



JABALPUR ENGINEERING COLLEGE, JABALPUR



E-CALENDER 2023

DEPARTMENT OF APPLIED PHYSICS



Dr. P.K. Jhinge (Principal)
Jabalpur Engineering College
Jabalpur



Dr. K.K. Kushwah
Head of Department, Applied Physics
Email :- kkushwaha@jecjabalpur.ac.in
Contact :- 9826668891, 7987488829

JABALPUR ENGINEERING COLLEGE, JABALPUR

DEPARTMENT OF APPLIED PHYSICS

Jabalpur Engineering College, Jabalpur was established in July 1947. Department of Applied Physics was established in 1962 with intake of 15 students in postgraduate classes. The department has produced several PhD's and significant numbers of quality research publications in reputed journals

VISION

To be a front runner in Technical Education providing academic excellence satisfying global needs

MISSION

- To develop world class infrastructure and knowledge empowerment mechanism for carving out graduates and post graduates of high level of competence embedded with wisdom and dedicated to ethics and values.
- To conduct research in the frontier areas and to develop innovative and creative problem solving skills

COURSES OFFERED

- B.Tech
- M.Tech
- M.C.A
- M.Sc. Applied
- Ph.D.

AREA OF RESEARCH IN PROGRESS

- ✓ Alternative Energy & Technology
- ✓ Magnetism & Thin Films
- ✓ Optoelectronics
- ✓ Luminescence
- ✓ Material Science

STRENGTH

- Oldest reputed government institute
- AICTE and NBA approved
- Qualified Faculty
- Well equipped labs
- Best Research Facility

CONTACT DETAILS

Email : principal_jec_jabalpur@yahoo.co.in
Contact No. : 07612331953, 2461355

Email: kkushwaha@jecjabalpur.ac.in
Contact No. : 9826668891, 7987488829
Website : <https://www.jecjabalpur.ac.in>

Applied Physics Profile : <https://shorturl.at/hBLS1>
Applied Physics Research Profile :
<https://shorturl.at/bruOW>

DESIGNED BY : SHREYANSH UPADHYAY, YATENDRA PACHORI, SHAURYA VARDHAN MISHRA,
SHIVAM DEVRANI, SATENDRA KUMAR PARTETI
(INFORMATION TECHNOLOGY – 1ST SEMESTER)



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

JANUARY

जनवरी

01

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक्र	SAT शनि
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

HOLIDAYS

26 JAN :- REPUBLIC DAY

GLASS AND CERAMICS LAB





JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

FEBRUARY

फरवरी

02

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक	SAT शनि
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

HOLIDAYS

MAIN BUILDING

18 FEB :- MAHASHIVRATRI

28 FEB :- NATIONAL SCIENCE DAY



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

MARCH

मार्च

03

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक	SAT शनि
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



INNOVATIVE PHYSICS EXPERIMENT
DEMONSTRATION WITH IAPT

HOLIDAYS

08 MAR :- HOLI

22 MAR :- GUDI PADWA

23 MAR :- CHETI CHAND

30 MAR :- RAM NAVMI

ACHIEVEMENT BY FACULTY

Invitation

BOOK LAUNCH

**Advanced Research Methodologies:
Artificial Intelligence as an Operation Tool**

**Written & Illustrated by Kishor Kumar Sadasivuni,
Kamal Kumar Kushwah, Hameed
Khan, Sadiya Waseem**

Panellist

**Dr. Kishore Kumar Sadasivuni,
Managing Editor, Emergent
Materials, Springer & Center for
Advanced Materials, Qatar
University, Qatar**

**Dr. P. K. Purohit
Professor & Head,
Deptt of Applied Physics
NITTR Bhopal**

**Dr. P. K. Jhinge
Principal
Jabalpur Engineering College
Jabalpur**

**Dr. Kamal Kumar Kushwah
Associate Professor & Head,
Deptt of Applied Physics
Jabalpur Engineering College
Jabalpur**

JOIN US

Date :- 14th July 2022
Timing:- 04: 00pm (IST)

Online Meeting Link :-
<https://meet.google.com/lvr-oabk-mzc>



This book aims to introduce advanced research methodologies with artificial intelligence to our young researchers who are willing to start research in any of the subjects. The use of artificial intelligence will surely turn to finish their research goal smoothly. However, senior researchers can also use this book as a handy compact reference tool. We want to thank our administration and academic colleagues of the institute for being the correct direction to write this book. We are grateful to all the people whose work has helped us in the preparation of this book. We are also very thankful to the reviewers of the manuscript of the book. Their precious suggestions had contributed to the improvement in the quality of the book. We feel deeply indebted if the book proves helpful in the development of a real life study.

