



**ARKA JAIN**  
**University**  
Jharkhand (Jamshedpur)



# INTERNATIONAL E-CONFERENCE

**27TH AND 28TH APRIL 2022**

ON

**"COMPUTATIONAL & TECHNOLOGICAL  
ADVANCEMENTS IN SCIENCE &  
ENGINEERING"**

## ADDRESS

Opp. To Kerala Public School, Mohanpur, Gamharia,  
Dist. Seraikela Kharsawan, Jharkhand - 832108  
Website: [www.arkajainuniversity.ac.in](http://www.arkajainuniversity.ac.in)

Department of Engineering,  
School of Engineering & IT  
ARKA Jain University, Jamshedpur  
Jharkhand



## ABOUT JGI

JGI Group is an education provider and an entrepreneurship incubator in India. The Group successfully operates 85 educational institutions with 51,600 students and 6,450 employees engaged at the K-12, undergraduate and postgraduate levels spread across 64 campuses pan India. A leader in the education sector and a pioneer in the venture sector, JGI Group are constantly in search of new opportunities to expand its horizon.

## ABOUT ENGINEERING & IT



AJU School of Engineering & Information Technology is established with an aim to provide quality education and entrepreneurship development. ARKA JAIN University is an intellectual destination that draws inspired students from diverse backgrounds. AJU Bachelor of Technology (B.Tech) is an AICTE approved professional Engineering undergraduate degree of 4 Years duration program offered in 5 different disciplines. Our B.Tech program offers a variety of programs that involve theoretical and practical learning in equal measure. It is one of the most preferred courses and in great demand by the students looking forward to molding their interest and ambition not only in India but for vacancies abroad aiming for lucrative careers. As this professional course has made developments & created numerous opportunities in the field of engineering and information Technology. The university is committed to provide excellent Academic curriculum, Laboratory facilities, Workshops, Seminars, Assignments, Industrial visits, and Opportunities for various Experiments, Research and Placement support.

## ABOUT ARKA JAIN UNIVERSITY

An academic institute ought to set its vision of high noted academic, intellectual and entrepreneurial development. ARKA JAIN University (AJU), Jamshedpur is committed to human development at all levels through education and entrepreneurship. It provides quality education thereby creating human assets for the nation and the globe as well. AJU is a premier private university of Jharkhand with a venerable legacy of the JGI group sprinting ahead for national acclamation for noted academic standards, diverse educational programs, distinguished faculties, varied co-curricular activities and state-of-the-art infrastructures. The University is on the way to sustain the acclaimed standards and best practices in higher education. It is committed to nation building and unflinching adherence to universal university human values. The sprawling university spreads across 25 acres of lush green land leaving no stone unturned in providing state-of-the-art facilities in various sectors including education, sports, entrepreneurship, research, and other academic ventures. The campus of the University is situated at Mohanpur, Gamharia, Dist: Seraikela – Kharsawan, 13 km from the steel city, Jamshedpur. Popularly known as Tatanagar, named after the visionary industrialist Shri J.N.Tata, founder of TATA Groups. The magnificence of the university lies in the enhancement of various courses with leaps and bounds. ARKA JAIN University aids each.



## ABOUT THE INTERNATIONAL E-CONFERENCE

The International Conference on “Computational and Technological Advancements in Science & Engineering” is organized by the Department of Engineering, School of Engineering & IT of ARKA JAIN University. The conference topic is multifaceted which covers the recent advancement in many applications.



# OBJECTIVES OF THE CONFERENCE

The primary objective of the International Conference on “Computational and Technological Advancements in Science & Engineering” is to bring together professionals in the field of Engineering and Science from around the globe with the intention of encouraging and transforming newest knowledge, providing them with adequate information through standards. It provides a quality platform for innovative ideas related to the recent developments in many fields. The objective of the conference is aligned with the conference theme Computational and Technological Advancements in Science & Engineering.



