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To
The Editor,

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Sir,

I request that the following matter may kindly be published in your esteemed daily:

TNAU signs Agreement with Russia – Joint project for setting up of biomass based Biorefinery

In a move to establish biorefinery for chemicals and fuel production from biomass and to meet dwindling reserves of crude oil supplies, Cooperation Agreement was signed between Boreskov Institute of Catalysis, Siberian Branch of the Russian Academy of Sciences (BIC), Novosibirsk, Russia and Tamil Nadu Agricultural University (TNAU), Coimbatore. This joint project aims at the development of scientific bases of integrated, highly sustainable and energy efficient biorefinery for the local lignocellulosic (crops/wood) feed stocks. Some of the key areas to be addressed in the project are novel biomass pretreatment, use of thermophilic enzymes for biomass deconstruction, fuel ethanol and isobutanol production, development of combined methods for production of aromatic feedstock chemicals and fuel additives by lignin depolymerization, etherification using biocatalysts and solid catalysts. This unique adapted combination of bio- and catalytic technologies will allow us to develop integrated biomass processing value chains which result in: production of variety of valuable products such as fuels, chemicals and other semi-finished products essential for local and international markets; the possibility of upgrading and integrating this biorefinery into existing plants; Overall improvement of process economy by reduction of costs for biomass processing, fermentation, waste product management.

Speaking about the joint venture, Dr. K. Ramasamy, Vice-Chancellor of TNAU said that the increased concern for the security of the oil supply and the negative impact of fossil fuels on the environment, particularly greenhouse gas emissions, has put pressure on society

to find renewable fuel alternatives. Biomass (Lignocellulosic) materials are among the candidates to be used as a renewable resource. Since these lignocellulosic resources are locally available in plenty, requires less capital investments for conversion, reduces greenhouse gas emissions, create employment opportunities in rural areas, helps to solve the disposal problem, developing and refining technology for cost effective production of commodity chemicals and transport fuel from lignocellulosic biomass is highly warranted to meet the dwindling reserves of crude oil.

Further Dr. K. Ramasamy emphasized that India being tropical country receives more than 12 hours of sunshine a day which generate huge amount of biomass. Such inexpensive biomass could be used for production of value added feed stock chemicals and transportation fuels. He also recalled about the earlier Russian collaboration with TNAU on the soil carbon enrichment.

Dr. Oxana Taran and Dr. Ksenia Sorokina from Russia attended the meeting and said the complementarity of the team would bring wealth from waste. Such technology would eventually improve the economy of both India and Russia. Further, the exchange visits between scientists from Indian and Russian partner will help us in exchange of expertise and develop some innovative technologies in biomass derived fuels and chemicals.

The project investigator from Indian side, Dr. U. Sivakumar while speaking about the project, briefed that when lignin research was untouched by many scientific community around the world, Dr.K.Ramasamy laid foundation for such research in this university about 30 years back and trained his group. The combination of biocatalytic processes of TNAU and catalytic processes of Russia would definitely bring out value added commodity chemicals such as Hydroxy Methyl Furfural, Xylo-oligosaccharide, Vanillin, Benzoate and so on. During the meeting, the center Director, Dr. V.P. Duraisami, the Head of the Department, Dr. P. Marimuthu and Co investigator of the project, Dr. D. Ramesh were present.

This joint project is initially sanctioned for three years and funded independently by science and technology ministries of respective countries.

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