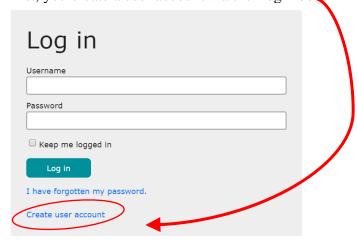
### Instructions for submission of Abstracts to NWBC 2020

# - 9th Nordic Wood Biorefinery Conference, Stockholm 24-26 March 2020

Send your (up to one page) abstract via this webform: Web form for abstract submission >>

## **Instructions for login:**

First, you create a user account via the Login box:



If you are a RISE employee: For this special account it does not work using your RISE email as user name. Please choose another user name.

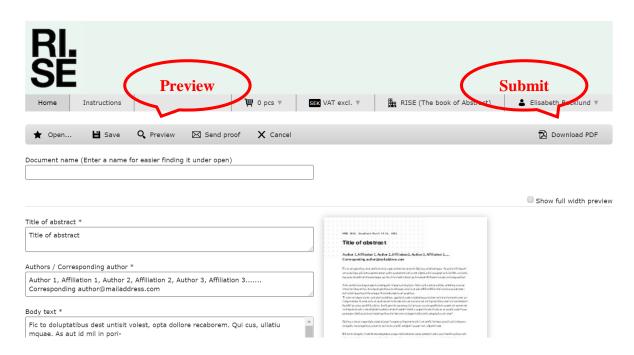
When you have logged in you will find "Instructions" up to the left.

# Instructions for creating and editing your abstract in the web form

To create a new abstract – <u>or edit an already created abstract</u> – press the "Create" button You can upload a figure (diagram, photo, table, ...) or instead use the bottom space for more text. The total space is limited to 1 page.

You can log in as many times you wish and make changes. To preview, press the "Preview" button. When finished, **submit** your abstract for evaluation by the Program Committeee via the "**Download PDF" button**. (See illustration below). Deadlines: Oral presentations – September 2; Posters – November 4

If your suggestion is accepted, you will have the possibility to log in again and update your page to a version to be printed in the Book of Abstracts. Changes will be possible until February 11.



The following page shows an example of an abstract (with content from NWBC 2017):

NWBC 2020, Stockholm March 24-26, 2020

# Kraft lignin based carbon fibres

Anders Uhlin, Mårten Åkerström, Hannah Schweinebarth, Darren Baker, Sverker Danielsson, Per Tomani, RISE anders uhlin@rise.se

Several research projects have been focused on converting lignin to carbon fibres at RISE Bioeconomy (former Innventia). The focus on the work has been on melt spinning of kraft lignin into filaments which were subsequently converted to carbon fibers. Using kraft lignin as a precursor for carbon fibres gives a sustainable product that has the potential to be manufactured at a low cost. The good availability and the low cost of the kraft lignin raw material are two major advantages when manufacturing lignin based carbon fibres. This presentation will show selected results from resent research and development at RISE.

During the last years new equipment was invested in and installed at Innventia and in doing so we have manged to improve the properties of our lignin based carbon fibres. In the present research project (Innventia research program 2015-2017) financed by the Swedish energy agency and pulp and paper companies we can now produce carbon fibers with equal or even better properties compared to published data on lignin based carbon fibers. A melt spun softwood kraft lignin was converted to carbon fibres. The tensile strength has an average value of 952 MPa and the Youngs modulus average value is 69GPa.

A toy car demonstrator was produced in a project financed by the Bioinnovation a strategic research program by VINNOVA, Formas and the Swedish energy agency. The demonstrator project was coordinated by Innventia and was a cooperative project involving Blatraden, KTH and Swerea SICOMP cofounded by industrial partners of the Innventia research programme. The existing roof of the toy car was replaced with a roof consisting of a carbon fibre composite where the carbon fibres were made of 100% softwood kraft lignin. The toy car was also equipped with a lithium ion battery having a negative electrode containing lignin based carbon fibres. The toy car is a big step towards the vision of the manufacture of light weight forest based material in the future of bioeconomy.



Lignin based carbon fibre demonstrator.

### **Deadlines**

- Submission of abstracts for Oral presentations: September 2, 2019
- Submission of abstracts for Posters: *November 4*, 2019.
- Answer on Oral presentations: October 3, 2019
- Answer on Posters: November 22, 2019
- Deadline for updated 1-page abstracts to printed Book of abstracts (both Oral presentations and Posters): February 14, 2020

### **Topics**

The conference will cover new research results and industrial experience related to biorefining based on wood and/or on pulp mills:

- Biorefinery systems and processes.
- Biorefinery products: chemicals, materials and fuels.
- Apart from technical/scientific process/product subjects, the following aspects will also be addressed:
  - Economy and sustainability issues
  - Societal needs
  - o Regional initiatives

### Research student/young researcher opportunities

- **1. Scholarship:** The Foundation Troëdssons Paper Engineering Travel Grant announces via RISE a scholarship for a postgraduate student who participates in NWBC 2020 with a presentation (oral or poster). The winner is appointed by a committee appointed by RISE based on performance, the subject's assessed importance, and quality. The scholarship applies for a 3-month stay during 2020 (if nothing else agreed on) at RISE to work with your own research or participate in an R&D project within RISE's activities on forest industry bioeconomy. The scholarship covers the fellow's costs in connection with the stay up to 250 000 SEK (corresponding to ca 22 000 € in May 2019). A report on the work performed and its benefit to the doctoral student and RISE as well as financial accounting shall be submitted to RISE in connection with the end of the stay.
- **2. Award:** Forest Products Engineers in Finland (PI) announces the Johan Gullichsen Award for a meritious presentation in the field of science and technology of forest products industries given at NWBC 2020. The prize amounts to 2 000 EUR and is awarded to a young scientist or research student.
- **3. No-Fee possibility**: Sponsor contributions will be used to fund no-fee participation in the conference for selected research students at universities within EU and Scandinavia who get a presentation for NWBC 2020 approved. This includes conference fee and evening activities, but not travel or accommodation costs.
- **4. Travel costs:** Forest Products Engineers (PI) in Finland supports the travelling costs of selected young scientists and research students from Finland (PI membership required)

**To apply** to one or more of **offers 1-3** above, submit your abstract via the web form according to the instructions above and send your award/grant application to <a href="mailto:nwbc2020@ri.se">nwbc2020@ri.se</a>

Specify what you apply for. Include the title of your abstract and short information about your PhD project (if applicable). The deadlines are the same as for abstract submissions: Oral presentations – September 2; Posters – November 4.

Application for **offer 4** is made to Forest Products Engineers in Finland by October 15 via this website: https://www.puunjalostusinsinoorit.fi/en/services/scholarships/