## CALL FOR PAPERS :

The Conference covers a broad range of topics on Research paper and article submissions are invited (but not limited) to the following topics of Interest for submission include (but are not limited to):

### Science

- |   |   |
|---|---|
| 1. Condensed matter and Quantum Materials         | 15. Sustainable Chemistry in Society                                      |
| 2. Theoretical Physics                            | 16. Green Analytical Chemistry  |
| 3. Nuclear physics                                | 17. Chemical Pollutants in water, air and Soil: Assessment and Monitoring |
| 4. Semiconductor and Related Materials            | 18. Natural products & Medical chemistry                                  |
| 5. Risk & Reliability Analysis                    | 19. Applied Mathematical and Modelling                                    |
| 6. Nano photonics                                 | 20. Numerical Analysis  |
| 7. Biophotonics                                   | 21. Mathematical Computational Techniques                                 |
| 8. Quantum optics                                 | 22. Fluid Mechanics   |
| 9. Plasma Surface and Thin Film                   | 23. Heat and Mass Transfer  |
| 10. Quantum Computing                             | 24. Differential Equations(ODEs and PDEs)                                 |
| 11. Optical & Quantum Electronics                 |   |
| 12. Life Sciences                                 |   |
| 13. Synthetic Organic & Inorganic Chemistry       |   |
| 14. Sustainable Chemistry & Environmental Science |   |

## Electronics and Communication Engg.

- |  |  |
|--|--|
| 1. Signal, Systems and Interface             | 8. Image Processing                    |
| 2. HVAC and Automation                       | 9. Signal Processing                   |
| 3. Antenna design                            | 10. Microelectronics                   |
| 4. Communication Network and Security        | 11. Algorithms                         |
| 5. Algorithms for Optimization               | 12. Machine Learning And Deep Learning |
| 6. Wireless Communication & Mobile Computing | 13. Biomedical Application             |
| 7. Wireless sensor networks                  |  |

## Computer Science Engineering

- |  |  |
|--|--|
| 1. Block chains  | 6. Internet of Things                          |
| 2. Cyber Security and data forensics                   | 7. Hardware Design & Communication             |
| 3. Web Intelligence & Semantics                        | 8. Security & Cryptography and Crypto-currency |
| 4. Evolutionary Computing & Algorithm Design           | 9. Neural Network parallel Processing          |
| 5. Ubiquitous Computing & Networking - Green Computing | 10. Pattern recognition                        |

## Civil Engineering

- |  |  |
|--|--|
| 1. Architecture and Urban Planning                     | 11. Structural Reliability, Durability & Health Monitoring |
| 2. Sustainable infrastructure                          |  |
| 3. Green Construction & Environmental Protection       | 12. Earthquake Resistant Design Practices                  |
| 4. Traffic Guidance and Forecast                       | 13. Environmental Engineering & Management                 |
| 5. Pattern Recognition and Image Processing            | 14. Foundations in Problematic Soils                       |
| 6. Modelling and Simulation of Transportation System   | 15. Geo-Environmental Engineering                          |
| 7. Intelligent Transportation and Logistics            | 16. GIS & Remote Sensing                                   |
| 8. High-rise Structure and Large-span Structure        | 17. Irrigation, Water Resources & Management               |
| 9. Bridge and Tunnel Engineering                       | 18. Water Quality Control and Water Treatment              |
| 10. Engineering Structure Safety & Disaster Prevention | 19. Computer Simulation and CAD/CA                         |

## Mechanical Engineering

- |   |                           |
|---|---------------------------|
| 1. Robotics & Automation - Material Science | 5. Tribology              |
| 2. Smart Materials                          | 6. Vibration              |
| 3. Energy Conservation                      | 7. Production Engineering |
| 4. Computational Fluid Dynamics             |                           |

### GUIDELINES FOR PAPER SUBMISSION

- 1. Paper should be original, unpublished and should not exceed eight pages.
- 2. Author and Co-Author should register separately
- 3. All papers are subjected to scrutiny.
- 4. At least one of the authors of the selected paper should present the paper in the conference.
- 5. Paper should be in IEEE standard format (Two columns)
- 6. All Abstract and Full paper (A4 page) should be submitted by Mail.
- 7. The selected papers will be published in National/International/UGC-CARE list journals.
- 8. Few outstanding research papers selected by the review committee will be published in the SCI , SCOPUS Indexed Journal.

### GUIDELINES FOR MANUSCRIPT PREPARATION

Papers must be based on themes and sub-themes of the conference.

- 1. Submission of paper should be in word doc format only.
- 2. Paper Format: Single Column, A4 Size, 1.5 line spacing.
- 3. Font Style: Times New Roman (Size 12).
- 4. Word Limit: Total word limit for each paper should be between 3000 - 5000 words.
- 5. Page Limit: Not to exceed 8 pages including all references (IEEE standard format), tables & figures.
- 6. First Page: Title, Author(s), Name(s) and Affiliation(s) with contact number and email id.
- 7. Second Page: Title, Abstract (between 150-200 words), Keywords (5) followed by main text.
- 8. The papers will be blind reviewed & only those approved by the reviewers will be selected for publication.
- 9. Paper must be sent through mail: [conference.soe@arkajainuniversity.ac.in](mailto:conference.soe@arkajainuniversity.ac.in)
- 10. **REGISTRATION LINK :**  
Please register to participate in the conference by using the link:  
<https://forms.gle/oiFYKgcW9zCC89QY7>

