



EPNOE Newsletter - May 2024

Connecting the international polysaccharides community



Editorial

Dear Readers,

We have exciting news for you!

June is full of opportunities for you to engage with EPNOE. We kick off on **June 3** with a unique **online workshop on Safety & Sustainability**, featuring contributions from **Seppic**, **Utrecht University**, and **Politecnico di Milano**. This workshop is highly relevant for the design of both current and new products with a focus on safety and sustainability.

On **5-7 June**, we are hosting a Polysaccharides session at the **20th edition of the International Conference on Renewable Resources & Biorefineries (RRB)** in Brussels. This successful event is organised by our friends at **Ghent University** and promises to be a wonderful experience.

On **13 June**, we have an **online seminar on Computational Resources** applied to polysaccharides, with contributions from **Schrödinger** and **CERMAV CNRS**. This is a fantastic opportunity to learn how computational methods can be used to design industrial formulations and advance polysaccharide research.

Then, on **25-26 June**, we are holding an **in-person workshop in Zurich (Switzerland)** focusing on the **Analytics of Polysaccharides**. This event will bring together researchers from across Europe to discuss the challenges and opportunities in polysaccharide analytics.

We will take a break from our activities during July and August. In September, we will gather in **Vienna (Austria)** for the **6th EPNOE International Junior Scientist Meeting** and in **Chengdu (China)** for the **2nd International Symposium on Cellulose and Renewable Materials**. The programme for the 6th EPNOE Junior Scientist Meeting is ready and well-prepared. Don't miss this chance to learn about the latest research from our junior scientists!

Involving junior researchers in our activities is a key part of our strategy, and that is also why we are excited to welcome new members to our **EPNOE Junior Group**.

Our association offers plenty of opportunities for you and your team. **We invite you to join**

EPNOE and celebrate the joy and inspiration of being part of our community.

Happy Summer!

Pedro Fardim

President of EPNOE us on

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News & Announcements

University of Naples Federico II and University of Ljubljana: Welcome to EPNOE!



The University of Naples Federico II recently joined EPNOE as a new member. On behalf of the EPNOE Executive Board and the whole community, we welcome all the Member Representatives:

- Emiliano Bedini, Associate Professor
- Maria Michela Corsaro, Associate Professor
- Odile Francesca Restaino, Assistant Professor
- Angela Casillo, Assistant Professor

University of Naples Federico II is the **most ancient public university** in the world, celebrating 800 years in 2024! Their Department of Chemical Sciences is at the forefront of polysaccharide research, exploring new possibilities in **pharmaceutics** and **bioplastic preparation**.



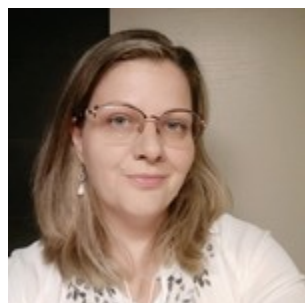
The EPNOE Executive Board warmly welcomes one more new EPNOE collective member: **The Laboratory of Hydraulic Machines (LVTS) group** within the **Faculty of Mechanical Engineering at the University of Ljubljana**. We are eager to collaborate with the Member Representatives:

- Mojca Zupanc, Senior Researcher
- Jurij Gostiša, Junior Researcher
- Žiga Gruden, Expert Officer
- Andraž Zupanc, Young Researcher

The University of Ljubljana's Faculty of Mechanical Engineering is a hub for education and scientific research. Within the Laboratory of Hydraulic Machines (LVTS), a dedicated team focuses on exploring **acoustic and hydrodynamic cavitation**.

Check out the complete list of members and the ongoing membership discounts [here](#).

The EPNOE Junior Team is welcoming some more brilliant minds onboard!



Joice Kaschuk, Ana Kramar, and Susana Guzman Puyol have recently joined forces with the **EPNOE Junior Group**, bringing their expertise to the group from **Wageningen University & Research**, and the **Spanish Council for Scientific Research (CSIC)**.

Their research is a source of inspiration for the EPNOE community, dedicated to shaping a more sustainable and innovative future.

Read the interview [here](#) to find out more about their research and motivation in joining the EPNOE Junior Team.

Young Scientist Award in Dornbirn Global Fiber Conference 2024



Organised by **Lenzing**, the **Young Scientist Award** aims to promote students who inspire the industry with their research results and to create a platform for networking with the textile and fiber industry.

Three Master's or Bachelor's students will be offered **5000 €** each for their thesis and a paid trip to Dornbirn where they have the possibility to pitch their research.

