TAKE AWAYS

Training Objective: To provide participants with experience on Hands-on production of biofuels from the abundantly available agricultural wastes in order to contribute to achieve:
Reduction in GHG emissions (released due to the use of fossil fuels)• Creation of rural & urban jobs •Industrialization of rural areas. Inclusive growth and access to modern energy for the poor

Training Structure: The training will be offered over 5 consecutive days and every session includes expert lecture and introductory remarks prior to hands-on training.

Targeted participants: Faculty of Microbiology/ Biotechnology/ life sciences, Students pursuing M.Sc/Ph.D, Engineers, policymakers, entrepreneurs, business start-ups and NGOs.

Training Outcomes: Participants will get awareness on entrepreneurship opportunities to become a startup in this area (bioethanol), commercialization of the product would be taken up through this program, which will line up with the national innovation startup policy 2019 for higher education institutions.

TOPICS COVERED

- Introduction to biofuels, types of biofuels. Feed stocks for biofuels and production technologies.
- Bioreactors for conversion of biomass to bioethanol. Sterilisation of fermenter and techniques of inoculation of fermentation medium for production of bioethanol. Down stream processing.
- Environmental management. Latest research, market opportunities and current trends in bioethanol production. IPR in biotechnology. Start-up opportunities in biotechnology sector
- Interaction with industry experts, mentors and startup companies.
- Hands on training with real time exposure to 500 litre bioreactor.

This training will accommodate 200 participants only, on first come first serve basis. Training will be conducted in online mode.

COORDINATOR
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AICTE Training and Learning (ATAL) Academy sponsored

5 DAY FDP

In

Bioconversion Technologies and Start Up Opportunities in Biofuels Production

Hosted by

Department of Microbiology,

Silver Jubilee Govt College (A), Kurnool,

Andhra Pradesh

In collaboration with

ATAL Incubation Centre,

ALEAP WE HUB, Hyderabad, Telangana

ABOUT THE SJGC

Silver Jubilee Government College emerged on the glorious eve of silver jubilee celebrations of Indian independence in 1972. It is the brain-child of Sri P. V. Narasimha Rao, the chief minister of Andhra Pradesh then, who wanted to establish a state-wide institution to forge emotional integration of the people of the three regions of the state when its integration was threatened by the separatist movements. For this lofty ideal, he chose sri m. V. Rajagopal, IAS, the visionary educationist and principal secretary of higher education of that time. Sri M. V. Rajagopal aimed at giving the best education to the best students irrespective of their financial status. His dream of establishing an ideal academic institution on the model of Cambridge university took the shape of this college. It was established as a boys college with fully residential system and admissions are done through state wide entrance examination. Co-education was introduced in 2014-15 based on NAAC peer team recommendations in order to create equal opportunities to women. Since its time of inception, the college has been consistently catering quality education to the meritorious students of marginalized section of the society.

DEPARTMENT OF MICROBIOLOGY

Microbiology was started in the year 1996 as a restructured course with an objective to develop qualified, competent and skilled graduates in the discipline of microbiology. The department offers UG programme with botany, microbiology, chemistrycombination, and UGC approved skill enhancement course in "microbial diagnosis in health clinics" in the fourth semester. CBCS curriculum was introduced in 2017- 18 with project work in the sixth semester. The department implements innovative student centered teaching learning methodologies by optimum utilization of ICT in classroom teaching and performing virtual practicals in collaboration with amrita viswa vidhyapeetham under NMEICT programme. The department consistently achieves 100% results and our graduates secure seats in state/central universities and institutes of repute for PG programmes every year. The department of microbiology has an excellent infrastructure which provides the students with the ambience necessary for them to understand and practice advanced techniques in microbiology. The members of the faculty are well experienced to continue their impressive accomplishment as leaders in their respective field and have engineered the success of the department.

PATRON

Dr.V.V.Subrahmanya Kumar
Joint Director (FAC),
O/o CCE, Vijayawada
& Principal ,
Silver Jubilee Govt College (A), Kurnool

CONVENER

Dr.B.Devika Rani
Vice Principal

ORGANIZING COMMITTEE:

Dr.G.Srinivas
Chief Coordinator
JKCMC, O/o CCE, Vijayawada
IQAC Coordinator

Dr.K.Michael David
HoD, Botany

Mr.P.PothuRaju
HoD, Computer Science

Dr.C.SudhabReddy
HoD, Chemistry

Mr.Ameera Basha
HoD, Physics

Technical Support:
Mr.Jahiruddin,
JKC Mentor

Session wise Tentative Schedule

Elementary Level (Hands on Training in substrate selection and analysis, Hydrolysis of substrate, Measurement of extracts, Enzyme Production and estimation, Bioreactor and Bioprocessing Technology) (14-18 June 2021)

	Session 1	Session 2			Session 3 (Lab Experiments Demo)
Time	10:00 -12:00	12:00-1:00		2:00-3:00	3:00-5:00
Day 1	**Introduction of the Workshop:** Dr.A.Vimala Rodhe, HoD, Microbiology, SJGC, Kurnool **Key note:** Prof. D.V.R.Sai Gopal, VC, Cluster University, Kurnool	**Lecture 1 :** Biofuels Production and Utilisation- National and Global Scenario. **Prof.T.Satyanarayana**		**Lecture 1 (cont..):** Biofuels Production and Utilisation- National and Global Scenario **Prof.T.Satyanarayana**	**Lab 1** Lignocellulosic Biomass- Compositional Analysis of Feedstock **Dr.A.Vimala Rodhe**
Day 2	**Lecture 2** Novel Approach in Exploitation of Waste Alginate Towards Production of Bioethanol. **Dr. E.Venkatanagaraju**	**Lecture 3:** Introduction to Bio Process Technologies **Dr.Zahoorullah S MD**		**Lecture 3:** Introduction to Bio Process Technologies **Dr.Zahoorullah S MD**	**Lab 2** Measurement of fermentable sugars, Lignin and Inhibitors. Enzyme activity. **Ms.J.Sridevi**
Day 3	**Lecture 4:** Protein Engineering in bioethanol production **Dr.Chand Pasha**	**Lecture5:** Down Stream Processing, Environmental Management in Biofuel Industry **Dr. V Renu Sarath Babu**	**1:00-2:00 LUNCH**	**Lecture 5:** Leach bed bioreactor for MSW conversion to biofuels. Market opportunities **Dr. V Renu Sarath Babu**	**Lab 3** Molecular Biology techniques **Dr.Chand Pasha**
Day 4	**Lecture 6:** Waste Biorefinery Models Towards Sustainable Circular Bioeconomy **Dr.S.Venkat Mohan**	**Lecture:7** Art of Living **Mr.Raghu D Degala**		**Lecture 7:** Art of Living **Mr.Raghu D Degala**	**Lab 4** Hands-on Training on Bio Process Technologies **Mr.Murali Krishna**
Day 5	**Lecture 8:** Latest research in Biofuels Start-up opportunities in Biotechnology sector. **Dr.Zahoorullah S MD**	**Lecture 9:** IPR in Biotechnology **Dr. Surya Mani Tripathi**		**Lecture 9:** IPR in Biotechnology **Dr. Surya Mani Tripathi**	Assesment, Feedback by participants Valedictory Keynote address