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European Polysaccharide Network Of Excellence



"Nature makes polysaccharides, EPNOE turns them into products"

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editorial

Dear Readers of the EPNOE Newsletter,

"Connecting the International Polysaccharide Community". That is the main message you will see when you visit our new website. The page is now operational and it will be updated and developed to work as a hub for interaction between EPNOE members and also with our partners and collaborators. All our events will be posted there and also news from members and partner associations. We are developing an attractive and interactive member area in order to boost collaborative efforts and create new opportunities to our members. Our administration has moved from Sophia-Antipolis to Leuven in Belgium and we are pleased to introduce and welcome our new EPNOE manager, Mrs Ingrid Vanlangenaeker. We are very grateful to the excellent job done by Mrs Sylvie Massol during the latest years and we wish success in her new assignments at Centre for Material Forming (CEMEF) of Mines ParisTech.

Positive changes require a lot of home work. We are currently revisiting our extensive database of information and selecting successful instruments that we have created a few years ago with support of European Commission. Our first step in that direction is to use our EPNOE Research Roadmap as a compass for our joint efforts in research, education and innovation with active participation of EPNOE members and in particular young scientists. More information about this initiative will be soon available for our members and collaborators. We have also launched a call for nomination for the EPNOE Young Scientist Award that will be presented for the first time at EPNOE junior conference in Kortrijk in September. The EPNOE Young Scientist Award, is international, and all young scientists conducting research in the field of polysaccharides are eligible for nomination but only EPNOE members can be nominators.

We have an exciting new year ahead and we are looking forward to your visit to our new website at www.epnoe.eu. Let us stay connected.

Pedro Fardim
President of EPNOE
Professor
Faculty of Engineering Science
Department of Chemical Engineering
KU Leuven (Belgium)

news

Member's info

PhD Defenses:

• At Jena University, Germany:

- **Mengbo Zhou** defended his PhD thesis entitled "Magnetic bionanocomposites with low melting temperature: Fabrication, characterization, and application"

Master Defenses:

• At Jena University, Germany:

- **Katja Geitel** defended her Master Thesis entitled "Chemical modification of alpha-1,3-glucan"

New Master student:

• At Jena University, Germany:

- **Malwin Uthleb** joined the group as Master Student working in the field of characterizing and testing of hydrophobic membranes for the separation of ethal acetate from gas/vapour mixtures.

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EPNOE – Workshop

"Modern analytical approaches in biopolymer characterization"

February 26-27, 2020

BOKU Vienna, Tulln (Austria)

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The University of Natural Resources and Life Sciences, Vienna and EPNOE would like to announce the workshop "**Modern analytical approaches in biopolymer characterization**". The course focuses on state-of-the-art analytical tools for the characterization of natural polymers, in particular polysaccharides and lignin.

A modern view on biorefineries implies the smart use of biopolymers, with industrial applications going beyond the simple use as a food and/or energy feedstock. For this scenario to be realized, analytical approaches revealing the structural peculiarities of these biopolymers in a rapid and reliable way are an absolute prerequisite. An efficient chemical and physical analysis is challenging for most biopolymers due to their complex composition and structural organization. A comprehensive characterization of such a sample requires a combination of different analytical methods. These analytical challenges will be addressed within the two days of the workshop.

The lectures will provide an overview of different biorefinery process streams and discuss the current challenges hindering the direct analysis of the contained biopolymers. The principles, conventional and advanced applications of different analytical methods will be explained, supported by examples of their use in cellulose, hemicelluloses and lignin characterization. The course will cover a wide range of techniques, from NMR in liquid and solid states, over chromatography with different hyphenation methods, to microscopy and infrared / Raman spectroscopy. High performance thin layer chromatography (HPTLC) and field flow fractionation methods for monitoring process flows and biorefinery streams are presented, as well as rapid methods for the characterization of technical lignin samples.

More information and registration:

https://epnoe.eu/epnoe-workshop-modern-analytical-approaches-in-biopolymer-characterization/



4th International EPNOE Junior Scientist Meeting

September 15-16, 2020

Kortrijk, Belgium

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EPNOE Junior 2020 Meeting 4th edition will take place from 15 to 16 September 2020 on the campus of KU Leuven in Kortrijk (Belgium).

EPNOE Junior Scientist Meetings are a biannually organized conference designed for academically young researchers (PhD Students, Post-docs and junior Assistant Professors) from academia and industry to meet and build their personal network in the polysaccharide field, while also presenting recent results and brainstorming the direction and future of polysaccharides research.

Senior scientists and industry researchers are invited to participate to give their input in the fruitful discussions.

