Welcome to the XXX ISSCT Congress!

The Argentine Association of Sugar Cane Technicians (SATCA) is pleased and honoured to invite all professional and business people related to sugar and alcohol production to be part of the XXX Congress of the ISSCT (International Society of Sugar Cane Technologists) scheduled from 31 August to 8 September 2019 in northwest Argentina.

The sugar cane agro-industry has a long tradition in Argentina, dating from colonial times. For example, San Isidro, a sugar mill in Salta province, is soon to be 260 years old. The industry has grown significantly in our country, since this outstanding crop is no longer used exclusively for the traditional manufacture of sugar, but has become the basis of a national programme to produce bioethanol. This programme is now fully developed with the main objective to replace gradually fossil fuels, which involve a very high carbon footprint, by biofuels produced from renewable sources. Today, the wide variety of products and by-products obtained from sugar cane include, besides sugar, the bagasse used in boilers and paper production, the steam used in heat-exchange processes and in driving the machinery and turbines and subsequent generation of electricity, and the molasses fermented to produce bioethanol and other future by-products.

The immense capacity of biomass production derived from sugar cane will be fully utilised, aided by new developing technologies. Examples are the production of second-generation fuels, plastic and cattle feed obtained from bagasse hydrolysis and citric acid produced from molasses. Projects and investments are being developed to make good use of the historically called “organic industrial waste”, which will become the raw materials for final products with added value, such as compost. The vinasse from ethanol production is burnt in boilers to produce thermal energy, or it is anaerobically fermented to produce biogas, and/or it is used as potassium fertilizer, by means of direct fertigation or as a component of soil conditioners. Together with other by-products, such as the filter cake and ash from the boilers, vinasses are currently processed at a large scale to produce compost. Other potential uses of the by-products are potassium sulphate or potassium chloride obtained from vinasse, or dried yeast used for cattle feed.

Since ISSCT was created almost a century ago, Argentinian scientists, technicians and sugar industry executives have been involved in the activities of this international organisation, taking part in many of its events. This ensured that the local agribusinesses kept up-to-date with the technological progress from the most important research centers worldwide, and also in agricultural and industrial development arising from the private sector in top sugar producing areas in all continents.

We are very excited and proud to be hosting the Congress and showcasing our industry to the technologists, scientists and business people intending to visit us in 2019. Our clear objective is to generate a space to meet each other and exchange useful information. This will ensure that sugar cane will continue to contribute to the development of the world by the best possible use of biomass, while helping with the economic and social development of those large regions with capacity to grow this crop.
To achieve this objective, the Congress Organising Committee, together with the sugar-alcohol sector in Argentina and with the firm support of national and provincial governments of this region, are working hard to organise a productive Congress, one that may leave footprints not only in the region but also across the world.

The logo we have designed for this Congress clearly shows our intention: to contribute with new and relevant knowledge to increase sugar cane productivity and to efficiently manufacture current and new products that may be created with new technologies.

Likewise, the slogan we have adopted “GROWING ENERGY – The Next Page” looks to a significant and remarkable new step of contributing with different energy products (not forgetting energy supplied by sugar as food) for a population with a growing food and energy demand. We aim to have a long-term vision of the world’s problems and using the potential of sugar cane, we are convinced that this Congress will give us the opportunity to outline a clearer future.

Your comfort and cultural experiences will not be forgotten. We will focus on you, the visitor, and provide you with all the necessary comforts for you to return home with great memories of our rich culture, of our outstanding scenery and of the hospitality of the Argentinian people. We are strongly committed to give attendees and their partners the best stay possible in our September springtime experiencing the warmth of the people in northern Argentina.

We are confident that you will be enthusiastic to participate in the XXX Congress activities. We are well advanced in all aspects of our organisation and will welcome you all as our guests during your stay - you deserve the best as distinguished visitors!