Dr. Kishor Kumar Sadasivuni is currently working as a Research Assistant Professor and the group leader of Smart Nano Solutions (Centre for AI/ML, CAM) at Center for Advanced Materials, Qatar University. He received his Ph.D. in Materials Science and Engineering from the University of South Brittany at Lorient, France in 2011.

Dr. Kamal Kumar Kushwah, is working as Associate Professor & Head in Department of Applied Physics, Jabalpur Engineering College, Jabalpur, MP, India. His expertise areas are Material Science, Optoelectronics devices, Analog & Digital Communication, Artificial Intelligence, Machine Learning. He has been reviewer/journal of American Physical Society, Springer & holding key role in Anna University, Madurai, India. He is regular reviewer of various journals of international impact and published many research papers in reputed journals.

Mr. Hameed Khan, has completed B.Tech. & M.Tech., presently he is Research Scientist, working in Department of Computer Science & Engineering, Jabalpur Engineering College, Jabalpur, MP, India. He is doing research in the area of Artificial Intelligence, Machine Learning, Mobile ad-hoc Network. He has published many research papers in reputed journals.

Sadiya Waseem has enrolled in A/SR (Academy of Scientific & Innovative Research), CSIR-APR, New Delhi campus as a Ph.D. student under the supervision of Dr. Pritivanki Hada Mahabhoosini in August, 2019. Her research work for the Ph.D. programme has mainly been development of carbon fiber based composite for advanced energy applications. She has expertise in various electrochemical energy storage/conversion devices like fuel cells, sodium ion batteries and supercapacitors.

**Advanced Research Methodologies:
Artificial Intelligence as an Operation Tool**

Kishor Kumar Sadasivuni Kamal Kumar Kushwah Hameed Khan Sadiya Waseem



ELM



P R E S S



www.elmypress.com



9 781636 486123



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

APRIL

अप्रैल

04

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक्र	SAT शनि
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

HOLIDAYS

QUALITY TEACHING

04 APR :- MAHAVIR JAYANTI

07 APR :- GOOD FRIDAY

14 APR :- AMBEDKAR JAYANTI, BSAIKHI

22 APR :- PARSHURAM JAYANTI/EID-UL-FITR



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

MAY

मई

05

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक	SAT शनि
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NANO MAGNETISM AND
THIN FILM LAB

HOLIDAYS

05 MAY :- BUDDHA POORNIMA



JABALPUR ENGINEERING COLLEGE, JABALPUR

DEPARTMENT OF APPLIED PHYSICS



JUNE

जून

06

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक	SAT शनि
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

10 AUG 2022

INAUGURATION OF INNOVATION HUB AT
VAISHNAV UNIVERSITY INDORE WITH
PROF. HC VERMA

HOLIDAYS

29 JUNE :- EID UL-ADHA / BAKRI EID

SOME QUALITY RESEARCH PUBLICATIONS BY DEPARTMENT

Journals & Magazines > IEEE Transactions on Plasma Science > Early Access

Design and Analyses of Xcos Simulation Model for On-Axis Planar Undulator Radiation

Publisher: IEEE [View This](#) [PDF](#)

Hussain Jeevakhan ; Mahazbeen Sayed; Kamal Kumar Kushwaha; Ganeshwar Mishra **All Authors**

2 Full Text Views

Springer Link

Regular Paper | Published: 16 January 2022

Machine learning driven intelligent and self adaptive system for traffic management in smart cities

Hameed Khan, Kamal K. Kushwah, Muni Raj Maurya, Saurabh Singh , Prashant Jha, Sujeet K. Mahobia, Sanjay Soni, Subham Sahu & Kishor Kumar Sadasivuni

Computing **104**, 1203–1217 (2022) | [Cite this article](#)

433 Accesses | 2 Citations | [Metrics](#)

materialstoday: PROCEEDINGS

Volume 69, Part 3, 2022, Pages 764-768

Investigating the impact of using a ND-PCM on the thermal management of solar PV panels

