



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506015, TELANGANA, INDIA

काकतीय प्रौद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६०१५, तेलंगाना, भारत

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - ౫౦౬ ౦౧౫ తెలంగాణ, భారతదేశము

(An Autonomous Institute under Kakatiya University, Warangal)

(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)

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DEPARTMENT OF PHYSICAL SCIENCES

MILESTONES

- 2022-23 100% faculty achieved doctorates.
- 2022-23 Dr. D. Madhavilatha, Woman Scientist & Assistant Professor of Physics, has received worth of Rs.38.414 Lakhs research project entitled "Convolutional neural network analysis of liquid crystal images for effective prediction of properties - A machine learning approach (DST/WOS-A/PM-115/2021(C); dated 28.02.2023, 03years)", , under WoS-A, Department of Science & Technology, Government of India, New Delhi.
- 2021-22 Dr. M. Gopi Krishna, Assistant Professor of Chemistry, has received Rs. 18.2 lakh research grant from DST- SERB, Govt. of India to carry out research project entitled "In situ tumor vaccination with Imiquimod encapsulated biodegradable polymeric nanoparticles"(SRG/2021/002092; dated 17.01.2022, 02years)
- 2019-20 Introduced Course web for effective implementation of I2RE.
- 2019-20 Introduced Minor degree in Engineering Physics for B.Tech. (All Programmes)
- 2014 Granted Autonomous status by UGC, New Delhi and Kakatiya University Mar. 2014
- 2009-10 Department recognized as Research Centre by Kakatiya University
- 2009- Till date Ph.D guidance- Supervised nine (09) doctoral degrees awarded by various universities.
- 2005 The department of Humanities & Sciences has been bifurcated on 24th January 2005 into the Department of Physical Sciences and Department of Mathematics & Humanities.
- 1980 The Department has its existence since the inception of this institute as a part of the Department of Humanities & Sciences with Mathematics, Physics, Chemistry, English and Commerce & Management as its constituent sections.

PROMINENT GUESTS VISITED

1. **Dr. Murali Mohan**, Eminent Scientist/Engineer SG of ISRO, Advisor to the Central Government in Satellite Data Usage, Photogrammetry and GIS professional expert and Managing Director of Mobiterra Solutions (India) Private Limited, Hyderabad on 28th February, 2024
2. **Dr. D. Haranath**, Professor of Physics, Department of Physics, NIT Warangal, stressed the importance of disruptive technologies in present era of technical revolution through his lecture titled "Smart Materials for Global Wellbeing" on 28th February, 2023
3. **Prof. Anand Kishore Kola**, Department of Chemical Engineering, NIT Warangal, stressed the importance of disruptive technologies in present era of technical revolution through his lecture titled ""Engineering challenges in 21 st century" on 28th February, 2022
4. **Prof. A. Ramachandraiah**, Department of Chemistry, NIT Warangal, stressed the importance of disruptive technologies in present era of technical revolution through his lecture titled "importance of Multimedia in teaching and learning process" on 28th February, 2018

Faculty Achievements in 5 years (Publications)

Year	SCI/ WOS Journals	SCOPUS Journals	UGC Journals
2023-24	07	02	-
2022-23	11	04	01
2021-22	11	08	03
2020-21	05	08	01
2019-20	03	04	02
2018-19	03	01	04

ACADEMIC ACHIEVEMENTS

- 2022-23 Dr. K. Rajendra Prasad, Translated the files of the NPTEL course "Introductory Quantum mechanics (115104096)"
Dr. M. Gopi Krishna, Published one book chapter in Taylor & Francis Publishers
Dr. D. Madhavi Latha, Sanctioned one DST(WoS) project worth of 38.41Lakhs
- 2021-22 Dr. M. Gopi Krishna, Sanctioned one DST project worth of 18.22Lakhs
Dr. K. Rajendra Prasad, Translated the files of the NPTEL course "Introduction to Electromagnetism (115104088)"
Dr.M.Ranadheer Kumar, Promoted to Captain rank from Lieutenant in NCC by DGNCC, New Delhi
Dr.P.Srinivas Rao, Swayam NPTEL courses STAR rating
- 2018-19 Dr.D.Prabhakara Chary, Sectional Secretary for Science in the service of society at Telangana State Science Congress (TSSC-2018) organized by Telangana Academy of Sciences in association with NIT, Warangal, 22th to 24th Dec 2018.

