



ICFS-2018



THAPAR INSTITUTE  
OF ENGINEERING & TECHNOLOGY  
(Deemed to be University)

# INTERNATIONAL CONFERENCE ON **FOOD SECURITY** *Challenges & Opportunities*

Department of Biotechnology,  
Thapar Institute of Engineering and Technology,  
Patiala, Punjab, India

07-08 December 2018

## Multisectoral Strategies for Food Security

Co-Host



Manna Center Program for  
Food Safety & Security, Israel

Partners



Volcani Agricultural Institute,  
Rishon Le Zsion, Israel



Punjab State Council for  
Science & Technology, India

Supporters



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## THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY (TIET), PATIALA

The Thapar Institute of Engineering & Technology (TIET) is one of India's oldest and finest educational institutions, which provides a steady source of highly skilled talent to the nation as well as overseas. Founded in 1956 with a lush green campus spread across sprawling 250 acres, Thapar Institute of Engineering & Technology, located in Patiala, is home to over 120 teaching and research laboratories in engineering and sciences. TIET ranks 210th in Asia, 19th among 35 institutions in India, 5th among private institutions in India and as 'A' grade Institution by National Assessment and Accreditation Council (NAAC). The eligible undergraduate programs are accredited by ABET (USA) and National Board of Accreditation (NBA) India. The success of the university, backed by one of India's most diversified conglomerates, the Avantha group, lies mainly in its smart institute-industry linkages, enviable infrastructure and cutting-edge research. With research focused in niche areas of engineering and sciences, TIET has over 5400 published research papers in peer-reviewed journals and sponsored research projects in various disciplines.

**Department of Biotechnology** is the youngest and most vibrant in academics and research in frontier areas of sustainable development, agriculture, health, clean water, waste management, and renewable energy vital for a healthy, safe economy. The strength of the department stems from its excellence in creation and dissemination of knowledge, cutting edge multidisciplinary research, strong infrastructural support and vibrant ties with national, international research institutes universities and industries. For over a decade, the department has produced students with scholarly output, technical competency and cultural dimensions to cater the requirements of well being of the community and global bio-based industries. The far reaching impacts of the department have been recognized in capacity building both at the national and international level.

### ABOUT THE CONFERENCE

The two day international conference is organized and hosted by Department of Biotechnology, Thapar Institute of Engineering & Technology, Patiala, co-hosted by Manna Center Program for Food Safety & Security, Tel Aviv University, Israel in partnership with Volcani Agricultural Institute, Rishon Le Zsion, Israel and Punjab State Council for Science & Technology, Chandigarh, India. The conference aims to address the scientific, technological and socio-economical drivers and deliver a state-of-the-art analysis of emerging challenges of food security in India. The conference will identify linkages for multidisciplinary and collaborative involvement in research and technology development with a regional Punjab to establish multi-sectorial solutions for leveraging the state of food security to a next higher level. Top Visionaries, leading eminent scientists and researchers will share, exchange, generate key insights and prospects for involvement of stakeholders in the area of agriculture, food and nutrition to ensure strides for true transformative actions in strengthening critical gaps and garner emergence of sustainable development goals.

### CONFERENCE THEMES

The conference will include plenary sessions and interactive workshops on the following broad themes:

- **Agri-biotechnological advances and impacts on food systems and nutrition**  
Subthemes: Renewable genetic inputs for region-specific food crops, Molecular breeding for high yields, disease resistance and reduced anti-nutrients, enhanced nutritional value food crops, Bio-magnification of soil fertility and reduced agrochemical use, potential technologies for agro-waste utilization through value addition.
- **Innovative post harvest technologies and safety for sustainable food value chain**  
Subthemes: Novel, environment friendly technologies for greening food chain, Biological strategies for minimizing post harvest losses and spoilage diseases in fruits and fresh vegetables, Early detection systems for microbial and chemical contaminants of food crops in the farm-to-fork continuum.
- **Technology applications for sustainable water use for agri-food crops**  
Subthemes: Smart technologies and applications of 'soil-nutrient-water' management for food crops, reducing downstream impacts of agricultural water on rivers and fresh water bodies, Effective generation, analysis and use of digital data for integrated water use, green technologies to utilize or reuse water energy for agriculture.
- **Resilient food crops for nutritional security and climate change**  
Subthemes: Impact of climate changes on decreased nutritional value and productivity of food crops, on farm practices and agro-ecological approaches for enhanced productivity, biofortification for restoring nutritional inadequacy, molecular designs for breeding resistant food crops and enhanced nutritional content.