### REGISTRATION FEE

DELEGATES	INDIAN	FOREIGN
Corporates/Industry Experts	Rs. 3000/-	USD 40
Faculty/Academicians	Rs. 2000/-	USD 26
Research Scholars	Rs. 1500/-	USD 19
Students	Rs. 1000/-	USD 13

### PUBLICATION FEE

'The Conference covers a broad range of topics on Research paper and article submissions are invited (but not limited) to the following topics of Interest .Topic of Interest are included for Submission .

### PAYMENT DETAILS

MODE:	ONLINE TRANSFER / BANK TRANSFER
BANK NAME:	HDFC BANK
BRANCH NAME:	CHOTA GAMHARIA
ACCOUNT NAME:	ARKA JAIN UNIVERSITY
ACCOUNT NUMBER:	50100459210580
IFSC CODE:	HDFC0004801

### IMPORTANT DATES

LAST DATE FOR SUBMISSION OF FULL PAPER: 15.03.2022
NOTIFICATION OF ACCEPTANCE OF FULL PAPER: 18.03.2022
LAST DATE FOR REGISTRATION: 26.03.2022

### VISION OF THE UNIVERSITY

To be among the best of the institutions for engineers and technologists with attitudes, skills and knowledge and to become an epicenter of creative solutions.

### MISSION OF THE UNIVERSITY

To achieve and impart quality education with an emphasis on practical skills and social relevance.



## CHIEF PATRON

Prof. (Dr.) S.S. Razi, Vice Chancellor AJU

## PATRON

Mr. Amit Shrivastav, Director AJU

## ADVISORY COMMITTEE

Mr. Jasbir Dhanjal, Registrar, ARKA JAIN University, Jharkhand

Dr. Angad Tiwary, Dean Student' Welfare, ARKA JAIN University, Jharkhand

Prof. Arvind Kumar Pandey, Programme Co-ordinator, ARKA JAIN University

Prof. (Dr.) Mortka Zurek Marta, Institute of For Sustainable Technologies

Prof. Josua Petrus Meyer, University of Preoria, South Africa.

Dr. Rahul Klyankar, Laram Technologies, Florida

Dr. Celia Shahnaz, Department of EEE, BUET, Bangladesh

Dr. Amrit Mukherjee, University of South Bohemia, Cske Budejovice, Czech Republic

Dr. Nivedita Kulkurni, UCL London

Dr. B Rajeev, College of Engineering, Pune

Dr. P Muthukumar, IIT Guwahati

Dr. Abhijeet Mohapatra, IIT Kanpur

Dr. Apurva Sharma, IIT Roorkee

Prof. Manikant Paswan, NIT Jamshedpur

Dr. Bunil Balwant Rai, NIT Meghalaya

Dr. Vishesh Ranjan Kar, NIT Jamshedpur

Dr. Alekha Kumar Mishra, NIT, Jamshedpur

Prof.(Dr.) Apurba Layek, NIT Durgapur, West Bengal

Dr. Sanjay Kumar NIT Jamshedpur

Dr. Somnath Mandel, NIT Jamshedpur

Dr. Subhadeep Metya, NIT Jamshedpur

Dr. Abdhesh Kumar Sinha, NIT Jamshedpur

Dr. Pradip, NIT Sikkim

Dr. Tripti Ranjan Mahapatra, VSSUIT, Sambalpur Orrisa

Prof. (Dr.) Somnath Chhtopadyay, IIT DHANBAD

Dr. Subrat Kumar Panda, NIT Rourkela

Dr. Chetan Kumar Hirwani NIT, Patna

Dr. Danish Ali Khan, NIT, Jamshedpur, Jharkhand

Dr. Ajit Kumar, IIT (ISM), Dhanbad, Jharkhand

Dr. Dilip Kumar Singh, B.I.T Mesra, Jharkhand

Dr. Kavita Tapadia, NIT Raipur, Chhattisgarh

Prof. (Dr.) Parmanand Bajpai, Central University Chhattisgarh, Bilaspur, Chhattisgarh

Dr. P K Jena, KIIT, University, Bhubaneswar

Prof. (Dr.) Prasanna, Sharma, Amity University Raipur

Dr. Gajendra Chauhan, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh

Dr. Alfa, NIT, Silcher, Sikkim

Dr. Assish Kumar Thripati, VIT University, Vellore

Dr. Dilip Kumar Giri, Binod Bihari Mahto Koylanchal University, Jharkhand

Dr. Shilpa Sharma, BIT Raipur, Chhattisgarh

Dr. Raj Kumar Singh, University Department of Physics, Ranchi University, Ranchi, Jharkhand

