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ON ADVANCES IN SCIENCE
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II INTERNATIONAL CONFERENCE ON
ADVANCES IN SCIENCE AND TECHNOLOGY

BOOK OF ABSTRACTS

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HERCEG NOVI, MONTENEGRO

31 MAY - 03 JUNE 2023



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BOOK OF ABSTRACTS

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PREPARATION AND CHARACTERIZATION OF ACTIVATED CARBON OBTAINED FROM BIO-WASTE USING BASES AS ACTIVATORS

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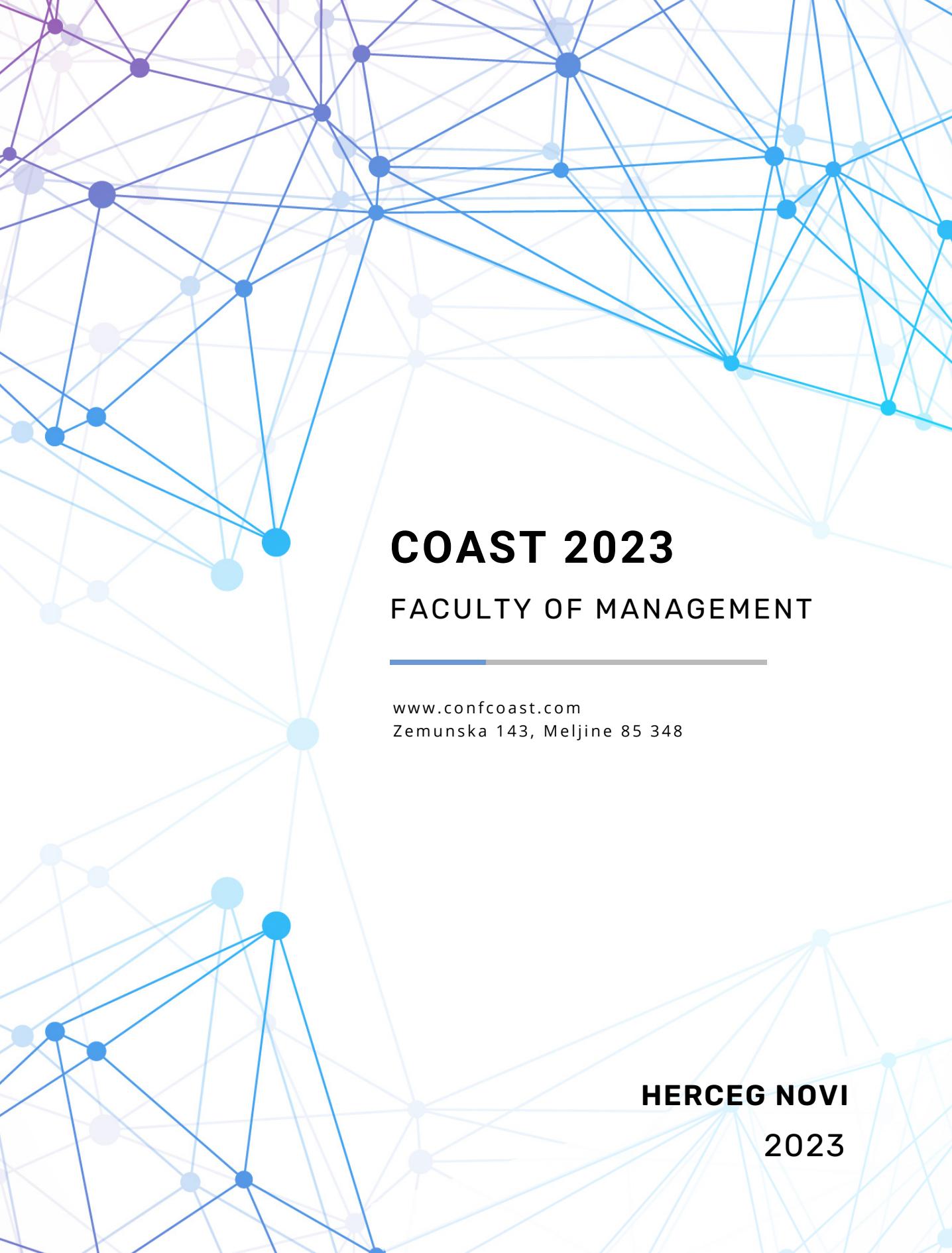
ABSTRACT: Activated carbon is a highly porous and adsorptive material that is widely used for various applications such as wastewater treatment, air purification, and energy storage. Activated carbon can be produced from various raw materials, including biomass, which is a sustainable and renewable resource. The process of producing activated carbon from biomass involves two main steps: carbonization and activation. In the carbonization step, the biomass is heated in the absence of oxygen to convert it into carbon. The resulting carbonaceous material is then activated using a chemical or physical process to create a highly porous structure with a large surface area. One way to activate the carbonized biomass is to use bases as activators. Bases such as potassium hydroxide (KOH) and sodium hydroxide (NaOH) have been used as activators due to their ability to promote the development of micropores and mesopores in the carbon structure. Activated carbon was characterized by various techniques such as scanning electron microscopy (SEM), Brunauer–Emmett–Teller (BET) analysis, Fourier transform infrared (FTIR) spectroscopy and X-ray diffraction (XRD) analysis. These techniques provide information on the surface area, pore size distribution, functional groups, and crystal structure of activated carbon.

Keywords: biowaste, active carbon, bases, activator

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A complex network graph composed of numerous small, semi-transparent nodes in shades of purple, blue, and light grey, connected by a dense web of thin, light blue lines. This pattern serves as the background for the entire poster.

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