

Mahendra Kumar Mohanty, Ph.D.
Associate Professor,
Department of Farm Machinery and Power



Education

- Ph.D., Indian Institute of Technology, New Delhi, (India)- 2004
- M. Tech.(FMP.) Indian Institute of Technology, Kharagpur- 1990
- B.Sc. (Ag. Engg. & Tech.), Orissa University of Agriculture and Technology, Bhubaneswar- 1988

Experience

Working in OUAT Bhubaneswar since 1990 in different capacities in teaching, research and extension

Externally Funded Projects/ schemes

- a) Development of Laboratory Facility for Bio diesel Production and Testing Centre, (PI) , DST, Gov. of India (completed)
- b) Development of solar hybrid dryer for Kendu leaves drying, (PI)(Science and Technology Dept.,Gov. of Orissa and OREDA (completed)
- c) Production of Karanja-Biodiesel and its bi-products for Agricultural Application (PI) from DST, Gov. of India (completed)
- d) Use of non Edible oil as engine fuel in SVO mode (PI) Science and Technology Dept ,Gov. of Orissa and OREDA (completed)
- e) Installation, Commissioning & Demonstration of Integrated Biodiesel Plant in the State of Orissa Co-PI) DST, Gov. of India and collaboration with IIT Delhi (completed)
- f) Performance Evaluation of Integrated Biodiesel (Co-PI) , DST, Gov. of India and collaboration with IIT Delhi (completed)

Courses taught

- Farm Power and Machinery (B.Sc. Ag.)
- Renewable Energy (B. Tech.)
- System Engineering (B. Tech.)
- Renewable energy Technology (B. Tech.)
- Machine Drawing and Computer Graphics (B.Tech)
- Testing and Evaluation of Tractors and Farm Equipments (M.Tech & PhD)

Students guided

Guided two students for Ph.D. in BPUT and Utkal University, 3 students for M. Tech and 15 students for B.Tech

Significant research contributions

- Design and Development of biodiesel plant
- Installation of a 150lts capacity of Integrated Biodiesel plant.
- Biodiesel production from Madhuca Indica , Pongamia Pinattae. Simarauba Glauca Callophyllum Inophyllum
- Development of a heat exchanger for exhaust gas of engine for heating the SVO
- Life cycle analysis of biodiesel
- Production of biogas from different non edible oil cake
- Production of biogas from kitchen waste and Scrubbing of biogas
- Development of a solar hybrid dryer

Present research interests

- Green , Clean campus and Energy Audit
- Bio-alcohol from different biomass
- Pico solar PV application in Agriculture

Honours and Awards

- Best Research Scientist for the year 2009-10 of Odisha University of Agriculture and Technology
- Abel Wolman Memorial Award-2012 by Institute of Engineers ,Odisha State Centre
- Gauri Shankar Sahu Memorial Award-2012 by Institute of Engineers ,Odisha State Centre
- Sadananda Memorial Award-2012 by Institute of Engineers ,Odisha State Centre

Peer recognition

- Referee of many national/ international Journals on Agricultural Engineering and Renewable Energy
- Expert member in the application of different Renewable Energy appliances in different sectors .
- Consultant and resource person to different Govt. and non-Government organizations on application of Clean energy
- Member of several state and national level committees working on farm power and machinery & Renewable Energy

Publications

Co-authored 3 books with ISBN numbers, 2 books/ course manuals (without ISBN), 50 research papers in peer reviewed journals and more than 10 popular technical articles.

Selected publications

- A.K.Pradhan, **M.K.Mohanty** & S.K.Kar *The Tecno Economic & Environmental Assessments of Grid-connected Photovoltaic Systems in Bhubaneswar, India, International Journal of Environmental Ecological and Mining Engineering, Vol.8,No.4,2114,248-254.*

- N.H.S.Ray, P.R. Swain , **M.K.Mohanty**, *An Investigation on Performance Characteristics of C.I. Engine Using Biogas and Diesel in Dual Fuel Mode*, *International Journal of Science , Engineering and Technology Research*, Vol.3,No.6,2114,1716-1723.
- Nabnit Panigrahi, **M. K. Mohanty**, S. K. Acharya, S. R Mishra, R. C. Mohanty, *Experimental Investigation of Karanja Oil as a Fuel for Diesel Engine-Using Shell and Tube Heat*, *International Journal of Chemical, Materials Science and Engineering* Vol.8,No.1,2114,91-98.
- Nabnit Panigrahi , Sruti R Mishra , **Mahendra K Mohanty** , Ramesh C Mohanty *Performance Evaluation of CI Engine using Biodiesel from High FFA Polanga oil*, *Procedia Engineering* ,2013.
- S.R. Mishra , **M.K. Mohanty** , S.P. Das and A.K. Pattanaik *Optimization of base catalyzed transesterification of Simaroubaglauca oil for biodiesel production*, *International Journal of Sustainable Energy*, 2013
- N Panigrahi & **M.K. Mohanty**, *EXPERIMENTAL INVESTIGATION ON THE PERFORMANCE OF NOME FUELLED C.I ENGINES*, *International Review of Mechanical Engineering (I.RE.M.E.)*,2012,6:7,1586-1592.
- N.Panigrahi, M.K.Mohanty, & A.K.Pradhan *Non-Edible Karanja Biodiesel- A Sustainable Fuel for C.I. Engine*, *International Journal of Engineering Research and Applications (IJERA)*,2012, 2:6,853-860
- **M.K. Mohanty**,S.R. Mishra,N. Panigrahi *Biodiesel Production from Various Tree-Borne Oils*, *Journal of Biofuel*,3(1),2012
- Mishra Sruti Ranjan, Mohanty Mahendra Kumar and Pattanaik Ajay Kumar *Preparation of Biodiesel from Crude oil of Simarouba glauca using CaO as a Solid Base Catalyst*, *Research Journal of Recent Sciences*,1(9),2012

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