



Chief Guest:
Dr. Ramesh Pokhriyal 'Nishank'
Hon'ble Minister
Ministry of Education
Govt of India



Guest of Honour:
Shri Sanjay Dhotre
Hon'ble Minister of State
Ministry of Education
Communications and Electronics &
Information Technology, Govt of India



Guest of Honour:
Shri Amit Khare, IAS
Hon'ble Secretary
Dept. of Higher Education
Ministry of Education, Govt of India



Chief Patron:
Prof. Virendra K Tewari
Director, IIT Kharagpur



Patron:
Prof. Sriman K Bhattacharyya
Deputy Director, IIT Kharagpur

Organizing body

Chairman:
Prof. Somesh Kumar
Dean of Students' Affairs
IIT Kharagpur

Organizing Secretary:
Prof. Joy Sen
Department of Architecture
and Regional Planning, IIT Kharagpur

Joint Secretary:
Dr. Anuradha Choudry
Department of Humanities
and Social Sciences, IIT Kharagpur

भारत तीर्थ Bharata-Tirtha



6th - 8th November
2020

An International Webinar on Indian Knowledge Systems

Indian Institute of Technology Kharagpur



Swami Vivekananda spoke of the wondrous beauties of India, "where stood the earliest cradle of ethics, arts, sciences, and literature, and the integrity of whose sons and the virtue of whose daughters have been sung by all travelers."

"In religion, she has exerted a great influence on Christianity, as the very teachings of Christ would [could] be traced back to those of Buddha."

"The same holds good with respect to sciences. India has given to antiquity the earliest scientific physicians, and, according to Sir William Hunter, she has even contributed to modern medical science by the discovery of various chemicals and by teaching you how to reform misshapen ears and noses. Even more it has done in mathematics, for algebra, geometry, astronomy, and the triumph of modern science — mixed mathematics — were all invented in India, just so much as the ten numerals, the very cornerstone of all present civilization, were discovered in India, and are in reality, Sanskrit words."

"In philosophy we are even now head and shoulders above any other nation, as Schopenhauer, the great German philosopher, has confessed. In music India gave to the world her system of notation, with the seven cardinal notes and the diatonic scale, all of which we enjoyed as early as 350 B.C., while it came to Europe only in the eleventh century. In philology, our Sanskrit language is now universally acknowledged to be the foundation of all European languages, which, in fact, are nothing but jargonized Sanskrit."

"In literature, our epics and poems and dramas rank as high as those of any language; our 'Shaguntala' [Shakuntala] was summarized by Germany's greatest poet, as 'heaven and earth united'. India has given to the world the fables of Aesop, which were copied by Aesop from an old Sanskrit book; it has given the Arabian Nights, yes, even the story of Cinderella and the Bean Stalks. In manufacture, India was the first to make cotton and purple [dye], it was proficient in all works of jewelry, and the very word 'sugar', as well as the article itself, is the product of India. Lastly she has invented the game of chess and the cards and the dice. So great, in fact, was the superiority of India in every respect that it drew to her borders the hungry cohorts of Europe, and thereby indirectly brought about the discovery of America."

INDIA'S GIFT TO THE WORLD
(Brooklyn Standard Union, February 27, 1895)

AIM OF THE WEBINAR ON INDIAN KNOWLEDGE SYSTEM

The aim of the International Webinar is to trace the ancient philosophical and scientific heritage of India from the core of the *srutis*; the timeless oracular tradition of Indian spirituality and Yoga; **from the heart and essence of the sutras of the Seven Supreme Sages, the “Saptarishis”**; from where all later Episteme of all Indian knowledge systems have been derived.

The webinar shall be a part of a long series of subsequent ones, and the aim is to advance the lines of thought and action plans on our thinking on the future of Indology and its application to the contemporary human world, and solve the manifold plethora of crisis in the physical, economic, environmental, and social sphere of human life in relationship to the Cosmos.

