

## About Conference

The proposed conference is a joint effort by IIT Mandi, IIT Ropar, IIT Guwahati, TIFR Mumbai, TCG CREST, Kolkata and Uppsala University, Sweden. The pressing need in realizing advanced technologies based on quantum phenomena demands a thorough understanding of intricate mechanisms in the nanoscale and ultrafast time domain. Moreover, the advent of artificial intelligence and machine learning methods has opened the door to explore many new avenues of materials research, which couldn't be dreamt of before. Our proposed workshop will cover state of the art topics such as topology, many body interactions and electron correlation, quantum information, machine learning assisted data mining and development of force fields for molecular dynamics simulations, ultrafast magnetization dynamics etc. This conference will promote future collaborations between various institutes within and outside India, which may lead to exchange visits, joint courses and future conferences.

## Conference Details

### School Topics

- Introduction to DFT.
- Implementation of DFT via different basis sets.
- Large Scale DFT Simulations.
- Interpretation of DFT data.
- Role of symmetry and topology in condensed matter physics (Berry Phase)
- Model Hamiltonians
- Recent advances in DFT.
- Experimental validation of DFT.
- Quantum Algorithms.
- Quantum Transport.

## Conference Topics

- Electronic Structure Methodologies
- Topological Materials
- Quantum Magnets
- Energy Materials
- Machine Learning for Material Science
- Two Dimensional Materials
- Spin Transport
- Quantum Computers and Computation

## Invited Speakers

Abhishek Sharma (IIT Ropar)	Amrita Bhattacharya (IIT Bombay)
Arghya Taraphder (IIT Kharagpur)	Awadhesh Narayan (IISc Bangalore)
Bahadur Singh (TIFR Mumbai)	Biplab Sanyal (Uppsala University Sweden)
Biswarup Pathak (IIT Indore)	Bhupendra Nath Dev (TCG CREST Kolkata)
Chiranjib Majumdar (BARC)	Phani Motamarri (IISc Bangalore)
Gargee Sharma (IIT Mandi)	Gour P Das (TCG CREST Kolkata)
Indra Dasgupta (IACS Kolkata)	Kalobaran Maiti (TIFR Mumbai)
Koushik Pal (IIT Kanpur)	Manoj K. Harbola (IIT Kanpur)
Mukul Kabir (IISER Pune)	Nirmal Ganguli (IISER Bhopal)
PK Ahluwalia (Himachal Pradesh University)	Poorva Singh (VNIT Nagpur)
Rajeev Ahuja (IIT Ropar)	Saurabh Ghosh (SRM Chennai)
Vivekanand Shukla (IIT Ropar)	Srinivasa Prasanna V (TCG CREST Kolkata)
Subhradip Ghosh (IIT Guwahati)	Sudip Chakraborty (HRI Allahabad)
Swarup Panda (Bennett University Noida)	Tanmoy Das (IISc Bangalore)
Tanmoy Paul (TCG CREST)	Tisita Das (HRI Allahabad)

## Organising Committee

### Patron

- Prof. Laxmidhar Behera (Director, IIT Mandi)
- Prof. Rajeev Ahuja (Director, IIT Ropar)

- Prof. Devendra Jalihal

### Convener

- Prof. Arti Kashyap (School of Physical Science, IIT Mandi)

### Co-Convener

- Prof. Biplab Sanyal (Department of Physics and Astronomy, Uppsala University Sweden)
- Prof. Gour P Das (Research Institute for Sustainable Energy, TCG CREST Kolkata)
- Prof. Subhradip Ghosh (Department of Physics, IIT Guwahati)
- Dr. Abhishek Sharma (Department of Electrical Engineering, IIT Ropar)
- Dr. Bahadur Singh (Department of Condensed Matter Physics & Materials Science, TIFR Mumbai)

