

# Streamlit App

## User input

Key in proposal title or summary

"Exploring the Feasibility of Perpetual Free Energy Systems Using Quantum Tunneling and Nanomaterials"

This research aims to investigate the potential for developing perpetual free energy systems by harnessing quantum tunneling and advanced nanomaterials. We will explore the interaction between quantum mechanical phenomena and nanostructured materials to create energy-efficient systems that theoretically produce continuous energy without depletion. The study will focus on optimizing material properties, understanding energy transfer mechanisms, and

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summarising proposal based on language model

This proposal seeks to explore the possibility of creating systems that can generate free energy indefinitely by using quantum tunneling and nanomaterials. The research will look into how tiny materials interact with quantum effects to develop energy-efficient technologies that can produce continuous energy without running out. The goal is to improve material properties and understand how energy moves within these systems, ultimately aiming to create sustainable energy solutions for things like energy storage and self-powered devices.

### Disciplines/Subfields:

#### 1. Physics

- Quantum Mechanics
- Condensed Matter Physics
- Thermodynamics

#### 2. Materials Science

- Nanomaterials
- Nanotechnology
- Material Properties and Characterization

#### 3. Engineering

- Energy Engineering
  - Electrical Engineering
  - Mechanical Engineering
4. **Renewable Energy**
- Sustainable Energy Systems
  - Energy Storage Technologies
  - Autonomous Power Generation
5. **Chemistry**
- Physical Chemistry
  - Nanochemistry
6. **Interdisciplinary Studies**
- Quantum Computing
  - Applied Physics
  - Environmental Science
7. **Computer Science**
- Computational Modeling and Simulation
  - Data Analysis in Energy Systems

getting initial list of reviewers

name	h-index	gender	Content
reviewer_177	36.0	M	Nanomaterials and devices, nanoscale system ultrafast dynamics quantum materials His key areas of expertise include ultrafast spectroscopy, terahertz photonics, optoelectronics, and layered quantum materials. One of his recent goals has been to reach a fundamental understanding of the transport and dynamics of electronic and phononic heat in 1D and 2D material systems through advanced optical and optoelectronic techniques with high temporal and spatial resolution, and to explore applications in photodetection and thermal management. The group continues to work on quantum materials, studying heat and charge flow, and will also address the conversion of energy and information between various degrees of freedom and across different frequencies.
reviewer_34	120.0	M	Chemistry, Materials Science, Nanoscience, Nanotechnology NanoChemistry Synthesis and assembly of colloidal

name	h-index	gender	Content
			nanocrystals Transformations at the nanoscale Modelling and applications in energy-related areas
reviewer_3	41.0	M	Physics and Engineering, Spintronics Spin physics This laboratory focuses on exploring spin physics using quantum relativistic effects in condensed matter. Research covers a wide variety of emerging phenomena arising from interaction between spin/charge of electrons and elementary excitations. By revealing the physics of these phenomena, we will lay a foundation for next-generation electronic technology.
reviewer_173	83.0	M	Institute for Superconducting and Electronic Materials Ceramics Functional materials Crystallography Composite and hybrid materials Electrical energy generation (incl. renewables, excl. photovoltaics) Electrical energy storage Materials engineering
reviewer_78	65.0	M	Chemical and Biomolecular Engineering His research focuses on carbon materials and their sustainable energy and environmental applications, including supercapacitors, batteries, electrocatalysts, membranes, and antibacterial coatings. Research interests Professor Yuan Chen's research aims to translate the superior properties of carbon nanomaterials into applications that will ensure a sustainable future for humankind. "Throughout history, the materials we have used have primarily defined our quality of life – from stone, bronze, and iron to metal alloys, silicon, and plastics. "Over the past 20 years, carbon nanomaterials have been discovered to possess many fascinating properties that differ significantly from other materials. For example, a tiny, single-walled carbon nanotube with a diameter of less than one ten-thousandth of human hair has electrical conductivity more than 1000 times greater than that of copper, while a two-dimensional atomic-scale layer of graphene is the strongest material ever tested. "As a chemical engineer, I want to develop scalable chemical processes to translate these properties into practical applications with minimal environmental and health risks. "One fascinating example is the development of a new generation of electrochemical energy storage devices. Lithium-ion batteries have been used in a wide range of applications. However, the fast-growing energy storage demands require energy storage devices with

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			higher energy and higher power density and depending on sustainable materials. "My research aims to develop efficient, cost-effective, and reliable energy storage solutions. This will create commercial opportunities and bring significant environmental benefits in accelerating the shift to renewable energy and achieving carbon neutrality." "I am also working on synthesising carbon catalysts for efficient energy conversion and water treatment, creating novel carbon nanomaterial-based membranes and antibacterial materials, and controlling the structure of single-walled carbon nanotubes for a new generation of smaller and faster electronics. "I've been working with carbon nanomaterials since 2002, and I joined the University of Sydney in 2015. The University offers me great academic freedom and a great multidisciplinary research environment to develop my intellectual ability and creativity. I hope my research here can make some important contributions to converting the superior properties of carbon nanomaterials into impactful applications that can create a more sustainable future for humankind."

name of reviewer	rating	list of expertise	reason why this reviewer may be a good fit
reviewer_177	90	Nanomaterials, ultrafast dynamics, quantum materials	His expertise in quantum materials and ultrafast dynamics aligns well with the proposal's focus on quantum tunneling and energy movement in nanomaterials.
reviewer_34	85	Chemistry, Materials Science, Nanotechnology	His extensive background in nanochemistry and energy-related applications makes him suitable for evaluating the proposal's aim to develop energy-efficient technologies.
reviewer_3	80	Spintronics, condensed matter physics	His research in spin physics and condensed matter provides a strong foundation for understanding the quantum effects involved in the proposed energy systems.

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full responsibility for how you use any generated output.

Always consult with qualified professionals for accurate and personalized advice.

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