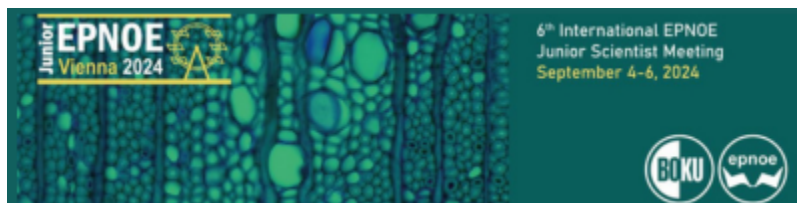
The Lenzing Young Scientist Award will be given in **three categories**:

- *Fashion and Circular Economy*
- *Alternative Raw Materials and Textile Recycling*
- *New Fiber Technologies*

Read more [here](#).

Events

6th EPNOE International Junior Scientist Meeting: Last chance for the early-bird registration



The programme of the **6th EPNOE International Junior Scientist Meeting**, taking place in **Vienna**, at the University of Natural Resources and Life Sciences (BOKU), on **4-6 September**, has been finalised. Check it out [here!](#)

Early-bird registrations are open until **16 June**. We encourage you to register via [this registration form](#) and secure your spot!

Register now!

EPNOE Workshop on Analytics of Polysaccharides: Registration Deadline Extended!



The deadline to register for the EPNOE Workshop on Analytics of Polysaccharides (**25-26 June, ETH Zurich, Switzerland**) has been extended!

Registrations are possible until **10 June** via [this registration form](#).

The programme includes high-level talks on **rheology**, **molecular weight**, and **compositional analysis**. It features **on-site demonstrations**, as well as **social events**. During the workshop, the Working Group is also planning to prepare a **COST action application**. If you are interested in participating, please contact us: contact@epnoe.eu

Read the complete programme [here](#).

Register now!

EPNOE Online Workshop for members: Safety & Sustainability Analysis



Organised by the **EPNOE Working Group on Safety & Sustainability Analysis**, the EPNOE workshop on **Safety & Sustainability Analysis** is exclusively for EPNOE members and will take place **online** on **Monday, 3 June**, from **13:00 to 14:30 (CET)**.

With two expert speakers, this event will be the perfect occasion to engage in a collaborative discussion, sharing insights and opportunities regarding one of today's most pressing challenges.

Check out the programme [here](#).

EPNOE Online Seminar for members: Computational Resources



Molecular modeling extends far beyond the confines of academia, and computational tools wield significant influence in diverse domains. Based on this idea, the **EPNOE Working Group on Computational Resources** organised a seminar for EPNOE Members. The EPNOE seminar on **Computational Resources** will take place **online** on **Thursday, 13 June**, from **14:00 to 16:00 (CET)**.

Check out the programme [here](#).
Register [here](#).

Register now!

2nd International Symposium on Cellulose and Renewable Materials (ISCRM), Chengdu, (China), 20-23 September, 2024



Yuanyuan Li (KTH) is part of the Organising Committee of the 2nd International Symposium on Cellulose and Renewable Materials (ISCRM), taking place in Chengdu (China), 20-23 September, 2024.

Prof. Pedro Fardim (EPNOE President) will be one of the chair men, leading a great event which focuses on the latest scientific and technical advancements in cellulose and renewable materials, bringing together universities, research centers, technological institutions, companies, and passionate individuals.

Prof. Guang Yang (EPNOE Ambassador in China) will be the

Executive Chair of the conference.

Abstract submission are open! Submit your abstract using [this template](#).

Read more [here](#).

MRS Fall Symposium



Yuanyuan Li (KTH Royal Institute of Technology) and member of the **EPNOE Junior Group** is organising a symposium for the **MRS Fall Meeting & Exhibit** will take place in **Boston** on **1-6 December, 2024**.

This event aims to bring together scientists and engineers from diverse and multidisciplinary fields with a strong interest in wood and wood-derived materials science and related fields.

Submit your abstract before **Monday, June 24!**

Read more [here](#).

20th edition of the International Conference on Renewable Resources & Biorefineries



The 20th edition of the International Conference on Renewable Resources & Biorefineries will take place in Brussels, Belgium from Wednesday, 5 June until Friday, 7 June 2024.

The three day international conference will consist of plenary lectures, Town Halls, oral presentations, poster sessions and an exhibition. Companies and research organizations are offered the opportunity to organize a satellite symposium.

Read more [here](#).