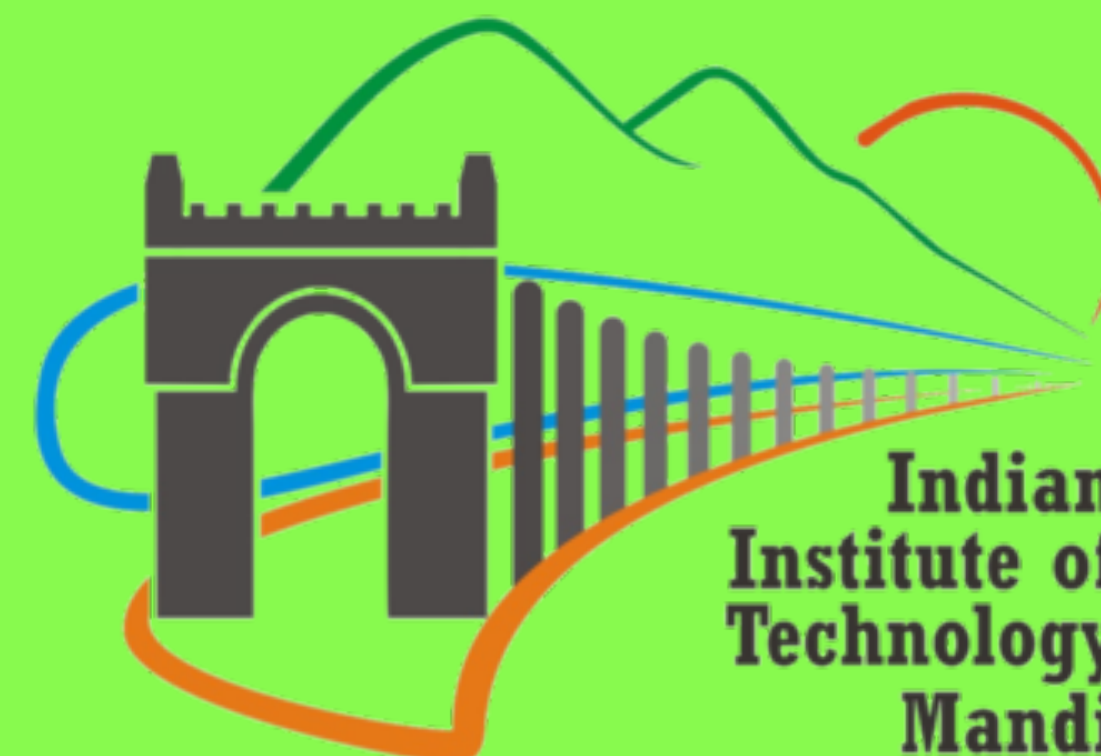
### Faculty Team

- Dr. Gargee Sharma (SPS, IIT Mandi)
- Dr. Sudhir Kumar Pandey (SPS, IIT Mandi)

### Student Team

- Sakshi Goel
- Ashutosh Shah
- Deep Sagar
- Robin Karothiya
- Sandeep Singh

# International Conference on 60 Years of DFT: Advancements in Theory & Computation July 21-26, 2024, IIT Mandi



## Registration Fee

At least one author of each accepted paper/abstract must register in order to ensure the participation in the conference. Registration Fees includes accommodation, food (breakfast, lunch, snacks, conference refreshment and dinner) during conference days, conference gala-dinner, and registration kit: Accommodation will be provided for speakers and resource persons at our guest house in IIT Mandi Campus. Students participants will be accommodated in our hostels. The to and fro travel from the chosen airport to IIT Mandi campus by bus or by Taxi will be borne by individuals. Kindly fill your details in the google form to register for the conference using the abstract Submission link provided below

- <https://forms.gle/DNCkczcTvVNLEuxR9>

Student Participants: ₹7,500.00

Delegates from Academia: ₹15,000.00

Accompanying person: ₹7,500.00

Participants from Industry/Research Lab: ₹15,000.00

Participants from Abroad: \$300.00

## Conference Venue

The conference will be organized in Hall A, North Campus, IIT Mandi. IIT Mandi is easily reachable by air, road and train. Please note that nearest airports are Chandigarh, Kullu (Bhuntar) and Gaggal (Dharamshala) and nearest railway stations are Ropar/Kiratpur/Chandigarh. Overnight Volvo buses from Delhi towards Manali are all through Mandi.

