

**תכנית האנרגיה ע"ש גרנד מתכבדת להזמין להרצאה סמינריונית
שתינתן ע"י:**

ענאן גרזוי

התכנית הבין-יחידתית לאנרגיה

בנושא:

A Pulsed Coandă-Effect Reciprocating Wind Energy Generator

Exorbitant small wind turbine costs, combined with their low efficiency, served as motivation for the construction and testing of a novel reciprocating wind energy generator that is driven by pulsed Coandă jets. The system comprises a sting-mounted cylinder on a pivot that is counterbalanced by tension springs and loaded using an electromagnetic brake. Two diametrically disposed spanwise blowing slots are pulsed alternately to produce bi-directional transverse loads (lift) made possible by the Coandă effect, and thus force the system at or close-to resonance. Experiments were performed in a modified open-jet wind tunnel and included static load measurements, flow visualization and system performance evaluations. A maximum gross power of 10% was produced by the system and the results compared very favorably to a linear model. Significant improvements can be made to the system performance by increasing the oscillation amplitude, increasing the resonance frequency, minimizing the power input, and introducing a second degree-of-freedom.

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במסגרת עבודת מחקר לתואר מגיסטר

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הפקולטה להנדסת מכונות**