Published Date:	Saturday 23rd October, 2021	Publication:	Assam Post [Guwahati]
Journalist:	Bureau	Page No:	1, 11
MAV/CCM:	110,006/120.48	Circulation:	57,000

IIT Guwahati transfers Energy-Efficient, Eco-Friendly Technology for cooking applications

Rajib Borgohain, Guwahati, Oct 22: Indian Institute of Technology Guwahati has transferred to an industry partner an energy-efficient and environment-friendly technology developed for cook-stoves by its researchers for commercialization. This will ensure that the benefits of the research reach the society at large and benefit the common man. A Research team headed by Prof .P. Muthukumar, Department of Mechanical Engineering, IIT Guwahati, had developed 'Porous Radiant Burners' for cook-stoves equipped, which can provide the fuel saving in the range of 25 to 50 per cent. It can be operated with LPG, Biogas and Kerosene. This technology has been transferred to an industrial partner M/s. AGNISUMUKH ENERGY SOLUTIONS PRIVATE Ltd, Bangalore for commercialization. The MoU for this technology transfer was signed on 21st October 2021 in the presence of Prof. T.G. Sitharam, Director, IIT Guwahati, Faculty, Researchers and other officials of IIT Guwahati and representatives from the Industry Partner. This effort will be a major contribution of IIT Guwahati towards the Government of India's efforts to enhance the access ***Contd to Pg 11.***

Published Date:	Saturday 23rd October, 2021	Publication:	Assam Post [Guwahati]
Journalist:	Bureau	Page No:	1, 11
MAV/CCM:	110,006/120.48	Circulation:	57,000

IIT Guwahati transfers Energy-Efficient,..

to clean cooking energy by promoting LPG, biogas and improved cook-stoves (ICS) through various policies and programs. Highlighting the unique aspects of 'Porous Radiant Burner,' Prof. P. Muthukumar, Department of Mechanical Engineering, IIT Guwahati, said, "These indigenously developed cook-stoves equipped with specially-designed double layered PRBs provide fuel saving in the range of 25-50 % and reduces CO and NOx emissions by about 80 per cent. The newly developed PRB is ideally suited both gaseous fuels like LPG, Biogas, PNG and liquid fuels like Kerosene, Methanol and Ethanol, for domestic as well as community/commercial cooking." The IIT Guwahati research team believes that the commercialisation of Porous Radiant Burner (PRB)-based LPG cook stoves across India will provide a huge LPG saving of about 13 lakh domestic cylinders per day and also will have a global impact on the burner-based applications. Speaking on the occasion of MoU signing, Prof. T. G. Sitharam, Director, IIT Guwahati, said that PRB-based cook-stove technology will play a key role in reducing the overall fuel consumption in the cooking sector, leading to a huge annual saving of about Rs. 50,000 crore for the Government, thus reducing the financial burden significantly and conserving energy. Further, it will also provide a better cooking environment by reducing CO and NOx emissions. Industry partner, Mr Hari Rao, Chief Executive Officer, M/s. AGNISUMUKH ENERGY SOLUTIONS PRIVATE Ltd said, "Indian cooking system and global culinary world destroyed the nutrition of food by introducing modern fuel (LPG, Natural Gas) which reduced the intensity of heat but increased the pressure, while the traditional practice of cooking was based on intense heat totally on atmospheric pressure the Porous Radiant Burner technology will bring back the best practices in thermal management in cooking & industrial applications." One of the targets of Sustainable Development Goal 7 (SDG 7) is to ensure availability and usage of clean cooking fuel to 100 per cent of households by 2030. However, SDG India dashboard indicates that only 56 per cent of households use clean cooking fuel. The country needs to cover around 44per centof households in the next nine years. In order to achieve this goal, accessibility, affordability and product awareness have to be considered while developing new sustainable cooking solutions. One of the important aspects of cooking solutions is the development of efficient and eco-friendly cook-stoves. Being the second most populated country in the world, India has a large LPG consumer base (about 28 crore) which makes cooking an energy-intensive sector. Further, India imports about 50 per cent of its LPG requirement. In this scenario, even a small improvement in the thermal efficiency of the cook-stove will result in a significant reduction in LPG imports for the Government. Further, household pollution accounts for about 6.5 per cent of the total deaths in India every year. Household air pollution is caused mainly by the use of polluting cooking fuels and inefficient cook-stoves. Use of PRB reduces CO and NOx emissions by about 80 per cent, resulting in better indoor air quality. Indian Institute of Technology (IIT) Guwahati established in 1994 has completed 25 years of glorious existence in 2019. At present, the Institute has eleven departments, five inter-disciplinary academic centres and four schools covering all the major engineering, science and humanities disciplines, offering BTech, BDes, MA, MDes, MTech, MSc and PhD programmes. The institute offers a residential campus to 412 faculty members and more than 6,000 students at present. Besides its laurels in teaching and research, IIT Guwahati has been able to fulfil the aspirations of people of the North East region to a great extent since its inception in 1994. The picturesque campus is on a sprawling 285 hectares plot on the north bank of the Brahmaputra, around 20 kms from the heart of the Guwahati city. IIT Guwahati is the only academic institution in India that occupied a place among the top 100 world universities – under 50 years of age – ranked by the London-based Times Higher Education (THE) in the year 2014 and continues to maintain its superior position even today in various International Rankings. IIT Guwahati gained rank 41 globally in the 'Research Citations per Faculty' category and overall 395 rank in the QS World University Rankings 2022 released recently. IIT Guwahati has retained the 7th position among the best engineering institutions of the country in the 'India Rankings 2019' declared by National Institutional Ranking Framework (NIRF) of the Union ministry of Human Resource Development (HRD). IIT Guwahati has been also ranked 2nd in the 'Swachhata Ranking' conducted by the Govt. of India. Recently, IIT Guwahati has been ranked as the top ranked University in 2019 for IT developers by HackerRank in the Asia-Pacific region. Among other frontier areas of research and innovation, IIT Guwahati is working towards augmenting critical science research initiatives in Genomics, Developmental Biology, Health Care and Bioinformatics, Flexible Electronics, Advanced Functional Materials, Sustainable Polymers, Rural Technologies, Disaster Resilience and Risk Reduction, and Water Resources and Management. In its silver jubilee year, IIT Guwahati is poised to scale newer heights through all round growth and development.