #food #foodtransition #recipes #chef

https://lnkd.in/dNZ9wT9K

Circular Bio-based Europe Joint Undertaking (CBE JU)



Bas Cloo: Algae as creative culinairy ingredient.
youtube.com

011



This is an excellent example of our international collaborations. We Looking forward to our next endeavours together with Richard Lhotský and team!



ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci. (IMIC) has successfully completed the commercialization process of its unique #microalgae strain #Parachlorella. The bred strain is yellow, so it can only be grown heterotrophically What is important, #lutein is its only pigment and in quantities that make this algo competitive with plants from which lutein is now commercially extracted. The commercialisation partner is the Dutch company Phycom, which is one of the largest European producers of microalgae under strictly controlled heterotrophic cultivation conditions. The company grows 500 tonnes of microalgae per year, but Phycom plans to increase its production significantly.

IMIC and Phycom are also partners in the European MULTI-STR3AM project. Thanks are also given to the Transfer Center CAS (Technology Transfer Centre of the Czech Academy of Sciences) for their assistance in the technology transfer.

Images: Richard Lhotský ALGATECH Centre - Inst. Microbiol. Czech Acad. Sci. , Phycom



Partner	Date	Online/ Offline		Means o	of verification	, References 8	Links		
PHY	Online			https://www.linkedin.com/company/phycom/					
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total	
Persons reached									
(summing all views and estimated, given the number of viewers and page followers)	2220	2016	1050	165	195	210	225	6081	

2.1. Trade Fair

2.8.4. VědaFest (Science Festival) - presentation of IMIC's research



Věda Fest 2023

Na téma "Kořeny vědy" se ve středu 21. června na Kulatáku v Praze uskutečnil již dvanáctý ročník Věda Festu.
Zábavnou vědeckou laboratoř pod širým nebem navštívily tisíce školáků, studentů a dalších z řad široké veřejnosti. Expozici Centra ALGATEC-H navštívily zástupy vědychtivých zájemců, kteří si mohli o naší výzkumné práci nejen mnohé poslechnout, ale také si ji sami vyzkoušet a nakonec mohli ochutnat i pekařské výrobky s přidanou řasovou biomasou.



























Partner	Date	Online/ Offline	Means of verification, References & Links						
IMIC	21 June 2023	Offline	https://www.alga.cz/p-events.html						
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total	
Persons reached									
(estimated, given the number of attendees)			15000		25			15025	

2.8.5. Výstava Země živitelka (Agricultural fair) - algal biotechnology presentation



Výstava Země živitelka

Ve spolupráci s Biologickým centrem AV ČR jsme v pátek prezentovali Mikrobiologický ústav AV ČR - Centrum Algatech Třeboň na 49. ročník výstavy Země živitelka. V zapůjčené mobilní laboratoři jsme návštěvníkům ukázali mikrořasy a sinice pod mikroskopem nebo způsob pěstování řas ve skleněných kultivačních válcích a různé druh sušené biomasy. Zájemci si mohli vyzkoušet pipetování nebo ochutna pečivo s Chlorellou. Protože expozice byla umístěná v dětském koutki výstaviště, ve vedlejším stánku bylo pro děti připraveno množství poutavých vědeckých pokusů a ukázek. Děkujeme za skvělou prezentaci centra Laboratoři buněnčných cyklů řas a Biologickému centru AV ČR za možnost na výstavě být!





























Partner	Date	Online/ Offline	Means of verification, References & Links						
IMIC	25 August 202	23 Offline	https://www.alga.cz/p-events.html						
	Scientific Community	Industry	General Public	Policy Makers	Media	Investors	Customers	Total	
Persons reached (estimated, given the number of attendees)			5000		20			5020	



This project has received funding from the Bio-based Industries Joint Undertaking (JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 887227. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Bio-based Industries Consortium.