Jorge Scandaliaris
Congress Chairman
AN OVERVIEW OF ARGENTINA

Its capital city is Buenos Aires in the center of its eastern coastline, fronting onto the River Plate basin.
Its total population is approximately 45 million living in an area of 2,780,400 km² and with a total coastline of 4,989 km.
The official language is Spanish and the major religion is Catholic, although all religions are welcome.
The local currency is the Argentinean Peso (AR$)
Due to its diverse geophysical landscapes from tropical climates in the north to tundra in the far south, the climate offers a wide variety of temperatures from sub-tropical in the north to Antarctic cold in the south.

WHY VISIT ARGENTINA?

Argentina has the magnificent Andes along the west, with Mt. Aconcagua (6,962 m) in Mendoza, being the highest mountain in the Western Hemisphere. In the north east there are the Iguazú Falls - the world’s largest waterfalls system - in the jungle of Misiones and in the center, the Pampas with its rich plains to the flat to rolling plateau of Patagonia in the south. In this area, the Perito Moreno glacier also offers an amazing view.

This country has countless natural resources: agricultural land (53.9%), arable land (13.9%); permanent crops (0.4%); permanent pasture (39.6%), forests (10.7%) to name some.

Tucumán, the smallest province of Argentina, is the most densely populated (1.5 million inhabitants).

Argentina is the 8th largest country in the world and 2nd in South America, after Brazil.
Its five bordering countries are: Bolivia, Brazil, Chile, Paraguay and Uruguay. The Atlantic Ocean runs along the east coast.
The country is divided into 24 provinces and into 6 regions for tourism purposes.

ENTRY REQUIREMENTS

Foreign tourists from neighbouring countries only need their ID to enter Argentina. Visitors from other countries must have a valid passport, with or without a visa, as appropriate. We recommend that you check with the nearest embassy or consulate about the current requirements for your country.
Sugar cane production areas in northwest Argentina are across three provinces: Tucumán, Salta and Jujuy.

**Tucumán**
The province of Tucumán is 1,310 km from Buenos Aires or a 90-minute flight. It is known as the “Garden of the Republic” due to its exuberant natural beauty. It offers plains and mountains, dry and humid weathers, dense jungles and arid soils, modern cities and quiet villages, native ruins, highlands, basins, rivers and valleys. Archaeological tourism is very well developed through the Calchaquíes Valleys and the Ruins of Quilmes that were the home of the original inhabitants of these lands. Tucumán also offers splendid landscapes such as Tafí del Valle or Amaicha del Valle.

Visit Tucumán Official Website: [www.tucumanturismo.gob.ar](http://www.tucumanturismo.gob.ar)

**Jujuy**
This province is in the far north of Argentina. A land of multiple colours, it is comprised of four regions, one of which, known as “Valles Cálidos” (Hot Valleys) is the sugar cane area. The entire province has unique attractions, amazing landscapes and a huge variety of activities that are available throughout the year. The Puna has desolated but spectacular natural sceneries that include its famous huge salt pans and the Quebrada de Humahuaca (UNESCO World Heritage) featuring the picturesque towns of Tilcara, Purmamarca and Humahuaca - it is a trip for pre-Columbian art. Tourists cannot miss its exquisite typically Andean regional dishes and its fabrics knitted with the finest llama wool.

Visit Jujuy Official Website: [www.turismo.jujuy.gov.ar](http://www.turismo.jujuy.gov.ar)

**Salta**
Known as “The Beautiful" it offers endless options for landscapes: vivid colours of its arid soils, extended salt pans, jungles with exuberant vegetation and the legacy of its original inhabitants. In this province, adventure is easily found in trekking, horse riding, zip line crossing, rappel or bungee-jumping over the Cabra Corral Dam, rafting, paragliding at the Cuesta del Obispo - these are just a few. You can go to San Antonio de los Cobres on the Train to the Clouds passing by at an altitude of more than 4,000 m. Cafayate, famous for its internationally awarded wines and for the highest vineyards in the world (1,700 to 3,000 m above sea level) is a taste experience. The Quebrada de las Conchas is a winding route filled with gorges of mysterious shapes and colours appearing behind every curve.