Summer School - Aalto University Bioinnovation Center



Aalto University Bioinnovation Center is organising a summer school: ***Measuring the Sustainability Potential of Your Research.***

Taking place on 12-16 August, 2024, at the Haikko Manor & Spa (Finland), this summer school is targeted to doctoral students interested in sustainability aspects with background and studies on development of bio-based materials and products.

Read more [here](#).

Projects

University of Maribor, Faculty of Mechanical Engineering, Institute of Engineering Materials and Design

- Nanofibrillar cellulose membranes in microbial fuel cells: material development for sustainable, high value-added applications, J2-50086, Slovenian research and innovation agency (2023-2026). Assist.prof. Selestina Gorgieva. More information [here](#).
 - Fabrication of high capacitance electrospun fibrous net for flexible supercapacitor, J2-50087, Slovenian research and innovation agency (2023-2026). Assist.prof Alenka Ojstršek. More information [here](#).
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Healing fast and safe: hyaluronan derivatives prompting wound tissue healing while managing infection and inflammation (HealHyal)

Funding Agency: Italian Ministry of University and Research

Grant Number: P20224T45H

Start Date: 01/12/2023

End Date: 30/11/2025

Biopolymer-based wound dressings (WDs) are the treatment of choice for lesions and hyaluronan (HA) is a first-line polymer, given its role in the wound-repair process. However, available devices do not meet all the requirements for safe and fast healing, fail to provide optimal biochemical stimuli, or control infection and inflammation, which are the most frequent hurdles to healing. In this respect, progress leading to effective solutions to manage non-self-healing wounds is of great clinical, social, and economic interest.

The goal of HealHyal is to propose innovative HA-based dressings that combine a long-term release of the most efficient HA form, a combination of different HA molecular weight distributions, with the ability to control infection and inflammation, while avoiding toxicity to surrounding tissues, and achievable in diverse morphologies to guarantee optimal treatment. To the best of our knowledge, devices with these characteristics are unavailable and have never been proposed. They would represent an advanced solution, beyond the levels reached by the state-of-the-art WDs, for a variety of clinical treatments (i.e. skin wound healing, oral mucosa wound healing, etc.). Noteworthy, the employed HA is from sustainable biotechnological source. HealHyal will develop “dual” self-esterified HA matrices based on a combination of two molecular weight distributions, and will further conjugate these matrices to antimicrobial and anti-inflammatory agents. The “dual” matrices and the “grafted dual” matrices will be prepared with an innovative technology, recently developed

by the proponents, allowing for HA (self)-esterification under mild, heterogeneous reaction conditions with related (bio)chemical and technological advantages. Unlike other available devices, here all the components will be conjugated to each other by ester linkages that are reversible under physiological conditions. Upon hydrolysis in the wound environment, the matrices are expected to gradually release natural HA with adjustable multimodal molecular weight distributions together with the “native” form of the antimicrobial and anti-inflammatory agents, while avoiding delivery of any potentially toxic compounds. For such a system, an unprecedented, maximized efficiency in wound healing can be predicted.

The final aim of the proposal is i) to deliver a dual matrix grafted with anti-microbial and anti-inflammatory agents, optimized for rapid tissue repair even in case of infected/inflamed wounds and ii) to biophysically and biochemically characterize it, also using advanced *in vitro* 3D tissue models, in comparison to conventional WDs. We expect to demonstrate matrix feasibility and good performance, paving the way for further funding for a pre-clinical study.

Development of new cross-linked and injectable gels based on biopolymers from renewable sources for specific therapeutic needs (CROSS-GAG)

Funding Agency: Italian Ministry of Enterprises and Made in Italy

Grant Number: F/350155/01/X60

Start Date: 01/09/2023

End Date: 28/02/2026

The aim of the project is the development of chemically modified, cross-linked polysaccharides, mainly glycosaminoglycans, to give innovative, high biocompatible materials for use in both regenerative and aesthetic medicine (*e.g.* for use in injectable fillers) and in the orthopedic/physiatric field as intra-articular gels for visco-supplementation.

Research and experimental development will be targeted to obtain new medical devices based on innovative biomaterials obtained using new chemical strategies that safeguard the biocompatibility of the material and impart optimal biomechanical properties with respect to their use. In particular, the project will deal with the development of innovative gel biopolymers, mainly based on the use of polysaccharides obtained from renewable sources through fermentation – such as hyaluronic acid and unsulfated chondroitin – modified with tailored synthetic strategies to afford biocompatible and bioresorbable derivatives with specific rheological properties.