### KEYNOTE SPEAKERS

Eminent thought leaders, visionaries, scientists, academicians and industry experts from India and abroad, Policy makers and Administrators (Punjab State Council for Science & Technology) will set the stage for discussions in the themes.

## ORGANIZING COMMITTEE

### CHIEF PATRON

- **Mr Rajiv R Vederah**, Chairman BOG, India

### PATRON

- **Prof Prakash Gopalan**, Director, TIET, India
- **Prof Joseph Klafter**, President, TAU, Israel
- **Prof Raanan Rein**, Vice President, TAU, Israel
- **Prof Itamar Glazer**, Director R&D, Volcani Center, ARO, Israel

### CHAIRMAN

- **Prof Ajay Batish**, Deputy Director, TIET, India

### CO-CHAIRMAN

- **Prof Nir Ohad**, Director, Manna Center Program for Food Safety & Security, TAU, Israel

### CONVENER

- **Prof Moushumi Ghosh**, Head, Department of Biotechnology, TIET, India

### CO-CONVENER

- **Prof MS Reddy**, Associate Dean Resource Mobilization, TIET, India

### HEAD EXHIBITION

- **Prof Dinesh Goyal**, Dept. of Biotechnology, TIET, India

### ADVISORY BOARD

- **Dr J K Arora**, Executive Director, PSCST, India
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- **Prof S S Bhatia**, Dean Academics, TIET, India
- **Prof Maneek Kumar**, Dean Student Affairs, TIET, India
- **Dr Gurbinder Singh**, Registrar, TIET, India
- **Mr Kunal Tiwari**, Director-Trade & Agribusiness, ICFA, India
- **Prof Ram Fishman**, Assistant Professor, TAU, Israel
- **Dr Gurbinder Singh Kocher**, PAU, India
- **Prof Hadas Mamane Stendel (TBC)**, TAU, Israel
- **Prof Yosi Shacham**, TAU, Israel
- **Prof Danny Segal**, TAU, Israel
- **Prof Tsafir Tsur**, TAU, Israel
- **Prof Samir Druby**, IP-H, Volcani Centre, ARO, Israel
- **Dr Eyal Fridman**, IPS, Volcani Centre, ARO, Israel

## IMPORTANT BENEFITS

The two day conference will strengthen and support international partnerships in agro-food nutrition sectors, strong networking opportunities for developing entrepreneurial activities. It will enable connectivity with key stakeholders in Private and public sectors and realize opportunities for investment in the agro-food-nutrition domains. Facilitate one to one discussion forum for academia and industry and help build an advantageous networking for mutually beneficial research collaboration, technology development and implementation. Besides the symposium will offer an excellent forum for students planning a career in food sciences, nutrition and biotechnology applications, help connect with leading scientists from reputed academic institutions and participation in a vibrant academia-industry forum.

## WHO CAN ATTEND

Key stakeholders in public and private industries, NGOs, scientists and policy makers in food, agriculture and nutrition sector, investors looking for opportunities in food and agricultural sector, food processing industries and those in agriculture sector, academia involved in food science and policy development; students pursuing postgraduate, undergraduate and doctoral studies in biotechnology.

## OPPORTUNITIES FOR EXHIBITORS

The conference offers an excellent opportunity for exhibitors in area of food and agri business to enable networking for policy, advocacy and technical accessibility for entrepreneurs with scientists, policy makers and industry leaders. The exhibition will, in addition, help attract interested innovators/entrepreneurs' and encourage mobility into sectors with higher profit potential by showcasing relevant food processes/technologies or products supporting the regional food security system. We will be providing table space in the exhibition area for networking, showcasing and interactions. The rates are as follows. For details, please visit: [www.icfsthapar.in](http://www.icfsthapar.in)

- One table space: Rs 5,000

- Two table spaces: Rs 10,000

## SOUVENIR

As a part of the conference a souvenir will be published and circulated all over India and abroad. This will carry the advertisements of sponsors. For details visit: [www.icfsthapar.in](http://www.icfsthapar.in)

Position & Type	Rate	Position & Type	Rate
Back Page (Color)	INR 30,000	Special Color Page	INR 10,000
Inside Front (Color)	INR 10,000	Full Page (BW)	INR 5,000
Inside Back (Color)	INR 5,000	Half Page (BW)	INR 2,000

## CALL FOR PAPERS

Abstracts are invited from young scientists, research scholars, students and industry professionals for oral and poster presentations addressing the thematic areas mentioned. Interested candidates should visit: [www.icfsthapar.in](http://www.icfsthapar.in) or contact: 8699606962 for details.

