



# ForestValue call proposal

- **University of Ljubljana (UL)**

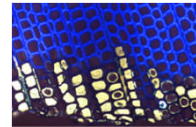
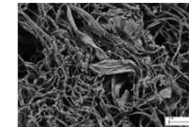
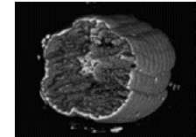
- Biotechnical Faculty (UL-BF)

- Department of wood science and technology (<http://www.bf.uni-lj.si>)

- **Contact**

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- **Extractives of wood and bark**

- Selection and preparation of material,
- extractions,
- separation, identification, isolation and purification of compounds,
- biological activity of compounds, and
- application of extractives: wood protection, coating systems, fibre and NC functionalization, food applications, packing materials...

- **Nanocellulose (NC)**

- Production of NC,
- functionalization of NC,
- characterization (microscopy, thermal analysis, spectroscopy, X-ray diffraction, rheology...), and
- application of NC (synthetic and bio-composites, hydrogels, aerogels, various films...).

- **Other fields of interest;**

- Wood biology, the decomposition of biomass, the properties of woody and other lignocellulosic biomass, the modification of wood, bio-nanocomposites, and the applications in wood- and related industries.

# UL-BF Project idea

- The idea of our proposal is to **valorise the low-quality woody biomass** through the **isolation of high-value derivatives**, which will be used for the improvement of the properties of existing materials and for the development of **innovative bio-based materials** that have the potential for the **application in wood- and related industries**. Main goals:
  - characterization and selection of low-quality woody biomass,
  - development of an efficient and improved isolation method(s) for extractives and nanocellulose,
  - development of the valorisation of **processing side streams, lignin and hemicelluloses**, for **chemicals** (aromatics, furans and levulinic acid compounds), **resins** (melamine, urea...) & **coatings**,
  - development of new **extractive-based fungicidal system**, and
  - development of **innovative bio-composites**, based on various NC types, extractives, and natural or synthetic polymers.
- **Partner search.** We are searching for the partners with expertise in:
  - wood characterization,
  - testing of the biological activity of compounds, and
  - NC composites' fabrication.
- Industrial partners from the corresponding fields are desired!

University of Ljubljana



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