Objectives

- The Webinar shall be **commensurate with India’s current National Education Policy (NEP)** to best position our heritage within the ambit of pursuit of advanced science and technology.
- The webinar will promote an international policy of Indology with IIT Kharagpur, the mother of the IIT system and forerunner of all scientific and technological revolutions of our nation as an Institute of Eminence.
- The webinar **will create a comprehensive knowledge base by involving top international experts and stalwarts from around the best universities and institutes of the world**, who are pioneers in Indic studies in the following domain expertise and others:
 1. **Arthashastra** (Economics)
 2. **Sanskrit** (Sanskrit for Natural Language Processing)
 3. **Numeral System, Bijaganita and Jyamiti** (Vedic and Ancient Indian Mathematics)
 4. **Rasayana** (Chemical Sciences)
 5. **Ayurveda** (Biological Sciences)
 6. **Jyotir-tatha Mahajagatika Vidya** (Positional and Astronomical Sciences)
 7. **Prakriti Vidya** (Terrestrial/ Material Sciences/ Ecology and Atmospheric Sciences)
 8. **Nandana Tathya tatha Vastu Vidya** (Archaeology, Iconography and Architecture)
- Eventually each domain shall be given adequate attention and a probe in full breadth and depth leading to the network of domains best representing Indic knowledge systems.
- Finally, **IIT Kharagpur wishes to create and promote an Independent Center of Indian Knowledge Systems** to revive the interest of our students and faculty in Indian heritage, and recreate a comprehensive and positive atmosphere of research, and outreach to humanity as a whole.

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Patron: Prof. S.K. Bhattacharya, Deputy Director, IIT Kharagpur

Chairman: Prof. Somesh Kumar, Dean of Students’ Affairs, IIT Kharagpur

Organizing Secretary: Prof. Joy Sen, Department of Architecture and Regional Planning, IIT Kharagpur

Joint Secretary: Prof. Anuradha Choudry, Department of Humanities and Social Sciences, IIT Kharagpur



'Bharata-Tirtha'

An International Webinar on Indian Knowledge Systems (IKS)

6th - 8th November, 2020

DAY 1 (6th November)

11.00 - 13.00: Inaugural Session

11.00 – 11.05: Introduction of the Webinar 'Bharata-Tirtha': Prof. Joy Sen, Chairman, Nehru Museum of Science and Technology, IIT Kharagpur

11.05 – 11.10: Welcome of Guests: Prof. Somesh Kumar, Dean of Students' Affairs, IIT Kharagpur

11.10 – 11.15: Video Presentation on Indian Knowledge Systems

11.15 – 11.20: Introduction to IIT Kharagpur: Prof. S.K. Bhattacharya, Deputy Director, IIT Kharagpur

11.20 – 11.30: Welcome Address: Prof. Virendra Kumar Tewari, Director, IIT Kharagpur

11.30 - 11.32: Introduction of the Special Invitee by Prof. Joy Sen

11.32 – 11.47: Address by the Special Invitee: Dr. Atul Kothari, National Secretary, Shiksha Sanskriti Utthan Nyas, New Delhi

11.47 – 11.49: Introduction of Shri Amit Khare, the Guest of Honour by Prof. Somesh Kumar

11.49 – 12.04: Address by the Guest of Honour: Shri Amit Khare, Secretary, Department of Higher Education, Ministry of Education, Government of India

12.04 – 12.06: Introduction of Shri Sanjay Dhotre, Hon'ble Minister of State, Ministry of Education, Communications and Electronics & Information Technology by the Director, IIT Kharagpur

12.06 – 12.21: Address by the Guest of Honour: Shri Sanjay Dhotre, Hon'ble Minister of State, Ministry of Education, Communications and Electronics & Information Technology, Government of India