## BEST POSTER & YOUNG SCIENTIST AWARDS

To encourage and recognize the contributions of young scientists and students in various areas of Food Security, the following awards have been constituted:

- Young Scientist Award for best oral presentation of those below the age of 35 years
- Best Poster Awards

## REGISTRATION\*

Delegates should register online. Payment should be made through Credit/Debit card. Registration fee can also be paid through bank draft drawn in favor of Director, TIET, payable at State Bank of India, TIET Branch, Patiala-147004, INDIA (IFSC Code: SBIN0050244 and Branch Code: 050140). For details, please visit [www.icfsthapar.in](http://www.icfsthapar.in).

### INDIAN DELEGATES

Categories	Upto 31 OCT 2018	After 31 OCT 2018	On-Spot
Student/ Research Scholars	INR 2000	INR 2500	INR 3000
Faculty Delegate	INR 3500	INR 4000	INR 4500
Corporate Executive	INR 5000	INR 7000	INR 8000
Accompanying Person	INR 1500	INR 2000	INR 2500

### INTERNATIONAL DELEGATES

Categories	Upto 31 OCT 2018	After 31 OCT 2018	On-Spot
Student/ Research Scholars	200 USD	300 USD	400 USD
Faculty Delegate	300 USD	400 USD	500 USD
Corporate Executive	400 USD	500 USD	600 USD
Accompanying Person	150 USD	200 USD	250 USD

\* Online payment by Credit/Debit Card or Net banking would include admissible transaction/convenience charges which will be added at the time of check out.

## ACCOMMODATION

Accommodation for delegates will be arranged in hotels, guest houses and hostels in campus (only for girls) on request. For details, visit: [www.icfsthapar.in](http://www.icfsthapar.in).

### DEADLINES

Last date for Early Bird Registration  
Last date for Abstract Submission  
Oral/Poster Acceptance Notification  
Last date for Registration

October 31, 2018  
November 15, 2018  
November 20, 2018  
November 30, 2018

## VENUE

Department of Biotechnology,  
Thapar Institute of Engineering & Technology,  
Patiala, Punjab 147003 India



## CONTACT US

Convener:

Prof Moushumi Ghosh, Head, Department of Biotechnology,  
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## PATIALA

Patiala is a city in southeastern Punjab, north-west of India. It is the fourth largest city in the state of Punjab and is the administrative capital of Patiala district. Patiala is the erstwhile princely state of Punjab, which is situated in the Malwa region. The city covers a total area of 365 km. It is a judicious synthesis of a brilliant spectrum of Rajput, Mughal and Punjabi cultures and a fine blend of modernity and tradition.



## HISTORY OF PATIALA

The history of Patiala dates back to 1721 when two friends namely Ala Singh Sidhu and Ali Dogar established the state of Patiala with 24 villages. The two friends had an oral pact that ruler of the state will be a Singh Sidhu and commander in chief of the army will be a Dogar. Later the Jat ruler Maharaj Narendra Singh ruled from 1845- 1862, who built ten gates around the city to fortify it from intruders. During the rule of Maharaj Bhupinder Singh from 1900-1930, Patiala became a prominent princely state politically and for its sports achievements on an international level. The culture and heritage of this city are still enticing to the modern world due to its ageless appeal.

## PATIALA CULTURE & HERITAGE

The citizens of Patiala boastfully consider themselves the torchbearers of Punjabi culture and heritage. The intricate and beautiful artwork of Phulkari, the bright colors of Patiala Pagadi, Parandi and Jutti, the largeness of the Patiala peg and the comfort of Patiala salwar, form the essence of the city of Patiala. The handicrafts of Patiala are intricate and beautiful like the Phulkari embroidery. Also, Juttis, a traditional footwear, the Patiala Turban and the Patiala salwar are known for their comfort and style statement.

Patiala is known as the 'City of Forts and Gardens'. These classically designed forts have a unique architecture that amalgamates local style with Rajput architecture. The Qila Mubarak located in the heart of the city was the resident of the royals of Patiala before Old Moti Bagh Palace. The Baradari Gardens is another attraction for its colorful array of flowers and house of royal resident, cricket stadium, and a skating ground. The Sheesh Mahal is a work of art, famous for its mirror work and the lake nearby adds to its beauty. The Gurdwara Dukh Nivaran Sahib and the Gurdwara Moti Bagh Sahib are important religious destinations dedicated to the Sikh Guru - Guru Teg Bahadur. The food in the local joints is a delight to the taste buds. The memoirs of this city represent the colorful culture and add joy to the tourists' memories.