HISTORY OF SUGAR INDUSTRY IN ARGENTINA

The sugar cane agro-industry dates back to colonial times. The first plantations in Tucumán were established in 1646. Until 1767, sugar cane was only grown by the Jesuits, who obtained homemade sucrose for their consumption. During 1817-1819, Dr. Obispo José E. Colombes, a clergyman, established the first sugar mill and at that moment, the sugar agro-industry started in this province which today has the largest area of sugar cane plantations.

A similar story took place in Salta, with the Ingenio San Isidro, a sugar mill close to being 260 years old.

A new era of rapid expansion started for the industry with the arrival of the railway in 1876. The cost of freight to the great cities and to foreign markets was reduced significantly and machinery could be transported easily from ports to production areas. This generated a new development and economic hub in the original home of Argentinian sugar cane. Around the sugar mills many towns and cities grew rapidly, making Tucumán one of the most vigorous and densely populated provinces in Argentina. There was a similar effect in Jujuy and Salta provinces as other sugar mills were established. Today, 98% of Argentinian sugar cane is grown in the three northwest provinces of Tucumán, Jujuy and Salta. The remainder is cultivated in small areas in the provinces of Misiones and Santa Fe.

RELATED INSTITUTIONS

In Northwest Argentina, sugar cane is based on Research. Our three provinces contribute scientific and technological support through important institutions.

Tucumán has institutions over 100 years old:

- The Estación Experimental Agroindustrial Obispo Colombes (EEAOC) was founded in Tucumán in 1909. Its mission is to promote a sustainable agro-industrial development through science and technology in Tucumán and neighboring regions, and to improve current production systems through innovating technology and by generating adequate food and alternative energy sources with added value, in order to satisfy the new global demands. The EEAOC generates new crop varieties of sugar cane, soybean, wheat, maize, kidney beans, citrus and chickpeas through classical breeding methods as well as modern biotechnology tools. Varieties from the EEAOC breeding programmes are commercialized in Uruguay, Bolivia, Paraguay, Brazil and South Africa in addition to Argentina.

  In sugar cane, the in vitro plants project offers micro-propagated seed cane of the highest genetic consistency and health quality to producers in the region.

  Its goal is to train staff to be able to address new challenges imposed on the productive sector by new markets that entail greater demands and through the adoption of new technologies and techniques such as plant tissue culture, transgenic plants, molecular markers, plant phenotyping, commercial deregulation of transgenic varieties (sugar cane) and analytical methodologies.

- Tucumán National University opened in 1914 and has been the main institution to educate new professionals in the region. Its graduate scientists, mechanical, sugar and chemical engineers, and agronomists of many disciplines are in high demand and are recognised worldwide for their knowledge and work ethic.

- There are also 3 other universities in the province. One, the Universidad de San Pablo-Tucumán, was opened in this century, and was established by a local sugar industry company.

Salta and Jujuy also have research institutes and universities:

- Chacra Experimental Agrícola Santa Rosa, created in 1951 exclusively for development of sugar cane varieties is known for the cultivars NA 63-90 and NA 56-79 (the “1001”), widely known all around the sugar world.

- The National Universities of Jujuy and Salta opened during the 20th century.

At a national level, two institutions have agencies all over the country:

- INTA (National Institute of Agro Industrial Technology) contributes with research on different crops. It has an experiment station almost exclusively devoted to sugar cane in Famailla, a short distance south from Tucumán city.
CONICET (National Council for Scientific and Technical Research) has professionals with a high reputation for research.

SUGAR CANE PRODUCTION TODAY

Sugar cane is the most important economic contributor in the northwest of Argentina. Today, there are 20 sugar mills in this area; 15 of them in Tucumán, 3 in Jujuy and 2 in Salta. In addition, there are 2 other small sugar mills in Santa Fe and Misiones provinces. Production volumes vary considerably among sugar mills – from Ledesma (Jujuy) and Concepción (Tucumán) each with producing over 300,000 tonnes of sugar each year and to some sugar mills in Tucumán producing just 30,000 tonnes of sugar each year.