The project will also involve a pilot-scale optimization of the production process, up to obtaining gel-filled sterile syringe vials, as well as *in vitro* and *in vivo* studies to certify the safety of the products, the absence of contaminants or side products and finally the performance.

Call for Papers

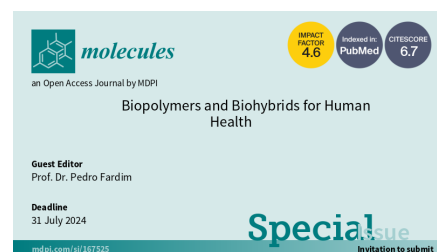
Issues from Journals

Title of the issue: "Properties and Applications of Polysaccharides."

Deadline: 31/10/2024

Guest editor: Fengwei (David) Xie

Read more [here](#).



Title of the issue: "Biopolymers and Biohybrids for Human Health."

Journal: Molecules MDPI

Editor: Prof. Pedro Fardim

Submission Deadline: 31/07/2024

Read more [here](#).

Education

Welcome to New Students, Researchers, and Staff Members within EPNOE network!

- **Sara Krajnc**, PhD Student at the **University of Maribor**, Faculty of Mechanical Engineering, Institute of Engineering Materials and Design, Laboratory for Dyeing, Colour Measurement and Finishing Ecology.

Supervisor: asstit.prof. Selestina Gorgieva

Topic: *"Development of highly efficient, biobased, ion-conductive composite membranes for microbial fuel cells."*

Open Positions

PhD position on "3D printing of biomaterials inspired by plant cell wall assembly."

Job location: the Microstructure and Mechanics of Biomaterials (MMB), Institute of Agrophysics, Polish Academy of Sciences (IAPAS), Lublin, Poland

Start date: 01.10.2024

Application deadline: August 2024. Contact Prof. Artur Zdunek (a.zdunek@ipan.lublin.pl) for details.

Contact: Prof. Artur Zdunek: a.zdunek@ipan.lublin.pl

Short description:

Institute of Agrophysics (Polish Academy of Sciences) is offering PhD position at MMB in the project on 3D printing of biomaterials inspired by plant cell wall assembly. The project focuses on the development a strategy of tuning properties of pectin, hemicellulose and cellulose extracted from fruit and/or vegetable to make the ink formulations for 3D printing of biomaterials with different mechanical properties.

Various protocols for polysaccharides extraction have been already developed at MMB. The PhD student will study the physical, chemical and rheological properties of the polysaccharides for optimization of the ink composition for 3D printing. The position is supported by the National Science Centre, Poland grant (Opus25).

For more information, please contact Prof. Artur Zdunek: a.zdunek@ipan.lublin.pl.

PostDoctoral position on "3D printing of biomaterials inspired by plant cell wall assembly."

Job location: the Microstructure and Mechanics of Biomaterials (MMB), Institute of Agrophysics, Polish Academy of Sciences (IAPAS), Lublin, Poland

Start date: 01.07.2024 (may be adjusted 1-2 months)

Application deadline: 31.05.2024

Contact: Prof. Artur Zdunek: a.zdunek@ipan.lublin.pl

Short description:

Institute of Agrophysics (Polish Academy of Sciences) is offering 4 years (2024-2027) PostDoctoral position at MMB on 3D printing of biomaterials inspired by plant cell wall assembly. The project focuses on the development a strategy of tuning the properties of pectin, hemicellulose and cellulose extracted from fruit and/or vegetable to make ink formulations for 3D printing of biomaterials with different mechanical properties.

Various protocols for polysaccharides extraction have been already developed at MMB. The PostDoc is expected to develop a workflow for 3D printing with consideration of the key elements of the value chain: the development stage of the source material, extraction process of polysaccharides, functionalization, adjusting 3D printing technology and evaluation of the properties of printed structures. The selected researcher will work in close collaboration with dr Justyna Cybulska, prof. Artur Zdunek, a newly recruited PhD student and technicians in the Lab of Biochemistry MMB. The position is supported by the National Science Centre, Poland grant (Opus25).

More information [here](#).

Chemist/Chemical Laboratory Technician (m/f/d), IFF

Job location: Bomlitz, DE

Short description:

IFF N&H Germany GmbH & Co. KG is looking for a Chemist/Chemical Laboratory Technician (m/f/d) for its location in Bomlitz for the autoclave laboratory of the R&D Polymer Synthesis & Modification department within the IFF Pharma Solutions business unit.

More information [here](#).

Recent Scientific Publications of EPNOE Members

Check out the recent **publications of our members!**

View List of Publications



For more information, please contact us at contact@epnoe.eu

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