Patiala, was the first town in this region to own a degree college. Patiala is the proud seat of the Mohindra College, the first degree college of Northern India and also the first institution in Punjab to receive A+ grade from NAAC. This college was established in the year 1870. Adding to this, Patiala is also a home to a number of premier educational institutes of the state such as Punjabi University, Mohindra College, Thapar University, Rajiv Gandhi National University of Law, Government Medical College, and many others.

## PATIALA FESTIVALS

The two unique festivals celebrated only in Patiala are Patiala Heritage Festival and Craft Mela.

- **Patiala Heritage Festival**, commenced from the year 2003 by the Patiala Heritage Society is celebrated in the month of February every year. This is a cultural festival of Patiala that provides a platform for showcasing the various perspectives of art, music and culture of the erstwhile Patiala state. This Heritage festival of Patiala continues for 10 days. Art lovers, knowledge seekers as well as fun enthusiasts from far and wide find their way to Patiala at the time of this Heritage Festival.
- **Craft Mela**, the integral part of the Patiala Heritage Festival exhibits and sells the handicraft items and artifacts gathered from every part of the country. The markets of Patiala are thronged with traditional Patiali items such as Juttis, Juttis with Zari work, Phulkaris, Silk, Jewelry, Colorful Parandis, Patiala Salwars, Punjabi Suits, Pagri, Handloom and Handcrafts, Lacquered Woodwork, Hand-Woven Carpets, Blankets, Woolen Garments, Shawls, Curios, House-Linen and Beaded Rings.

## HOW TO REACH PATIALA

Patiala is well connected with other major cities and New Delhi by road and rail routes. Airport nearest to Patiala is Chandigarh.

- **From Delhi:** One can reach Patiala from Delhi Airport by Road and by Train. The best option to reach Patiala from IGI, Delhi is by road. It will take about 5-7 hours from airport to Thapar Institute by road. Trains are available but one has to look for suitable timings and book train ticket in advance.
- **From Chandigarh:** Patiala is about 60 km from Chandigarh airport and it takes about 90 minutes to reach TIET, Patiala by road. Limited trains are available from Chandigarh to Patiala and therefore it is recommended to travel by road to Patiala.

## WEATHER IN PATIALA DURING CONFERENCE

December is one of the best periods to visit Patiala, because the climate is pleasant and very comfortable. The average temperature expected is 22oC during day and 8oC during night. Participants are requested to carry light woolen clothes for day and medium woolen clothes like jackets for night.

## PATIALA NEARBY PLACES

Amritsar	233 kms	Manali	341 kms
Chandigarh	70 kms	Dharamshala	278 kms
Ludhiana	93 kms	Dalhousie	357 kms
Jalandhar	154 kms	Jammu	371 kms
Shimla	154 kms	Delhi	227 kms

## PLACES TO VISIT

- **Qila Mubarak:** Built in 1764, by Maharaja Amar Singh, the fort has two portions. Qila Androon is the inner fort and Qila Mubarak, the outer. The gate of Qila Androon is done in lime plaster with geometrical and floral designs on it. Inside the fort are two painted chambers illustrating scenes from Hindu mythology and portraits of Sikh Gurus in Patiala style. Also a part of the fort is a museum of chandeliers and famous weapons.



- **Moti Bagh Palace:** Started during the reign of Maharaja Narinder Singh, it was completed under Maharaja Bhupinder Singh in the early 20th century. The Old Moti Bagh Palace now houses the National Institute for Sports. The facade has Rajasthan-style jharokas and chhatris, and the palace is set in a beautiful garden with terraces, water channels and a Sheesh Mahal.

- **Sheesh Mahal:** The Sheesh Mahal was built behind the main Moti Bagh Palace to serve as a pleasure complex. The paintings in two of its well maintained, mirror-worked chambers are of Kangra and Rajasthaniqalam, depicting the poetic visions of Keshav, Surdas and Bihari. The Sheesh Mahal now houses a museum, an art gallery, the famed medal gallery and also the North Zone Cultural Centre.



- **Gurudwara Dukhniwaran Sahib:** The villagers of Lehal donated land for the modest Gurudwara built on this elevated site, said to have been visited by Guru TegBahadur. The legend is that anyone who prays at this Gurudwara is relieved of his suffering ('dukhnwaran'). A new bigger building is now being constructed.

- **Lachman Jhoola:** Across the small Lake in front of Sheesh Mahal is a magnificent suspension bridge which being a replica of the famous Lakshman Jhoola at Rishikesh, is also named as LachmanJhoola. It links the Sheesh Mahal with the BanasarGhar on the other side of the lake. The BanasarGhar now houses the North Zone Cultural Center and a hall for setting up exhibitions.