12.21 – 12.25: Introduction of the Chief Guest by the Director, IIT Kharagpur

12.25 – 12:55: Inaugural Address by the Chief Guest: Dr. Ramesh Pokhriyal 'Nishank', Hon'ble Minister, Ministry of Education, Government of India

12.55 – 13.00: Vote of Thanks: Dr. Anuradha Choudry, Department of Humanities and Social Sciences, IIT Kharagpur

LUNCH BREAK

15.00 - 17.00 p.m.: An Overview of Pursuit of Indian Knowledge Systems at IIT KHARAGPUR

15.00 – 15.30 p.m.: Role of Technology Student Gymkhana and Students' Affairs

15.30 – 16.00 p.m.: Presentation on the Science & Heritage Initiative IIT Kharagpur

16.00 – 16.30 p.m.: Presentation on History of Science and Technology in Ancient India (Course on IKS) @IIT Kharagpur

16.30 – 17.00 p.m.: Presentation on Exhibition on Indian Knowledge Systems at NMST, IIT Kharagpur

DAY 2 (7th November)

10.00 – 11.00: PLENARY SESSION

10:00 – 10:05: Introduction of the Speaker - Dr. Anuradha Choudry, IIT Kharagpur

10.05 – 10.50: Keynote address: Prof. M. D. Srinivas, Chairman, Center for Policy Studies, Chennai

10.50 – 10.55: Remarks by Prof. Abhijit Mukherjee, IIT Kharagpur

10.55 – 11.00: Closing Remarks by Prof. Joy Sen, IIT Kharagpur

TECHNICAL SESSIONS

11.05 - 12.15: Technical Session 1

Arthashastra (Economics)

11.05 - 11.10: Chairperson: Opening Remarks & Introduction of Speakers - Prof. N. C. Nayak, IIT Kharagpur

Invited Speakers:

11.10 - 11.35: Shri Sanjeev Sanyal, Principal Economic Advisor, Ministry of Finance, Government of India

11.35 - 12.00: Dr. Deepa Sankar, Chief of Education, UNICEF, Uzbekistan (Europe and Central Asia Region)

Rapporteurs: Prof. Pulak Mishra (HSS) and Prof. C S Mishra (VGSOM)

12.00 - 12.15: Q&A and Observations

12.20 - 13.30: Technical Session 2

Sanskrit: Sanskrit for Natural Language Processing

12.20 - 12.25: Chairperson: Opening Remarks & Introduction of Speakers - Prof. V. R. Desai, IIT Kharagpur

Invited Speakers:

12.25 - 12.50: Prof. Gérard Huet, National Institute for Research in Computer Science and Automation, France

12.50 - 13.15: Prof. Amba Kulkarni, Department of Sanskrit Studies, University of Hyderabad

Rapporteurs: Dr. Pawan Goyal (CSE) and Dr. Animesh Mukherjee (CSE)

13.15 - 13.30: Q&A and Observations

13.30 - 14.30: Lunch Break

14.30 - 15.40: Technical Session 3

Numeral System, Bijaganita and Jyamiti (Vedic and Ancient Indian Mathematics)

14.30 - 14.35: Chairperson: Opening Remarks & Introduction of Speakers - Prof. G. P. Raja Sekhar, IIT Kharagpur

Invited Speakers:

14.35 - 15.00: Prof. K. Ramasubramanian, IIT Bombay

15.00 - 15.25: Prof. Clemency Montelle, University of Canterbury, New Zealand

Rapporteurs: Prof. Jitendra Kumar (Maths) and Dr. Swananda Khare (Maths)

15.25 - 15.40: Q&A and Observations

15.45 - 16.55: Technical Session 4

Rasayana (Chemical Sciences)

15.45 - 15.50: Chairperson: Opening Remarks & Introduction of Speakers - Prof. P. K. Chattaraj

Invited Speakers:

15.50 - 16.15: Prof. B. M. Deb, Visva-Bharati, Santiniketan (On Bharatiya Rasayana)