Total area used for sugar cane is over 400,000 hectares, with several types of growers (small, mid and large enterprises). In total there are about 6,000 growers producing 25 million tonnes of cane that are used in the manufacture of the following products:

SUGAR: In total, factories manufacture between 2.3 to 2.6 million tonnes, used mostly in the domestic market (1.75 million). The remainder is exported to international markets or is delivered to the distilleries to produce alcohol. Notably, four factories process cane to produce about 40,000 tons of organic sugar.

ALCOHOL: Following to the existence of the Biofuels National Law, it is possible to blend 12% bioethanol mixed with gasoline. Therefore, there are distilleries operating in most sugar mills producing dehydrated alcohol, among other types of alcohol. The total volume manufactured in Argentina exceeds 500 million litres per year.

POWER CO-GENERATION:
Argentina co-generates power from cane bagasse and produces biogas from the effluents of the sugar and citrus industries. Some of the sugar mills in Tucumán and Salta were the first to generate an excess in power from sugar cane bagasse to be sold at a domestic level. Recent investments carried out by Argentine sugar mills will improve these outputs and other sugar mills in the country already have advanced projects aiming at the same objective.

CONFECTIONERY:
One of the most important food companies in our country has a candy factory in the province of Tucumán. As part of its vertical integration, this Company has purchased an entire sugar mill, adding the production of its main raw material (sugar) to its operation strategy. Its high level of competitiveness makes it possible to be part of global markets: it exports candies under its own brand, and it also has agreed to produce for international companies as well. In 2015, exports in this sector reached over USD 14 million.

PAPER:
Two important companies produce pulp from bagasse in Argentina. Both have made investments aimed to diversify paper type and quality, achieving a more competitive position in the domestic market. Nowadays, they produce corrugated cardboard, newsprint, printing and writing papers.
THE XXX CONGRESS: GENERAL INFORMATION

The Office Bearers of the Congress Organising Committee (COC) are the following:

Honorary President: **Ambassador Fernando Nebbia**
Congress Chairman: **Eng. Jorge Scandaliaris** – jorge.scandaliaris@issct-argentina2019.com
Congress Vice-Chairman: **Eng. Juan Carlos Mirande** – juan.carlos.mirande@issct-argentina2019.com
Congress Financial Director: **Ricardo López** – ricardo.lopez@issct-argentina2019.com
Congress Coordinator: **Guillermo Autino** – guillermo.autino@issct-argentina2019.com
Congress Secretary: **Isabel Antón** – secretary@issct-argentina2019.com

The Congress venue will be at the facilities of the Sociedad Rural de Tucumán (Tucumán Rural Society), a non-profit organisation founded in 1908. It is 30 minutes from downtown San Miguel de Tucumán and its current facilities used to be the owners’ house, the factory and the administrative buildings of a former Sugar Mill. These facilities have been totally restored but they have maintained their original style, and are a perfect site for the congress.

The programme includes the following activities:

<table>
<thead>
<tr>
<th>PRE-Congress</th>
<th>Tucumán 31 August and 1 September</th>
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<tbody>
<tr>
<td>Including visits to institutions, mills and fields related to the Sugar Cane Industry.</td>
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</table>

<table>
<thead>
<tr>
<th>Congress</th>
<th>Tucumán 2 to 5 September</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plenary Sessions to present the most important and updated issues. In addition, relevant topics shall be analysed related to the future of World Sugar Cane Agro industry. Scientific and Technical presentations where any innovation and technological development progress made will be shown. Agricultural and Industrial machinery and products related to the agro industry Trade Exhibition. New goods and equipment and their progress to today.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>POST-Congress</th>
<th>Salta and Jujuy 6 to 8 September</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event focused on showcasing the development and technology applied in sugar cane production and its industrial processes in the northern provinces. It will include guided tours to factories, field demonstrations and on-going operations to see the main machinery and equipment in action.</td>
<td></td>
</tr>
</tbody>
</table>

Additionally, the Programme shall include the following social activities:
- Welcome cocktail on Sunday 1 September, 2019
- Gala dinner on Tuesday 3 September, 2019
- Farewell dinner on Thursday 5 September, 2019

**Partners’ Programme & Other Suggested Tours**

**PARTNERS’ PROGRAMMES**
During the Congress, partners will have a number of alternatives to visit the best tourist attractions in the region.