## Contact Details

For any query, kindly E-mail us on the following..

dft-60@iitmandi.ac.in

## Importants Dates

The authors should submit one page abstract to the conference through abstract submission link, before the deadline. Authors of the accepted abstracts will be called for the presentation (oral and poster) during the conference.

Any change in the last date will be indicated on the website.

Opening of the submission of one page abstract: 10 April, 2024

Abstract submission deadline: 10 May, 2024

Notification of Acceptance of abstract: 20 May, 2024

Registration open: 31 May, 2024

Last date of payment of registration fee: 30 June, 2024

Conference Date: 21-26 July, 2024

## Nearby Places to Visit

A day trip can be arranged through local tour operators for Manali and to Parashar lake on Saturday, 27th July. Please indicate your preference for the trip in the registration form. The cost and exact details will be posted on the website soon.

**Parashar Lake:** At a distance of 33 km, from IIT Mandi Kamand campus, and a altitude of about 8500 ft, at Parashar lake one can experience awe-inspiring panorama of the Himalayas. Surrounded by mountains, meadows, and near the clear water of the lake, one can witness a pagoda style three tiered temple by the lake. It makes for an excellent leisurely day-tour destination.

**Barot Valley:** On the banks of early parts of the Uhl river, Barot is a relatively less explored, niche and a great backpacker and day-tour destination, about 68 km away from IIT Mandi Kamand campus. Many walking and trekking trails pass through Barot. It is among the hidden treasures of Himachal because of which not much people know about it. The place is situated in valley surrounded by thick deodar and oak forest. The sweet silence of the woods here engross the visitors.

**Rewalsar:** Rewalsar Lake is place of spiritual importance, situated at 44 km from IIT Mandi Kamand campus. There is a Buddhist monastery and some Buddhist temples in Rewalsar, on hills surrounding the lake. These are visited by several Buddhists, especially on the Tibetan New Year, thus making Rewalsar into a mini Buddhist colony. About 10 km from Rewalsar is situated the temple of Naina Devi, the approach to which is loaded with scenic views of the surrounding hills and smaller lakes.

**Janjheli and Tungasi Dhar:** For the more adventurous souls, Tungasi Dhar is a Group of Hills near Janjelhi valley. A trek of appoximately 3 hours from Janjelhi leads to Tungasi top. There is a beautiful temple of Dev Tungasi on top of Tungasi. Hills are beautifully covered with thick forest of Deodar. However, please note that the way towards Tungasi dhar is not very well managed and visitors need to find it through the forest of Deodar & Rai / Taous.

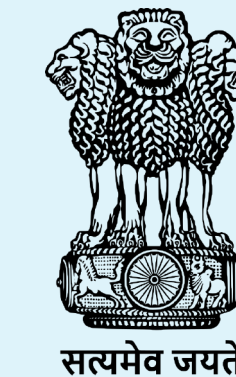
**Pandoh dam and Hanogi Temple:** The Pandoh Dam is an embankment dam on the Beas River in Mandi district, on the way to Kullu. It is good transit spot to enjoy Beas river in its splendour serpentine among the surrounding hills. A little further from Pandoh is the temple of Hanogi Mata on the Bean Banks, which is very popular among the locals.

**Shikari Peak:** Shikari Peak, also known as the Shikari Devi Peak, is the highest mountain peak in the district of Mandi. It is at a height of 11,500 ft above sea level and is a great place to trek. This peak is famous for the Shikari Devi temple.

Besides the above mentioned places, there are several short and easy trekking trails around IIT Mandi Kamand Campus, and picnic spots within 50 km periphery of Mandi town, where the tourists can relish in the scenic beauty and enjoy the essence of nature.

## Our Sponsors

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