അനെർട്ട്
ANERT
Agency for New and renewable Energy Research and Technology
നവീനവും പുനരുപയോഗയോഗ്യവുമായ ഊർജ്ജ ഗവേഷണങ്ങൾക്കും സാങ്കേതിക വിദ്യകൾക്കുമുള്ള ഏജൻസി
DEPARTMENT OF POWER, GOVERNMENT OF KERALA
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Application for Financial Support Under Supporting R&D and Innovation
SRI 2020-21

Reference No: ...../.....*(to be filled by ANERT)*

Sl. No.	Item	Details
1	Name and Designation of theApplicant	Dr. Jayaraj Kochupillai Principal Mar Baselios Christian College of Engineering and Technology
2	Official Address of the Applicant (withMobile No. and e-mail id)	Mar Baselios Christian College of Engineering and Technology Pallikkunnu P O, Peermade Idukki - 685531, KERALA 9400288670 principal@mbcpeermade.com
3	Category Applied	Institution
4	Category of Applicant's Institution/Lead Institution	Academic Institution (Private)
5	Registration No. (In the case ofNGOs)	NA
6	Name and Address of the Institution members	Dr. Abdul Rahman K Asst. Prof. Mechanical Engg. Dept. MBC CET Peermade Mr. Anu Nair P Asst. Prof. Mechanical Engg. Dept. MBC CET Peermade

7	Project Title	Vortex Induced Renewable and Non-polluting Wind energy conversion system
8	Research Category	Sponsored Research
9	Area of Research (in the case ofSponsored Research)	Wind Energy
10	Topic/problem selected for research*(Selected from Annexure 1 of Guidelines)*	**Novel Wind Energy Conversion System:** Building a novel bladeless wind energy conversion system [Vortex Induced Vibration Wind Power Generator (VIVWPG)] by developing a novel electro-mechanical mechanism
11	Duration of the Project (months)	36
12	Cost of the Project (in Rs.) a) Total Project Cost b) FS Requested from ANERT c) Applicant's Contribution	 4.2 lakhs Indian Rupees 4 lakhs Indian Rupees Manpower and assigned room for research in the college campus itself with all electrical and computer facilities
13	Whether support for any equipment/software sought	Yes
14	Name, Designation, Phone Numberand e-mail id of the Principal Investigator	Dr. Jayraj Kochupillai Principal Mail id – principal@mbcpeermade.com Mobile number- +919400288670
15	Date of Superannuation of the PI	NA
16	Name, Designation, Phone Numberand e-mail id of the Co-Principal Investigator	Dr. Abdul Rahman Assistant Professor Mechanical Engineering Dept. Mar Baselios Christian Engineering College Pallikkunnu P.O, Kuttikannom Mobile no: +919176492110 Email id – abdulrahmank@mbcpeermade.com
17	Date of Superannuation of the Co-PI	None
18	Number of Co-investigator(s)	1, Mr. Anu Nair P Assistant Professor

19	Details of R&D/Innovation component	I. The construction of conventional wind turbines is expensive and there is a need to develop a cost-effective wind energy conversion mechanism. II. There is a need to develop a novel electro-mechanical method to control the natural frequency of the vibrating body so that maximum vibration can be induced (vortex induced vibration) and thus producing maximum power output. A frictionless control mechanism is required and which is need to be developed. III. Conventional wind turbines with blade take large land spaces and hence there is a need to develop a wind energy conversion system which uses less space. IV. Since this mechanism work based on the automatic control of natural frequency of vibrating body, a control on the rigidity and flexibility of mast/vibrating body is important and thus there is a need of R&D in materials also. V. Conventional wind turbine generally requires open flat geographical area and thus there is a need of a wind energy conversion system which can be constructed on any geographical area.
20	Benefits to the Society from the proposed work and relevance to theknowledge upliftment	Development of this wind energy conversion system will benefit the society as the energy is converted from renewable source of wind energy and this conversion system helps to produce power with zero emissions. This novel and ecofriendly technology of wind energy conversion takes less land space, cost effective and will not affect bird life when compared to conventional system. Since this wind energy conversion system is an electro-mechanical system with electronic control integration, the students will get knowledge on inter-disciplinary fields and students from variety of fields can involve and contribute to the research and learn. This will uplift their knowledge to high ends with a hands-on training experience on finding solutions to real problems.

Place: Kuttikkanam, Peermade, idukki (Signature of Applicant)

Date: 11/02/2021

Dr. Jayaraj Kochupillai

(Office Stamp)

Attachments:

- Project Proposal (in duplicate)
- Copy of the Guidelines signed by the PI and counter signed by the Applicant