**TOURIST PROGRAMMES**
There will be considerable information with the necessary contacts for those visitors interested in arranging additional tours and visits. These programmes shall be available before and after the Congress.
REGISTRATION

Registration fees for the Congress only are the following:

<table>
<thead>
<tr>
<th>Rate Description</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Bird rate (up to 31 December 2018)</td>
<td>USD 1,350</td>
</tr>
<tr>
<td>Standard rate (up to 31 May 2019)</td>
<td>USD 1,500</td>
</tr>
<tr>
<td>Late registration (up to 25 August 2019)</td>
<td>USD 1,700</td>
</tr>
<tr>
<td>On-site Registration</td>
<td>USD 1,900</td>
</tr>
</tbody>
</table>

The Pre-Congress Tour will cost an additional USD 200 per attendee.

Registration fees include Congress materials, abstract publications, morning and afternoon coffee breaks, daily lunch, hotel-venue transfers, welcome drinks, Cultural Evening and Congress Gala Dinner. The fees do not include flights or accommodation costs.

Additional information on the Post Congress Tour, the Partners’ Programmes and the Trade Exhibition including costs, will be included in Newsletter No 2.

ACCOMMODATION

Delegates may choose from the following hotels during the Congress, all of them located in downtown San Miguel de Tucumán (30 minutes from the Congress venue). Shuttles will be available for any transfers. Rates will soon be advertised after negotiating special prices for the event.

<table>
<thead>
<tr>
<th>Hotel</th>
<th>Category in *</th>
<th>No. of rooms available</th>
<th>Web</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheraton</td>
<td>5</td>
<td>124</td>
<td><a href="http://www.sheratontucuman.com">www.sheratontucuman.com</a></td>
</tr>
<tr>
<td>Catalinas Park</td>
<td>5</td>
<td>143</td>
<td><a href="http://www.catalinaspark.com">www.catalinaspark.com</a></td>
</tr>
<tr>
<td>Garden Park</td>
<td>4</td>
<td>80</td>
<td><a href="http://www.hotelgardenpark.com.ar">www.hotelgardenpark.com.ar</a></td>
</tr>
<tr>
<td>Hilton Garden Inn</td>
<td>4</td>
<td>103</td>
<td><a href="http://www.hiltonhotels.com/es_XM/argentina/hilton-garden-inn-tucuman/">www.hiltonhotels.com/es_XM/argentina/hilton-garden-inn-tucuman/</a></td>
</tr>
<tr>
<td>Tucumán Center</td>
<td>4</td>
<td>67</td>
<td><a href="http://www.tucumancenterhotel.com.ar">www.tucumancenterhotel.com.ar</a></td>
</tr>
<tr>
<td>Amerian</td>
<td>4</td>
<td>47</td>
<td><a href="http://www.amerian.com/hotel/amerian-tucuman-apart-suites">www.amerian.com/hotel/amerian-tucuman-apart-suites</a></td>
</tr>
<tr>
<td>Bicentenario</td>
<td>4</td>
<td>67</td>
<td><a href="http://www.hotelbicentenario.com.ar">www.hotelbicentenario.com.ar</a></td>
</tr>
<tr>
<td>Hotel del Jardin</td>
<td>4</td>
<td>129</td>
<td><a href="http://www.hoteljardin.com.ar">www.hoteljardin.com.ar</a></td>
</tr>
<tr>
<td>Carlos V</td>
<td>3</td>
<td>57</td>
<td><a href="http://www.hotelcarlosv.com.ar">www.hotelcarlosv.com.ar</a></td>
</tr>
<tr>
<td>Metropol</td>
<td>3</td>
<td>75</td>
<td><a href="http://www.swisshotelmetropol.com.ar">www.swisshotelmetropol.com.ar</a></td>
</tr>
<tr>
<td>Premier</td>
<td>3</td>
<td>94</td>
<td><a href="http://www.hotelpremier.com.ar">www.hotelpremier.com.ar</a></td>
</tr>
</tbody>
</table>

TRANSPORTATION

Given the large size of our country, flying is the most convenient way to reach Tucumán. There are several airlines offering domestic flights to Tucumán, such as:

- Aerolíneas Argentinas, the national flag carrier www.aerolineas.com.ar
- Andes Líneas Aéreas www.andesonline.com.ar
- LATAM Airlines www.latam.com

Recently, Tucumán International Airport was renovated. As a result, the local airport has now the longest runway in the country and new airlines and routes will be established during 2018.

