

# Exploring the Role of Nickel Nanowires in Sustainable Energy Preservation

**Kalakonda Harika<sup>1</sup> and Dr. Yashpal<sup>2</sup>**

Research Scholar, Department of Physics<sup>1</sup>

Research Guide, Department of Physics<sup>2</sup>

Northern Institute for Integrated Learning in Management University, Kaithal, Haryana, India

**Abstract:** The increasing global demand for energy, coupled with concerns over climate change and depleting fossil fuel reserves, has prompted the exploration of innovative and sustainable energy preservation technologies. Nanomaterials have emerged as promising candidates in this pursuit due to their unique properties and potential applications. Nickel nanowires, in particular, have garnered significant attention for their exceptional electrical, thermal, and mechanical properties, making them suitable for various energy-related applications. This paper comprehensively reviews the role of nickel nanowires in sustainable energy preservation, focusing on their synthesis, characterization, and applications in energy storage, conversion, and efficient utilization. The potential challenges and future directions in the field are also discussed.

**Keywords:** Nanomaterials.

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