A. Venkatesan , Veeresh Puskele , Srinivas Gangaragunta , Kanchan Khare , Sujeet Kumar Mahobia , Kamal Kumar Kushwah

[Show more](#)

[+ Add to Mendeley](#) [Share](#) [Cite](#)

<https://doi.org/10.1016/j.matpr.2022.07.159> [Get rights and content](#)

Springer Link

Review Article | Published: 11 January 2021

Smart technologies driven approaches to tackle COVID-19 pandemic: a review

Hameed Khan, K. K. Kushwah , Saurabh Singh , Harshika Urkude, Muni Raj Maurya & Kishor Kumar Sadasivuni

Biotech **11**, Article number: 50 (2021) | [Cite this article](#)

12k Accesses | 33 Citations | 33 Altmetric | [Metrics](#)

materialstoday: PROCEEDINGS

Available online 1 July 2022

In Press, Corrected Proof

Dielectric property and electrical conductivity of ZnS_PVK nanocomposites

Durgesh Nandini Nagwanshi , Bhavana Singh

[Show more](#)

[+ Add to Mendeley](#) [Share](#) [Cite](#)

<https://doi.org/10.1016/j.matpr.2022.06.375> [Get rights and content](#)

materialstoday: PROCEEDINGS

Available online 17 December 2022

In Press, Corrected Proof

CFD analysis of heat transfer enhancement in a concentric tube counter flow heat exchanger using nanofluids (SiO₂/H₂O, Al₂O₃/H₂O, CNTs/H₂O) and twisted tape turbulators

Ruchika Saini , Bhupendra Gupta , Ambresh Prasad Shukla , Bhavana Singh , Prashant Baredar , Anand Bisen

[Show more](#)



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

JULY

जुलाई

07

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक	SAT शनि
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

JABALPUR ENGINEERING COLLEGE
HAS COMPLETED IT'S
PLATINUM JUBILEE ON 7TH OF JULY
2022

HOLIDAYS

29 JUL :- MUHARRAM



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

AUGUST

अगस्त

08

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक	SAT शनि
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		



5 DEC 2022

ACADEMIC INSPECTION TEAM
APPRECIATED WORK CULTURE OF
DEPARTMENT

HOLIDAYS

15 AUG :- INDEPENDENCE DAY
30 AUG :- RAKSHABANDHAN



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

SEPTEMBER

सितंबर

09

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक्र	SAT शनि
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30



14 OCT, 2022

INAUGURATION OF
NATIONAL WEBINAR

HOLIDAYS

07 SEPT. :- JANMASHTMI
28 SEPT. :- EID MILAD-UN-NABI

LIVE

Aatma Nirbhar Madhya Pradesh



National Webinar

On

"Emerging Materials for Launch Vehicle (Rocket) Technology"

Organised by:
Department of Applied Physics
Jabalpur Engineering College

In association with:



Speaker:
Ravi Kumar Varma
Sr. Scientist
ISRO , Ahmedabad



Organising Team

Patron

DR P. K. JHINGE
Principal
JEC, Jabalpur

Convener

DR K. K. KUSHWAH
HOD, Applied Physics
JEC, Jabalpur

Coordinator

DR SUJEET K. MAHOBIA
Applied Physics
JEC, Jabalpur

E-certificate will be issued to all the registered participants.

Date : 14th , October 2022
Time : 12PM onwards
Platform : Google meet



Contact:
convener.webinar.jec@gmail.com

Scan the QR code for
Free Registration Form

ORGANISING NATIONAL WEBINAR

वेबिनार में व्याख्यान

इसरो के वैज्ञानिक ने साझा किए चंद्रयान-1, मंगल मिशन के अनुभव



एडिटर न्यूज नेटवर्क

जबलपुर, जबलपुर इंजीनियरींग कॉलेज में इसरो वैज्ञानिक रवि कुमार ने व्याख्यान दिया। कॉलेज ने सुरक्षा को व्यवहारिक, पौतिकी विभाग एवं इंडियन एरोस्पेस एजेंसी निजिष्म टोष के संयुक्त संसाधन में आत्मनिर्भर मध्यप्रदेश के अंतरंग इमारतिग मटेरियल प्रडी एनच बीकल (रॉकेट) टेक्नोलॉजी विषय पर वेबिनार का आयोजन किया गया।