The official website of domestic airports all over the country also provides accurate information www.aa2000.com.ar
PAPERS AND POSTERS FOR THE ISSCT XXX CONGRESS

Now is the time you need to start thinking about papers and posters for the Congress.

Papers and posters should be of interest to an international audience and should present original data, new concepts, novel analysis, or innovative presentation or interpretation of previously published material. Papers may be of a scientific, economic or technological nature but must not be of an overtly commercial nature or written with inadequate disclosure of relevant information for commercial reasons. Posters often report on work underway or of an inconclusive nature. Both papers and posters are peer-reviewed and published in the Congress Proceedings. Some papers go on to be published in sugar-industry journals.

Important dates to remember are:

- By 31 August 2018 email the title, author name(s) and outline to the Editor (issct.editor@bigpond.com) using the template available on the ISSCT website.
- Authors will receive confirmation to proceed to prepare a paper or a poster by 31 October 2018.
- Full manuscripts must be sent to the Editor by 31 December 2018 – instructions for preparation are on the ISSCT website.
- The ISSCT Commissioners in collaboration with the Section Chairs and the Editor will arrange for all papers and posters to be peer reviewed. The final version should be with the Editor by 30 April 2019.

Remember, at least one of the authors must be a 2016-2019 member of ISSCT before the paper/poster is accepted. Authors must make every effort to attend and present their paper at the Congress. If they are unable to attend, they must ensure that someone with a good knowledge of the work can make the presentation on their behalf. The presenter must be able to answer detailed questions on the paper.
The MTM will be held from 23 to 28 April 2018 and will be attended by members of the Executive Committee, the Technical Programme Committee and the Congress Organising Committee as per following schedule:

<table>
<thead>
<tr>
<th>Sunday 22</th>
<th>Monday 23</th>
<th>Tuesday 24</th>
<th>Wed. 25</th>
<th>Thursday 26</th>
<th>Friday 27</th>
<th>Saturday 28</th>
<th>Sunday 29</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUCUMÁN</td>
<td>SALTA / JUJUY</td>
<td>TUCUMÁN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visitors’ arrival</td>
<td>MTM in Catalinas Park. Visits to fields, Experimental Station facilities and local Sugar Mills (about 50 km faraway)</td>
<td>Visits to fields and Research Institutions</td>
<td>Visits to fields and Research Institutions</td>
<td>MTM Plenary Session</td>
<td>Return to Tucumán at 6.00 pm</td>
<td>Transfer to airport (remaining visitors)</td>
<td></td>
</tr>
<tr>
<td>Partners’ Programme including City Tours, Food tasting, Shopping, etc.</td>
<td>Activities scheduled by Salta and Jujuy Sugar Mills</td>
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</tbody>
</table>

**Congress Newsletter No. 2**

The Congress Newsletter No. 2 will be issued in June 2018 after the Mid-Term Meeting and will contain complementary information on the Congress and related activities.

**Information on Congress and related activities**

Information on Congress and related activities is available on the Congress website at [www.issct-argentina2019.com](http://www.issct-argentina2019.com) and from:

- Jorge Scandialaris: jorge.scandaliaris@issct-argentina2019.com
- Juan Carlos Mirande: juan.carlos.mirande@issct-argentina2019.com
- Isabel Anton: [secretary@issct-argentina2019.com](mailto:secretary@issct-argentina2019.com)
- ISSCT Secretariat: issct@intnet.mu and [www.issct.org](http://www.issct.org)

Requests of general nature should be sent to contacto@issct-argentina2019.com