

ISSCT PROCESSING WORKSHOP

GOA, INDIA

8 - 12 November 2003

"New and emerging measurement, control and processing strategies for manufacture of quality sugar"

WELCOME TO INDIA

India has a cultural heritage that is over 5000 years old. It has a variety of religions, castes, traditions, art, literature, music, architecture and landscapes which blend together in a perfect harmony. India is the largest democracy and 7th largest country in the world with a population of nearly 1 billion people, covering an area of 3,287,263 sq km. Bounded by the Himalayas in the north, it stretches southward and at the tropic of Cancer, tapers off to the Indian Ocean between the Bay of Bengal on the East and the Arabian Sea on the West.

Sugar is the second largest agrobased industry in India. This year, a total of 18.5 million tonnes of sugar will be produced by about 434 sugar factories situated in different parts of India. About one million tonnes will be exported. With the liberalization and globalization of the Indian economy, the Indian sugar industry is poised for a rapid modernization and expansion.

Goa – the venue of the Workshop - , a tiny emerald land on the west coast of India, is situated between the borders of Maharashtra and Karnataka, the two leading sugar producing states of India. Goa was under the rule of the Portuguese for over 450 years. A very striking feature of Goa is the harmonious relationship among various religious communities, who have lived together peacefully for generations. Its golden beaches, scenic surroundings, medieval churches, ancient temples and friendly people have made Goa a favourite destination for travellers. For the same reason, Goa draws the largest number of tourist charter flights from the West.

The workshop will be held at Hotel Marriot Resort (Beach Resort) at Goa. This hotel is located overlooking the mouth of the Mandovi Rivers at the entrance of the Arabian Sea. The other facilities at the hotel are sports bar, pool bar, lobby lounge, business center, executive floor & lounge, health club, spa, tennis, squash, swimming pool and casino.

WORKSHOP PROGRAM AND THEME

The ISSCT Processing Section Workshop at Goa, India (8th to 12th November, 2003) will consist of a pre-workshop tour for two days to two sugar factories, followed by three days of presentations and discussion on the workshop theme. The theme will be:

"New and emerging measurement, control and processing strategies for manufacture of quality sugar "

Subjects of interest to the workshop include but are not limited to;

- **The Quality Chain – linking cane quality and harvesting to sugar quality**
 - *Review of existing systems*
 - *Change – industry transitions*
 - *Emerging measurements and systems*
- **Sugar quality – Status, trends and prospects**
 - *Review of existing systems*
 - Quality standards for domestic consumption
 - Quality standards for international trade
 - *Raw sugar*
 - *Plantation white sugar*
 - *Refined sugar*
 - *Speciality sugars*
- **Process options and control strategies for quality sugar manufacture**
 - *Review existing*
 - *New and emerging*
 - Novel clarification
 - Filtration
 - Adsorption (ion exchange)
 - Decolorization

- Automation
- **Measurement at critical control points for quality sugar manufacture**
 - On-line, at-line and laboratory measurements
 - Review existing
 - New and emerging
 - Quality assurance of measurement system

Tentative Programme

| | |
|--------------------------|---|
| Friday 07 Nov | |
| | Arrival & Registration in the evening at Hotel Marriott Resort, Goa |
| PRE WORKSHOP TOUR | |
| Saturday 08 Nov | |
| 07:30 | Dep. from Hotel Marriott Resort |
| 13:30 | Arrival at Ugar Sugar Works, Belgaum |
| 13:30 – 14:00 | <i>Lunch at Ugar Sugar Works</i> |
| 14:30 – 17:30 | Factory Visit & Discussion |
| 17:30 – 18:00 | <i>Tea / Coffee / Snacks</i> Overnight stay at Ugar Sugar Factory Guest House |
| Sunday 09 Nov | |
| 07:00 – 08:30 | <i>Breakfast</i> |
| 08:30 | Dep.to Godavari Sugar Mills Ltd., Sameerwadi |
| 10:30 | Arrival at Sameerwadi Sugar Factory |
| 10:30 – 11:00 | <i>Tea / Coffee / Snacks</i> |
| 11:00 – 13:30 | Factory Visit & Discussion |
| 13:30 – 14:30 | <i>Lunch</i> |
| 14:30 | Dep. from Sameerwadi |
| 20:00 | Arrival at Hotel Marriott Resort, Goa |
| WORKSHOP | |

