



CEFIPRA sponsored workshop on

Technology for Resilient Agriculture in Cane Sugar Farming: Machine Learning and Artificial Intelligence for Precision Farming

Venue: Reunion Island

Date: 23 September to 28 September 2024



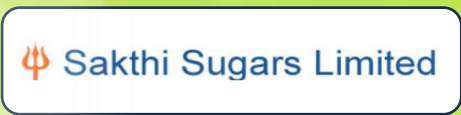
Sakthi Sugars Limited



The Indo-French Centre for the Promotion of Advanced Research (IFCPAR / CEFIPRA) exemplifies international collaborative research in advanced Science & Technology. The center is jointly supported by the Department of Science & Technology, Govt. of India, and the Ministry for Europe & Foreign Affairs, Govt. of France. CEFIPRA actively contributes to the Indo-French Science, Technology & Innovation (ST&I) landscape through various programs, including the Scientific Collaborative Research Programme, which fosters Academia-to-Academia collaborations; the Industry-Academia Research & Development Programme, which strengthens ties between Industry and Academia.

CIRAD is the French agricultural research and international cooperation organization working for the sustainable development of tropical and Mediterranean regions. CIRAD works with its partners to build knowledge and solutions and invent resilient farming systems for a more sustainable world. It mobilizes science, innovation and training in order to achieve the sustainable development goals. Its expertise supports the entire range of stakeholders, from producers to public policymakers, to foster biodiversity protection, agroecological transitions, food system sustainability, plant, animal and ecosystem health, and sustainable development of rural territories and their resilience to climate change. CIRAD is a public establishment (EPIC) under the joint authority of the Ministry of Higher Education and Research and the Ministry for Europe and Foreign Affairs.

The eRcane Research Centre plays a crucial role in Réunion's sugarcane sector, spearheading Genetic and Technological advancements to enhance viability, profitability and sustainability. The center comprises two branches: the Agronomy branch, housing the Plant Breeding and Cropping Techniques departments, and the Industry branch, dedicated to optimizing sugar processing and exploring industrial improvements, including the incorporation of green chemistry principles. This dual-structured approach positions eRcane at the forefront of research and development in the sugarcane industry.



Kumaraguru College of Technology (KCT), established in 1984 as a private engineering college in Coimbatore, India. KCT is affiliated to Anna University, India and recognized by the All India Council for Technical Education (AICTE). KCT has earned an A++ Grade accreditation from the National Assessment and Accreditation Council (NAAC) and is accredited by the National Board of Accreditation (NBA) for all its degree programs. KCT's commitment to academic and research excellence in digital technologies, AI, UAV's, mechanization & automation has made it as one of the top engineering colleges in South India.

Kumaraguru Institute of Agriculture (KIA), founded in 2014, affiliated to Tamil Nadu Agricultural University, India demonstrating a beacon of agricultural excellence. It is committed to empowering the youth with a high paradigm of agricultural science. The institute's state-of-the-art facilities, including capacious classrooms, laboratories, and expert faculty, provides an ideal environment for learning. With two expansive farms, South and North, equipped with modern machineries and technologies to offer hands-on training, fostering practical skills, innovative approaches through R&D to sustainable agriculture.

Sakthi Sugars Limited (SSL), established in 1961, a key player in the region, with three cane sugar factories in TN, India and an annual crushing capacity of 3.4 million tonnes. The company diversifies into industrial alcohol production and soya product manufacturing. The industry is operating the largest distillery plant and a soybean processing unit in the region. It is operating three co-generation power plants with a capacity of 92 MW, SSL actively contributes to the country's central grid after meeting internal power requirements. The corporate is committed to excel in business, fostering rural development through education & healthcare, CSR initiatives, and social welfare programs.

Program

Day 1: 23rd September 2024 – Indo French workshop at Reunion Island (CIRAD 3P South)

Session 1	09:00	Welcome Address by Sudhakar BALAKRISHNAN	10 minutes
	09:10	Inaugural address by Secretary - DST, Govt. of Inda (TBC)	20 minutes
	09:30	Inaugural address by Ambassador of India (France) (TBC)	20 minutes
	09:50	Inaugural address by Director CEFIPRA	20 minutes
Session 2	10:10	About the workshop (participants introduction) Workshop objectives by Christophe Poser	15 minutes
	10:25	Coffee Break	20 minutes
Session 3 (chair: Dr. Christophe)	10:50	Sugarcane in India : context by Uthandi JEYARAJAN	40 minutes
	11:30	Sugarcane in Reunion Island context By J.C. Dagallier / L. Barau	40 minutes
	12:10	Lunch Break	50 minutes
Session 4 (Chair: Dr.Ramsundram)	13:00	AI & ML – Data Science By JC Soulié & S. Auzoux	40 minutes
	13:40	Variety and maturity assessment in India by Uthnadi JEYARAJAN	40 minutes
	14:20	Breeding and selection in Reunion Island JY. Hoarau & Co. L Barau	40 minutes
	15:00	Coffee Break	20 minutes
Session 5 (Chair: Dr. Sudhakar)	15:20	Soil Health and irrigation by Hemalatha SWAMINATHAN	40 minutes
	16:00	Soil Health: Inorganic fertilizer - Serdaf – Biofunctool by A Versini – Marion Colinet	40 minutes

Day 2: 24th September 2024 – Indo French workshop at Reunion Island

Morning	La Mare - eRcane/CIRAD
	Lunch Break
Afternoon	eRcane / CIRAD La Bretagne : Breeding Station

Day 3: 25th September 2024 - Indo French workshop at Reunion Island (Hotel Le Recif)

	09:00	Speech by France Embassy / Ministry Officials	90 minutes
	10:30	Coffee Break	20 minutes

Session 6 (chair: Mr. Uthnadi)	10:50	IPM : <i>Sipha flava</i> - Push & pull erianthus by L Costet & Alain Ratnadass	40 minutes
	11:30	Biodiversity – Entomology by V Soti	40 minutes
	12:10	Lunch Break	60 minutes
Session 7 (Chair: Dagallier / L. Barau)	13:10	Bio slurry and Cane productivity - Sudhakar BALAKRISHNAN	40 minutes
	13:50	Biota of cane sugar growing soil Microbiology - Arun Kumar NAGARATHINAM	40 minutes
	14:30	Coffee Break	20 minutes
Session 8 (Chair: Soulié & S. Auzoux	14:50	Remote sensing : Tools - L. Le Mezo, M. Mezano, M. Allo	40 minutes
	15:30	Digital management of Cane sugar farm and farmers - Ramsundram NARAYANAN	40 minutes
Day 4: 26th September 2024 - Indo French workshop at Reunion Island			
Morning	Visit to CIRAD 3 P “Plant Protection Pôle” Laboratories		
Lunch Break			
Afternoon	eRcane Research Station - Le Gol - Selection Fields		
Afternoon	First phase discussion for workshop in India and further actions 2025 - at Rivière du Mat.		
Day 5: 27th September 2024 - Indo French workshop at Reunion island (Hotel Le Recif)			
Morning	Sugar Factories visit and understanding of new technologies		
Lunch Break			
Afternoon	Visit to distillery & diner at - Rivière du Mat		
Day 6: 28th September 2024 - Indo French workshop at Reunion island (Hotel Le Recif)			
Morning	Geology – Soil formation: visit to the Volcano (Piton de la Fournaise)		
Lunch Break			
Afternoon	Geology – Soil formation: visit to the Volcano (Piton de la Fournaise)		

Live YouTube streaming: <http://www.youtube.com/@workshopLive-v7k> (from 23rd to 28th September 2024)

Contact:

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