



विद्यया जीवन्तमृतं ज्ञानम्



National
Coordinator



सत्यमेव जयते



Scheme for Promotion of Academic and Research Collaboration

A SHORT TERM COURSE ON **GAME THEORETIC OPTIMIZATION IN EV CHARGING INFRASTRUCTURE**

19-25 March 2025

Department of CSE
ABV-IIITM Gwalior

Hybrid Mode

Salient Features of The Course

- Learn and interact with domain experts from reputed institutes worldwide.
- Seek opportunities for collaboration with domain experts from reputed institutes worldwide.
- Hands-on technical skill-building sessions and more.
- Certification for successful completion of the course.
- Exciting goodies and kits for the day visitors and offline participants, along with the course T-shirt.

OUR RESOURCE PERSONS



PROF. SAJAL DAS
MISSOURI UNIVERSITY OF
SCIENCE AND TECHNOLOGY,
USA



DR. RUI BO,
MISSOURI UNIVERSITY
OF SCIENCE AND
TECHNOLOGY, USA



**PROF. BHARAT SINGH
RAJPUROHIT**
IIT JODHPUR



**PROF. ASHEESH
KUMAR SINGH**
NIT ALLAHABAD



**DR. NARAN M.
PINDORIYA**
IIT GANDHINAGAR



**DR. SATENDRA
KUMAR**
IIT PATNA



**PROF. PRAMOD
KR SINGH**
ABV-IIITM
GWALIOR



**DR. AVADH
KISHOR**
ABV-IIITM
GWALIOR

Course Content

- Complexity of Energy Management in EVs
- Traffic Modelling using Graph Theory & Queuing Theory
- Multi-Objective Optimization
- Algorithmic Game Theory
- Load Balancing
- EV Routing
- Artificial Intelligence
- Mechanism Design
- Matching Theory

COURSE DETAILS

Patron

Prof. S. N. Singh; Director, ABV-IIITM Gwalior

Coordinators and Organizers

Prof. Pramod Kumar Singh

Dr. Avadh Kishor

Registration Details

<https://forms.gle/BJX11pa9Fqn5kUZ28>

Boarding & Lodging

For offline participants, food and lodging will be provided by us. However, transportation and travel expenses, including tickets, must be covered by the participant only.

Who can Participate

- Undergraduate
- Postgraduate
- Research Scholars
- Faculty Members
- Relevant Industry Personnel

Certification and Kits

Online: E-certificate

Offline: Certificate and Kit

Registration Fees

There is no registration fee.

Contact Us

sparc24.cse.iiitm@gmail.com

Student Coordinators

Sapna Kushwaha

Ankita Sengar

Aditi Tripathi

Ashutosh Kumar (8299040078)

Important Dates

Register by : **14 March 2025**

Confirmation by : **15 March 2025**

<https://forms.gle/BJX11pa9Fqn5kUZ28>



Project

Unifying Goals in Smart EV Charging through Game Theory and Multi-Objective Optimization: Electric Vehicles (EVs) are key to addressing fossil fuel depletion and climate change. However, their widespread adoption can strain the grid, leading to congestion and costly network expansions. Smart charging, supported by information and communication technologies, can improve grid utilization and reduce expansion costs. To manage peak electricity demand, EV-assisted demand-side management strategies must balance the needs of EV users, aggregators, and grid operators. This can be explored using multi-objective optimization, game theory, and mechanism design, which assess the strengths and limitations of existing EV charging mechanisms

ABV-IIITM Gwalior

Atal Bihari Vajpayee - Indian Institute of Information Technology and Management (ABV-IIITM), Gwalior, established in 1997 by the Government of India, is an institute of national importance under the Indian Institute of Information Technology Act 2014. It offers three UG and six PG programs across five departments, along with doctoral and post-doctoral research opportunities. The institute strives for global education standards, with a focus on advancing knowledge and enhancing the understanding and application of course materials.

Department of CSE

The Department of Computer Science and Engineering (CSE) was established in August 2022, following the initiation of the UG program in 2017. The department also offers a PG program in Information Security and attracts research scholars from both academia and industry. Students and researchers work in diverse areas, including information systems, AI, cloud computing, blockchain, and data analytics. With a blend of young and experienced faculty, the department features state-of-the-art laboratories that support both academic and research needs, ensuring students are industry-ready upon graduation.

Gwalior City

Gwalior, in Madhya Pradesh, India, is a city rich in history and culture, dominated by the Gwalior Fort, known as the "Gibraltar of India." This strategic centre for various dynasties offers panoramic views and houses palaces and temples. The Jai Vilas Palace and intricately carved Saas Bahu Temple further showcase its architectural heritage. A hub for Indian classical music, Gwalior hosts the annual Tansen Music Festival. Today, it is an administrative and educational centre, attracting tourists with its historical and cultural richness. Nearby historical, religious, and cultural cities include Jhansi, Agra, and Mathura.

Reaching ABV-IIITM Gwalior

Being centrally located to India, Gwalior is well connected to major cities of India through rail, road, and air. Air connectivity is available from Mumbai, Delhi, Bangaluru, Hyderabad, Ahmedabad, and Indore. The ABV-IIITM Gwalior is 7 Kilometers from railway station and 12 Kilometers from airport.

Note: The total number of seats is limited, and selection shall be made on First Come First Serve (FCFS) basis.