16.15 - 16.40: Prof. Samaresh Bhattacharya, Jadavpur University, Kolkata (On Bharatiya Rasayana)

Rapporteurs: Dr. Sabyasachi Mishra (Chemistry) and Dr. Anoop Ayyappan (Chemistry)

16.40 - 16.55: Q&A and Observations

DAY 3 (8th November)

10.00 - 11.10: Technical Session 5

Ayurveda (Biological Sciences)

10.00 - 10.05: Chairperson: Opening Remarks & Introduction of Speakers - Prof. Jyotirmoy Chatterjee

Invited Speakers:

10.05 - 10.30: Dr. P. Rammanohar, Amrita Vishwa Vidyapeetham, Coimbatore

10.30 - 10.55: Dr. Mitali Mukerji, Institute of Genomics and Integrative Biology, New Delhi

Rapporteurs: Dr. P. C. Shukla (SMST) and Dr. R. Shruthi (Alvas Ayurveda Medical College)

10.55 - 11.10: Q&A and Observations

11.15 - 12.25: Technical Session 6

Jyotir-tatha-Mahajagatika Vidya (Positional and Astronomical Sciences)

11.15 - 11.20: Chairperson: Opening Remarks & Introduction of Speakers - Prof. Somnath Bharadwaj, IIT Kharagpur

Invited Speakers:

11.20 - 11.45: Prof. Mayank N. Vahia, Tata Institute of Fundamental Research, Mumbai

11.45 - 12.10: Prof. Amitabha Ghosh, Former Director, IIT Kharagpur

Rapporteurs: Dr. Vishwanath Shukla (Physics) and Dr. Shivakiran B. N. Bhaktha (Physics)

12.10 - 12.25: Q&A and Observations

12.30 - 13.40: Technical Session 7

Prakriti Vidya (Terrestrial/ Material Ecology and Atmospheric Sciences)

12.30 - 12.35: Chairperson: Opening Remarks & Introduction of Speakers - Prof. Anil Kumar Gupta, IIT Kharagpur

Invited Speakers:

12.35 - 13.00: Prof. Arunendu Banerjee, Visva-bharati, Santiniketan and Rabindra Bharati University

13.00 - 13.25: Prof. Omkarnath Mohanty, IIT Bhubaneswar

Rapporteurs: Dr. Pranab Deb (CORAL) and Dr. Bharath H. Aithal (RCGSIDM)

13.25 - 13.40: Q&A and Observations

LUNCH BREAK: 13.40 – 14.40

14.40 - 15.50: Technical Session 8

Nandan-Tatva tatha Vaastu Vidya (Archaeology, Iconography and Architecture)

14.40 - 14.45: Chairperson: Opening Remarks & Introduction of Speakers - Prof. Rana P. B. Singh, BHU

Invited Speakers:

14.45 - 15.10: Dr. Shikha Jain, Director, The DRONAH Foundation, Gurgaon

15.10 - 15.35: Dr. Rajrani Kalra, Urban and Regional Geography Expert, California State University, San Bernardino, USA

Rapporteurs: Prof. Ankhi Banerji (RCGSIDM) and Prof. Priyanka Dey (ARP)

15.35 - 15.50: Q&A and Observations

16.00 - 16.50: PANEL DISCUSSION

WAY FORWARD for IITs in Indian Knowledge Systems

16.00 – 16:10: Moderator: Prof. Joy Sen: Opening Remarks & Introduction of Panelists

PANEL DISCUSSION:

16.10 – 16.20: Prof. Anil D. Sahasrabudhe, Chairman, AICTE

16.20 - 16.30: Prof. Amitabha Ghosh, Former Director, IIT Kharagpur

16.30 – 16.40: Prof. Shishir K. Dube, Former Director, IIT Kharagpur

16:40 – 16:45: Closing remarks: Prof. Somesh Kumar

16.45 – 16.50: Vote of Thanks Dr. Anuradha Choudry