More information and registration:

https://www.epnoejunior2020.org/

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INRA SCIENCE & IMPACT + irstea LA SCIENCE AU CŒUR DE L'ENVIRONNEMENT =

French National Research Institute for Agriculture, Food & the Environment

INRAE

INRA becomes INRAE

On January 1st 2020, INRA and IRSTEA have merged to become INRAE, the French National Research Institute for Agriculture, Food and Environment. INRAE forms a new community of more than 10,000 people with 202 research units and 42 experimental units located throughout France. The institute is positioned among all the first world leaders in agricultural and food sciences, in plant and animal sciences, and ranks 11th in the world in ecology-environment. INRAE aims to be a key player in the transitions necessary to meet the major global challenges. Faced with the size of the population, climate change, scarcity of resources and declining biodiversity, the institute is building solutions for multi-performance farming, quality food and sustainable management of resources and ecosystems.

We will have a new name and a new logo. Find out more in the teaser for our savethe-date campaign highlighting the new institute.

http://institut.inra.fr/en/Research-and-results/Strategies/All-the-magazines/New-logo-INRAE

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Chitin and Chitosan: Properties and Applications

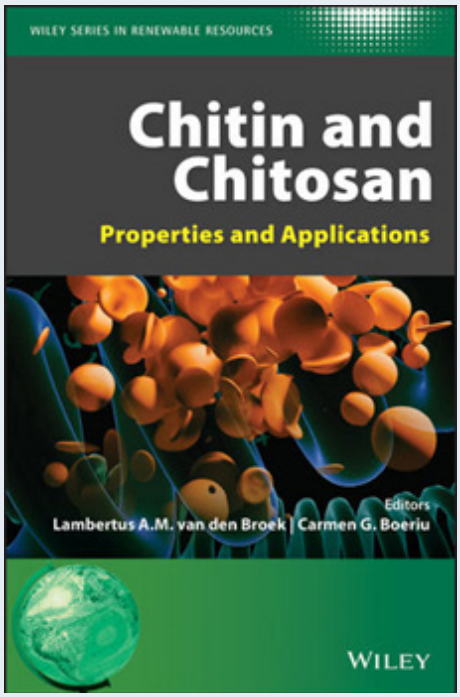
Lambertus A.M van den Broek and Carmen G. Boeriu (eds.)

Wageningen Food & Biobased Research, The Netherlands

Chitin and Chitosan: Properties and Applications presents a comprehensive review of the isolation, properties and applications of chitin and chitosan. These promising biomaterials have the potential to be broadly applied and there is a growing market for these biopolymers in areas such as medical and pharmaceutical, packaging, agricultural, textile, cosmetics, nanoparticles and more.

The authors of the different chapters explore the isolation, characterization and the physical and chemical properties of chitin and chitosan. They also examine their properties such as hydrogels, immunomodulation and biotechnology, antimicrobial activity and chemical enzymatic modifications. The book offers an analysis of the myriad medical and pharmaceutical applications as well as a review of applications in other areas. In addition, the authors discuss regulations, markets and perspectives for the use of chitin and chitosan.

More information at www.wiley.com



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Senior researcher in material science and innovative value-added forest-based products

Are you a senior researcher interested in material science and innovative value-added forest-based products? Do you have experience in research and leading research projects and programs? Then you might be our next employee!

MoRe Research is now a part of RISE and looking for a senior researcher to join our team in Örnsköldsvik. Our R&D team consists of nine colleagues who together have broad and deep expertise in cellulose chemistry, pulp and paper technology, composite materials but also process- and product development. Our research focuses on new materials from trees, e.g. biocomposites, nanopapers, cellulosic foams but also on pulp development and fiber engineering. For our further development, we are looking for a senior researcher to strengthen our team in Örnsköldsvik.

About the role

The position means that you will conduct research and lead R&D projects with industry, academia and other institutes as project partners, both in publicly funded projects as well as direct assignments from industry. The position plays a central role in the research organisation at MoRe, to further strengthen the line-up and develop our research agenda. Project applications, project management, own research and networking are included as natural parts of your daily work.

Location: Örnsköldsvik

Who are you?

We are looking for a senior researcher with previous experience from research as well as leading research projects or similar experience from the pulp and paper industry. To be successful in the role you need to have demonstrated ability to write research project proposals and have a wide established network within academia, industry and research institute. Örnsköldsvik as location is a requirement.

The following is a merit:

- PhD degree in pulp and paper technology, wood chemistry, fiber-and polymer technology, material science or similar.
- Experience in; biocomposites, nanocellulose, fibre engineering, pulp and paper technology, foam technology, molded fibers or similar.
- Experience in leading larger research projects with demonstrated leadership skills.
- Experience in up-scaling from lab- and pilot scale to industrial environment.