Dr. Manoj Kumar Singh, Principal Ram Lakhan Singh Yadav College, Ranchi Jharkhand

Dr. Dilip Kumar Giri, Binod Bihari Mahto Koylanchal University, Jharkhand

Dr. Ram Prasad Prajapati, Jawaharlal Nehru University-JNU New Delhi, India

Dr. Indrajeet Kumar, S P College Dumka, SKMU University Dumka, Jharkhand, India

Dr. Sudeep Chatterjee, Bennett University, Greater Noida, India

Dr. Avinash Kumar, GGSTSEC, Bokaro, Jharkhand, India

Dr. Sumanto Bhattacharya, College of Engineering and Management, Greater Kolkata, India

Dr. Arun Kumar, ISBM University, Raigarh, Chhattisgarh, India







## EDITORIAL COMMITTEE

Dr. Ashok Kumar, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Dr. Manoj Pathak , Asst. Prof., Department of English, ARKA JAIN University, Jharkhand  
Dr. Padmja Tripathi Asst. Prof. Department of Engineering, ARKA JAIN University, Jharkhand  
Dr. Nishikant, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Dr. Rupa Sakar, Asst. Prof., Department of English, ARKA JAIN University, Jharkhand  
Dr. Anup Kumar, Asst. Prof. Department of Engineering, ARKA JAIN University  
Mr. Kundan Kr Pramanik , Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Ms. Soma Ghosh, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Maniranjana Kumar, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Ms. Rakhi Charaborty, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Amit Prakash Sen, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Raj Kumar Singh, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Ms. Kamika das , Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Naresh Kr. Sharma, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Gaurishanker Paul, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Asish Ranjan, Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Akash Kumar Bhagat Asst. Prof., Department of CSE & IT, ARKA JAIN University, Jharkhand

## CONVENOR

Prof. Ashwini Kumar, ARKA JAIN University  
Email - ashwini.kumar@arkajainuniversity.ac.in | Mob. – 8210353795

## CO-CONVENOR

Dr. Binod Kumar Choudhary, Asst. Prof, ARKA JAIN University  
Email- dr.binod@arkajainuniversity.ac.in | Mob. – +91-9939974038

## ORGANIZING COMMITTEE

Dr. Anupam Kumari, Asst. Prof, Department of Engineering, ARKA JAIN University  
Dr. Chandra Prabha Sahu, Asst. Prof., Department of Engineering, ARKA JAIN University  
Dr. Keerti Rai, Asst. Department of Engineering, ARKA JAIN University  
Ms. Purna Rai, Asst. Prof. Department of Engineering, ARKA JAIN University  
Mr. Nivedan Mahato, Asst. Prof., Department of Engineering, ARKA JAIN University  
Mr. Kumar Shubham, Asst. Prof., Department of Engineering, ARKA JAIN University  
Mr. Syed Rashid Anwar, Asst. Prof., Department of Engineering, ARKA JAIN University  
Ms. D. Vally. Asst. Prof., Department of Engineering, ARKA JAIN University  
Mr. Kumaresh Pal , Asst. Prof., Department of Engineering, ARKA JAIN University  
Ms. Shatabhisa Sinha , Asst. Prof., Department of Engineering, ARKA JAIN University  
Mr. Kuldeep Kumar Sahu , Asst. Prof., Department of Engineering, ARKA JAIN University  
Md. Sazzad , Asst. Prof., Department of Engineering, ARKA JAIN University  
Mr. Mukesh Kumar Sharma , Asst. Prof., Department of Engineering, ARKA JAIN University, Jharkhand

## TECHNICAL SUPPORT COMMITTEE

Mr. Asish Jha, Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Ranjeet Kumar, Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Suraj Pandit, Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Chandan Kumar, Department of Engineering, ARKA JAIN University, Jharkhand  
Mrs. Soni Kumari, Department of Engineering, ARKA JAIN University, Jharkhand  
Ms. Megha Srivastava, Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Ravideep , Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Neeraj Kumar, Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Ranjeet Kumar, Department of Engineering, ARKA JAIN University, Jharkhand  
Mr. Abhijit Mandal, Department of Engineering, ARKA JAIN University, Jharkhand  
Ms. Mallika Kumari, Department of Engineering, ARKA JAIN University, Jharkhand