इसरो के प्रतिष्ठ वैज्ञानिक रविकुमार ने इसरो की उपलब्धियां एवं चंद्रयान-1, मंगल मिशन, पौरसएलवी प्रक्षेपण, जीएसएलवी जैसी विभिन्न परियोजनाओं से जुड़े अनुभव साझा किए। विभागध्यक्ष डॉ. कमल कुलश्रा ने कार्यक्रम की सरोखा पर प्रकट शकल। कॉलेज प्रचार्य डॉ. पीके शिगे, सम्बन्धक डॉ. एमके शर्मा, एसके शिखरी, डॉ. पीके दुबे, सलित करप, शंजन राजक, प्रवीक याजवेदी, एवं राजक का सहयोग था।

परमार्ण ऊर्जा पर जागरुकता कार्यक्रम

कॉलेज में परमाणु ऊर्जा पर जन जागरुकता कार्यक्रम का आयोजन किया गया। अमृता महोत्सव के अंतर्गत दूर आयोजन में परमाणु ऊर्जा और पराट की कार्यशाला पर वर्षा की गई। आयोजन में, प्राचार्य सलित डॉ. भावना शर्मा, डॉ. आशा निशा एनपीसीआईएल से केली शुक्ल, केली शर्मा, वरिष्ठ



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

OCTOBER

अक्टूबर

10

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक्र	SAT शनि
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				



ELECTRON SPIN RESONANCE SPECTROMETER AND HYSTERESIS LOOP TRACER

HOLIDAYS

02 OCT :- GANDHI JAYANTI 24 OCT :- DUSSEHRA
28 OCT :- MAHARISHI VALMIKI JAYANTI



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

NOVEMBER

नवंबर

11

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक	SAT शनि
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		



17 AUG 2022

M.O.U. WITH RDVV UNIVERSITY
WITH VICE CHANCELLOR

HOLIDAYS

12 NOV :- DEEPAWALI

15 NOV :- BIRSA MUNDA JAYANTI

27 NOV :- GURU NANAK JAYANTI

ELECTORAL AWARENESS PROGRAMME



Electoral awareness programme organised for JEC students



JEC students along with awareness team during electoral awareness programme.

■ Staff Reporter

JABALPUR Engineering College (JEC) Jabalpur organised an electoral awareness programme for its students on Monday.

The programme was organised with the support and coordination of awareness team arrived from District Election Office Jabalpur under the leadership of Co-ordinator, Prasad Shrivastava.

The programme was inaugurated with worship of Goddess

Saraswati, followed by the event during which, Co-ordinator, Shrivastava explained about different significant aspects concerned with election process to the students of the college.

Programme Co-ordinator, Dr. Karrai Kumar Kashwaha informed that the team from the Collectorate presented key points regarding the process of making EPC card, making details about EVM, control unit, ballot unit use to casting votes, to the students in a simple yet interesting way.

The programme was organised to encourage the eligible students to exercise their presence and participation in the election process in future.

Dr S K Mahabadi, Deputy Co-ordinator assisted in the technical presentation and said that the programme encouraged the students to participate in election movement through quiz, slogan, painting, poster and music activities.

Principal, Jabalpur Engineering College, AK Sharma explained about the importance of every vote to the students and appealed them to cooperate to build a strong democracy, by casting their votes during election. A large number of students enthusiastically participated in the programme.

Professors AK Jain, Dr. Kaneshwar Khan, Dr. Sourabh Patel, Dr. Ajay Singh were present during the programme. Dr. Kaneshwar Cecil, Deputy Co-ordinator conducted the programme with the technical assistance of the student volunteers including Mukul Mishra, Palak Mishra, Divyanshu Sharma, Rahul Kumar, Sankar Upadhyay.



JABALPUR ENGINEERING COLLEGE, JABALPUR



DEPARTMENT OF APPLIED PHYSICS

DECEMBER

दिसंबर

12

SUN रवि	MON सोम	TUE मंगल	WED बुध	THUR गुरु	FRI शुक	SAT शनि
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	1	9	20	21	22	23
24	25	26	27	28	29	30

DEPARTMENT
OF
APPLIED PHYSICS

BUILDING OF DEPARTMENT
OF APPLIED PHYSICS

HOLIDAYS

25 DEC :- CHRISTMAS



INAUGURAL OF CALENDER 2023 BY PRINCIPAL , HOD(Applied Physics), STAFF AND THE DESIGN TEAM ON 5 JAN 2023