

Title: "Enhancing Water Purification Processes through Green Nanotechnology: A Sustainable Approach"

Abstract:

This abstract explores the application of green nanotechnology to improving water purification processes. With global concerns over water scarcity and pollution, sustainable methods that minimize environmental impact are imperative. This study aims to investigate the efficacy of utilizing green nanomaterials in water purification to address these pressing challenges.

The research employed a combination of experimental studies and theoretical frameworks to assess the effectiveness of green nanotechnology in water treatment. Green nanomaterials derived from natural sources were synthesized and incorporated into filtration systems. Various characterization techniques and water quality analyses were conducted to evaluate the efficiency and environmental impact of the developed processes.

The study revealed promising results, showcasing the enhanced filtration capabilities of green nanomaterials. Significant improvements were observed in the removal of contaminants, pathogens, and heavy metals from water sources. Furthermore, the utilization of green nanotechnology exhibited reduced energy consumption and minimized waste generation compared to conventional methods.

The findings highlight the potential of green nanotechnology as a sustainable solution for water purification. Integrating these eco-friendly materials into filtration systems presents a viable approach to mitigating water pollution while ensuring resource efficiency. This study emphasizes the importance of further research and implementation of green nanotechnology in advancing environmentally friendly water treatment processes for a more sustainable future.

This abstract focuses on the application of green nanotechnology in enhancing water purification processes, aligning with the theme of Environmental and Green Processes in the conference.