BEST PRACTICES

- Sending attendance reports of the first-year students to their parents on daily basis through CMS
- All the students are motivated in the first year to wear ID cards / Proper dress.
- Monitoring and counseling the first-year students through all the teachers.
- The faculty members are motivated to acquire online certificate courses.
- Setting the Mid-Semester and End semester Question Papers as per Blooms Taxonomy with ToS table

AREAS OF RESEARCH

PHYSICS

- Solid State Physics
- Materials Science
- Polymer Physics
- Liquid Crystals

CHEMISTRY

- Physical and Env. Chemistry
- Organic Chemistry
- Synthetic Organic Chemistry
- Physical Chemistry
- Environmental Chemistry
- Nano Materials & Bio applications

RESEARCH AREAS:

1. Physical Chemistry and Environmental Chemistry
2. Synthetic Organic Chemistry
3. Energy conversion
4. Biosensors
5. Polymer Chemistry
6. Solid State Physics
7. Fiber Optics & Optical Communications
8. Electronics
9. Material Science- Polymer Science
10. Fluid Dynamics
11. Nanotechnology, Spintronics
12. Computational Physics
13. Radiation Physics, Bio-Physics

Vision

- To make the students understand the basic principles and concepts of Physics & Chemistry thoroughly which are essential for a successful engineer with environmental awareness.

Mission

- To motivate and train the students acquire required knowledge for engineering applications by giving necessary inputs in theoretical and practical skills of Physical Sciences.

Funding Grants

2022-23 Dr. D. MadhaviLatha, Assistant Professor of Physics, has received worth of Rs.38.414 Lakhs research project entitled "Convolutional neural network analysis of liquid crystal images for effective prediction of properties - A machine learning approach (DST/WOS-A/PM-115/2021(C); dated 28.02.2023, 03years)", , under WoS-A, Department of Science & Technology, Government of India, New Delhi.

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Other department highlights (like NPTEL Certifications etc.)

NPTEL Certifications

Year	No. of Faculty
2023-24	02
2022-23	03
2021-22	01
2020-21	02
2019-20	05
2018-19	10

Major Facilities

1. Rotary evaporator with chiller- Being make (1No.)
2. Fume hood- UR Biocoction make (1 No.)
3. LCR Meter (Model No.: IM3536), MAKE: Hioki, Japan
4. Pot Type High-Temperature Furnace Model No.: MI-F1000, Make: MINE
5. Sample (Thin Film & Pellet) Holder with Platinum Plating Model No.: MI-F1000P-1 Make: MINE
6. Polarising Optical Microscope- SD technical Specialities

Laboratories:

1. Engineering Physics Laboratory
2. Engineering Chemistry Laboratory
3. Research and Education Centers
 - a) Nanomaterials Laboratory
 - b) Liquid Crystals Laboratorys Activities

Students Activities

1. National Science Day celebrations on 28th February for every academic year
2. World Environment Day celebrations on 05-06-2022

Department of Physical Sciences has organized following events:

1. One-week online Faculty development Programme (FDP) on "Current Advances in Science for Engineering & Medical Applications (CASEMA-2020) during 3 - 7 July 2020
2. One-week online Faculty development Programme (FDP) on "Modern Characterisation techniques for Scientific and Engineeting Applications (MCTSEA-2020) during 4 - 8 Aug 2020
3. National Science Day on 28th February for every Academic year
4. World Environment Day on 05-06-2022