



GLOBAL JOURNAL OF RESEARCHES IN ENGINEERING: A
MECHANICAL AND MECHANICS ENGINEERING
Volume 23 Issue 3 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4596 & Print ISSN: 0975-5861

A Rubric Report 2023 R “The Profile of a Post Doctoral Research”

By V. Githaguru

Introduction- Pioneering experiments with promising results and ironically lay unpublished is paradoxical. But that is what had happened to him as the another, years ago, in 2013. Yet, the continuing relevance of the ideas and similar pursuit by others, prompted him now in 2023, to publish his “post doctoral” works; as it knowledge matters and its chronology too!

His doctoral thesis, Anna University (2008) was on “Trifemur” a wear tester for hip joint prostheses, his patented invention. Subsequently, he augmented it as a versatile tribometer for the orthopaedic implants. Dimpled femur ball, spinal discs, special coating and lubricants could get unacceleratedly test-measured for their natural wear-life span. Pilot test runs on shells and discs proved successful, it was ready to test dimpled femur ball as well.

Parallely, he was pursuing his other idea of tilt-rotor for wind-turbine, through the guided projects for students at the Crescent Engineering College, during the years 2009, 10, 11 and 2013. Results encouraged to go for prototype of the new design.

GJRE-A Classification: LCC: RZ 9999.P67



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I. INTRODUCTION

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In the midst of it all, came the retirement in 2013 at his age 65 and the abrupt freeze of the these projects due to self-imposed oblivion. Then personally, he kept himself play-fit all along by musing nonlinear dynamics, spacetime curvature, stability of the wind turbine blades and all that. Meanwhile, the efficacy of the dimpled ball in the hip joint vouched by the Arkansas University U.S., the potential of tilt-rotor wind turbine published by Korean- Japanese team in another journal, came to his notice and triggered a positive change in the beginning of 2022.

Both of his ideas gaining momentum enthused him as a pioneer! the who initiated the dimpling of femur ball, at the Indo-Japan conference I.I.T (Madras) as early as 2004 even before his Ph.D, got invigorated to salvage his “post doctoral” works freezing since 2013 and put them public for what so ever its worth.

From Jan. 2022, he resumed working on those frozen records, alone as an emeritus professor and consolidated his research findings in Jan 2023, as rubric reports entitled:-

- Augmented “Trifemur” as versatile tribometer and the efficacy of dimpled femur ball in bettering the lubrication!

- Tilt & Swivel type wind rotor for harnessing high winds, and the pleasant spin-off, of its kinetic resemblance to that of the Kovalevskaya- Top, a legendary, mathematician’s work.

Reporting of these two ideas: Trifemur and Tilt rotor as a sequel to their pioneering emergence decade ago and grooving relevance globally, delights the another and hopefully the reader too. Hence it is termed as rubric report R̂ – a distinguished one.

II. ENGINEER/INVENTOR/AWARDS

Received his B.E. Mechanical Engineering (1970) degree from the Madras University, M.S. in Aero Dynamics (1990) from I.I.T, Madras and the Ph.D in Bio Mechanics (2008), from Anna University, Tamilnadu, India.

He is having vast industrial and research exposure in addition to his service in teaching. His research contributions are recognized with as National Research and Development Corporation Govt. of India NRDC Award for invention (1979), WIPO Gold Medal from the Intellectual Property organization, Geneva (1980) and Key Achiver Citation from the Technology Magazine U.S.A (1981) he has two patents for his inventions and his areas of interest in teaching and research include:- Bio mechanics, Tribology, Fluid Mechanics, and Finite Element Analysis.

Had been on research fellowship to the university of Florida, U.S.A in 1980 and the university of McGill Canada in 1985, in the field of renewable energy.

The list of Inventions

1. Anila– Wind devices
2. Poghil – Wind devices
3. Thoyam – Solar still
4. Harmonious structure
5. Gradesic braced cone shells
6. Trifemur – Weartester
7. Tilt rotor wind Turbine.

For about fifteen years, he served as Professor Teaching and Researching in the Departments of Mechanical Engineering, at the Crescent Engineering College, Chennai, India and retired at 65 years, in 2013.

Jan, 2023, Chennai.

Note on Author’s Name

Githaguru and Geethaguru both refer to the same author; phonetic identity triggers the variant spelling.

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