As a person we believe you are highly motivated, enthusiastic with a team-oriented personality. Since we often work in international projects, it is a requirement that you have good knowledge of English, both in speech and in writing. Knowledge in the Swedish language is a merit.

(continued overleaf)



Senior researcher in material science and innovative value-added forest-based products

(continued)

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Are we right for each other?

We cannot promise you an easy task, but we can promise you dedicated colleagues and some truly engaging societal challenges to tackle. You will get to work in a dynamic environment offering professional and personal development opportunities. At RISE, we want you to succeed and feel good,

because together with your colleagues you contribute to a sustainable future and to securing a leading position for Swedish industry and research globally. RISE can give you the chance to make a real difference. Welcome to Sweden's Research Institute and Innovation Partner.

Welcome with your application!

Do you have any questions or would like to know more? Please contact research manager Anna Svedberg, +46 70 819 11 75. The deadline for applications is 16th of February 2020.

Our union contacts are Torbjörn Sjölund for Sverige Ingenjörer, +4670658 58 21, and Nadine Hollinger for Unionen, +46703685391.

We kindly ask external recruitment companies and sales people not to contact us as we are governed by the Swedish Procurement Act.

Scientists, senior researcher, forest-based products, material science, pulp and paper, wood chemistry, Örnsköldsvik

RISE is the Swedish Research Institute and innovation partner. In international collaboration with industry, academia and the public sector, we ensure the competitiveness of the business community and contribute to a sustainable society. Our 2,800 employees support and promote all manner of innovative processes. RISE is an independent, state-owned research institute that offers unique expertise and about 100 testbeds and demonstration facilities, instrumental in future-proofing technologies, products and services. www.ri.se.



European Polysaccharide Network Of Excellence

EPNOE Member's Scientific Publications

At ARMINES-CEMEF, France:

M. Kristiawan, G. Della Valle, K. Kansou, A. Ndiaye, B. Vergnes, Validation and use for product optimization of a phenomenological model of starch foods expansion by extrusion , J. Food Eng ., 246, 160-178 (2019).

F. Berzin, T. Amornsakchai, A. Lemaitre, R. Castellani, B. Vergnes, Influence of fiber content on rheological and mechanical properties of pineapple leaf fibers-polypropylene composites prepared by twin-screw extrusion, Polym. Comp., 40, 4519-4529 (2019).

F. Berzin, L. Lemkhanter, C. Marcuello-Angles, M. Molinari, B. Chabbert, V. Aguié, R. Castellani, B. Vergnes, Influence of the polarity of the matrix on the breakage mechanisms of lignocellulosic fibers during twin-screw extrusion, Polym. Comp., sous presse, DOI:10.1002/pc.25442

F. Rol, B. Vergnes, N. El Kissi, J. Bras, Nanocellulose production by twin-screw extrusion: simulation of the screw profile to increase the productivity, ACS Sustain. Chem. Eng., sous presse, DOI: 10.1021/acssuschemeng.9b01913

At Jena University, Germany:

Stable nanocellulose gels prepared by crosslinking of surface charged cellulose nanofibrils with di- and triiodoalkanes J. Levanič, M. Gericke, Th. Heinze, I. Poljanšek, P. Oven Cellulose (2019) DOI: 10.1007/s10570-019-02947-3

Synthesis and characterization of dicarboxymethyl cellulose R. Chagas, M. Gericke, R. B. Ferreira, Th. Heinze, L. M. Ferreira Cellulose (2019), DOI:10.1007/s10570-019-02952-6

Effect of sulfation route and subsequent oxidation on derivatization degree and biocompatibility of cellulose sulfates J. Strätz, A. Liedmann, Th. Heinze, St. Fischer, Th. Groth Macromolecular Bioscience (2019) DOI: 10.1002/mabi.201900403

Synthesis, characterization and ampyrone drug release behavior of magnetite nanoparticle/2,3-dialdehyde cellulose-6-phosphate composite S. M. A. S. Keshk, A. A. El-Zahhar, Q. A. Alsulami, M. Jaremko, S Bondock, Th. Heinze Cellulose (2019) DOI: 10.1007/s10570-019-02887-y



Other News

BIOPROCESS PILOT PLANT at IQS, University Ramon Llull in Barcelona

A new BIOPROCESS PILOT PLANT equipped with a 144 L bioreactor and downstream process equipment is operative at IQS to offer services on process development, optimization and contract manufacturing to companies and research groups, willing to participate in joint projects. Expertise in Carbohydrate Active Enzymes.