| | |
|-----------------------|--|
| Monday 10 Nov | |
| 09:30 – 10:30 | Registration |
| 10:30 – 11:00 | <i>Tea / Coffee</i> |
| 11:00 – 12:00 | Inaugural Ceremony |
| 12:00 – 12:15 | Workshop introduction - <i>Edye, LA</i> |
| 12:15 – 13:00 | Advances in on-line measurement in sugar manufacture, <i>Edye, LA</i> |
| 13:00 – 14:00 | <i>Lunch</i> |
| 14:00 – 14:30 | Sugar cane harvesting and its linkage with sugar recovery, <i>Singh, Ram Murti</i> |
| 14:30 – 15:00 | Cane variety characteristics with respect to sugar quality, <i>Davis, SB</i> |
| 15:00 – 15:30 | Cane and sugar analysis system, <i>Staunton, S</i> |
| 15:30 – 16:00 | Rapid detection of deteriorated cane: The ethanol sniffer, <i>Davis, SB</i> |
| 16:00 – 16:30 | <i>Tea / Coffee</i> |
| 16:30 – 17:10 | Controlling microbial sugar losses in whole cane diffuser: Necessity of biocide with rapid action, <i>Kulkarni, VM</i> |
| 17:10 – 17:45 | Presulphitation of refractory and stale juices, <i>Varma, ND</i> |
| Tuesday 11 Nov | |
| 09:30 – 10:00 | Modern automatic laboratory equipment for the sugar factory, <i>Kucejda, M</i> |
| 10:00 - 10:30 | Automatic process control equipment for data collection in the sugar factory, <i>Kucejda, M</i> |
| 10:30 - 11:00 | Clear juice turbidity monitoring: A tool for control of clarification, <i>Davis, SB</i> |
| 11:00 – 11:30 | <i>Tea / Coffee</i> |

| | |
|-------------------------|---|
| 11:30 – 12:00 | Real-time automatic measurement of sugar colour, <i>Nielsen, BC</i> |
| 12:00 - 12:30 | Importance of measuring non-sugar recirculation & post clarification colour rise in sugar quality control, <i>Shukla, GK & Jagdish, K</i> |
| 12:30 - 13:00 | Re-evaluation of the existing method of ICUMSA colour measurement at 420nm, <i>Singh, Kaman; Mohan, Sudhanshu & Sharma, SB</i> |
| 13:00 – 14:00 | <i>Lunch</i> |
| 14:00 - 14:30 | Material colour concept in sugar industry and its qualitative-quantitative evaluation in UV region: A proposal for inclusion in ICUMSA, <i>Singh, Kaman; Sharma, SB & Mohan, Sudhanshu</i> |
| 14:30 – 15:00 | Mechanisation of raw sugar handling, <i>Gupta, MC & Ravichandran, M</i> |
| 15:00 - 15:30 | A new technique for the production of seed slurry, <i>Johari, Moon</i> |
| 15:30 - 16:00 | Replaceable carbide tips, <i>Gupta, Joydeep Dutta</i> |
| 16:00 - 16:30 | <i>Tea / Coffee</i> |
| 16:30 - 17:00 | Plate falling film evaporators for the cane sugar industry - New experiences, <i>Töbe, Peter</i> |
| 17:00 - 17:30 | New era for the Indian sugar industry- <i>Balamurugan, B</i> |
| Wednesday 12 Nov | |
| 09:30 – 10:00 | Sugar standards, status, problems and challenges, <i>Singh, Mangal</i> |
| 10:00 - 10:30 | Indian PWS Quality vis-a-vis domestic & international standards & ICUMSA Methods - <i>Keskar, VS</i> |
| 10:30 - 11:00 | Colour balance study - important tool towards production of low coloured PWS - <i>Keskar, VS</i> |
| 11:00 - 11:30 | <i>Tea / Coffee</i> |
| 11:30 – 12:00 | Using deep bed filters for improved clear juice quality, <i>Davis, SB</i> |
| 12:00 - 12:30 | The application of syrup clarification for improved sugar quality, <i>Steindl, RJ</i> |
| 12:30 - 13:00 | Use of conductivity data for quality assurance in plantation white sugar factory, <i>Nigam, RB; Gupta, Satish K; Mitra, Sandeep K & Sanyal P</i> |

| | |
|---------------------------------------|---|
| 13:00 – 14:00 | <i>Lunch</i> |
| 14:00 – 14:30 | Molar ratio for chemical optimization for plantation white sugar manufacture, <i>Nigam, RB; Gupta, Satish K; Mitra, Sandeep K & Sanyal P</i> |
| 14:30 - 15:00 | C2R Process - A technology to produce refined sugar in an existing plantation white sugar mill, <i>Bhagat, JJ</i> |
| 15:00 - 15:30 | An improvement for plantation white sugar industry by installing a mini refinery (based on the phosphitation method), <i>Johari, Moon</i> |
| 15:30 – 16:00 16:00 – 17:00 | <i>Tea / Coffee</i> Panel discussion on direct white sugar manufacture - chaired by <i>Mr. R. Steindl</i> Panel: <i>Singh, Mangal; Davis, SB; Bhagat, JJ; Johari, Moon; Kulkarni, VM; Nigam, Prof RB</i> |