Contact: Dr. Antoni Planas, Laboratory of Biochemistry, IQS-URL.

E-mail: antoni.planas@iqs.edu

16th Summer Course Glycosciences

The 16th Summer Course Glycosciences will take place in Wageningen, June 14-18, 2020. This broad course in glycosciences combines general introductions in the field of carbohydrates and glycoproteins with in-depth sessions.

More information:
https://www.vlaggraduateschool.nl/en/courses/course/Glycosciences20.htm



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EPNOE BULLETIN D'ADHESION INDIVIDUEL - Membre Affilié
EPNOE INDIVIDUAL MEMBERSHIP FORM – Affiliated Member

Je, *I,* (nom et prénom, *name and firstname*):

……

Organisation (*organization*):

……...

dont l'adresse est (*which address is*):

……...

.....

e-mail : ……

déclare adhérer comme Membre Affilié **Individuel** à l'**Association EPNOE**, Association Loi 1901 et accepter ses statuts.

*(declare to join as **Individual** Affiliated Member the **EPNOE Association** and accept its statutes.)*

L'adhésion est effective pour l'année calendaire en cours dès le paiement de la cotisation annuelle.

(Membership is effective for the current calendar year upon payment of the annual membership fee.)

Cotisation annuelle (*Annual membership fee*) 150 euros HT (hors taxes) (*net fee excluding taxes and duties*). 50 euros HT pour les étudiants en Master et en thèse. *50 euros for Master and PhD students.*

Fait à (lieu), ***done in*** *(place):*……

Date: ……

Signature:

A compléter et envoyer par email, *to be filled in and sent by e-mail*

Ingrid Vanlangenaeker - contact@contact.eu

(Note: any translation in this form is courtesy translation only).



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EPNOE BULLETIN D'ADHESION COLLECTIF- Membre Affilié
EPNOE COLLECTIVE MEMBERSHIP FORM – Affiliated Member

Nous, *We,* (nom du centre de recherche/institut, *name of the research centre/institute*):
……
dont la forme et le capital sont (*which form and capital are*):
……
dont l'adresse est (*which address is*):
……
……

déclarons adhérer comme Membre Affilié à l'**Association EPNOE**, Association Loi 1901 et accepter ses statuts.

*(declares to join as Affiliated Member the **EPNOE Association** and accept its statutes.)*

L'adhésion est effective pour l'année calendaire en cours dès le paiement de la cotisation annuelle.

(Membership is effective for the current calendar year upon payment of the annual membership fee.)

Cotisation annuelle (*Annual membership fee*) 1 000 euros HT (hors taxes) la première année (*1 000 euros the first year net fee excluding taxes and duties*) et 700 euros les années suivantes (*700 euros the following years*)

Fait à (lieu), ***done in*** *(place)*:……
Date: ……

Par (nom), ***By*** *(name)*: ……..
Titre, ***Title***: ……..
dûment habilité(e) à cet effet (*duly empowered to that effect*).

Signature:

A compléter et envoyer par email, *to be filled in and sent by e-mail*

Ingrid Vanlangenaeker - contact@contact.eu

(Note: any translation in this form is courtesy translation only).



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BULLETIN D'ADHESION COLLECTIF – Membre BIC « Business & Industry Club »

COLLECTIVE MEMBERSHIP FORM – BIC « Business & Industry Club » Member

Nous, We, (nom de la société/organisation, name of the company/organisation) :

……

dont la forme et le capital sont (which form and capital are) :

……

dont l'adresse est (which address is):

……

déclarons adhérer comme Membre BIC à l'Association EPNOE, Association Loi 1901 et accepter ses statuts.

(declare to join as BIC Member the EPNOE Association and accept its statutes.)

L'adhésion est effective pour l'année calendaire en cours dès le paiement de la cotisation annuelle.
(Membership is effective for the current calendar year upon payment of the annual membership fee.)
Cotisation annuelle (cocher la case) – Annual Membership fees (tick as appropriate)

Moins de 50 employés, less than 50 employees	☐ 1000 euros HT, net fee.
51 à 500 employés, 51 up to 500 employees	☐ 2500 euros HT, net fee.
Plus de 500 employés, more than 500 employees	☐ 6000 euros HT, net fee.

Fait à (lieu), ***done in*** *(place)*:……
Date: ……

Par (nom), ***By*** *(name)*: ……..
Titre, ***Title***: ……...
dûment habilité(e) à cet effet (*duly empowered to that effect*).

Signature:

A compléter et envoyer par email, *to be filled in and sent by e-mail*

Ingrid Vanlangenaeker - contact@contact.eu

(Note: any translation in this form is courtesy translation only).