राष्ट्रीय प्रौद्योगिकी संस्थान वरंगल
National Institute of Technology Warangal









THE BEACON RAY

A Quarterly Newsletter of NIT Warangal
Volume 05 | Issue 02 | June 2024

www.nitw.ac.in

CONTENTS



01
Events

04
Patents Granted

05
Conference Grants

05
R&D Projects

09
Conferences & Workshops

16
Achievements

17
MoUs

18
Alumni Activities

Spring Spree 24

5 - 6 April 2024



Theme: Spring, a season of vibrant renewal and boundless energy, explodes onto the scene at NITW with ***RASENGAN*** (The theme for this year's SpringSpree). Inspired by the iconic Naruto Jutsu, RASENGAN embodies the concentrated potential that lies dormant within each individual, waiting to be unleashed and channeled into achieving great things.

Director, Prof. Bidyadhar Subudhi inaugurated the event by lighting the lamp. He congratulated the entire team for organising the cultural event - Springspree 24.

Over 40 events were organized during the three days fest. Popular South Indian band, Chowrasta and Haricharan performed during the event. Nritya Guru Taduri Renuka Group performed mesmerising Kuchipudi dance. Many noted personalities interacted with the students during the fest.

























Farewell Ceremony

29 April 2024



Farewell was organized to bid adieu to the 2024 class of B.Tech students. Prof. Bidyadhar Subudhi, Director along with the Deans, Chief Warden, and Heads of Departments, extended their best wishes to the outgoing students for their future endeavors. It was a moment filled with nostalgia, reflection, and anticipation as we celebrated the achievements and memories of the Class of 2024.



AC bus! The state-of-the-art vehicle

29 April 2024

The Institute procured a brand new 50+1 seater AC bus! This state-of-the-art vehicle is all set to make our journeys more convenient for industry visits and other academic activities.



Annual Sports and Endowment Awards

29 April 2024

As we bid farewell to our final year students, we also rejoice in their remarkable journey and accomplishments! From conquering academic challenges to excelling in extracurricular activities, their dedication has been truly inspiring.

We not only commemorate their achievements but also celebrate the spirit of sportsmanship at our Annual Sports Day!

Endowment Awards, honoring academic excellence and dedication to learning were awarded. These exceptional individuals have not only demonstrated outstanding intellect but also a relentless pursuit of knowledge and innovation

Lastly, alumni welcomed our final year students into the fold during the Alumni Induction program. Their success stories will continue to inspire and guide us, serving as beacons of hope for the generations to come. Here's to new beginnings, cherished memories, and endless possibilities!





Environment Day

5 June 2024

On the eve of Environment Day, NIT Warangal hosted a plantation drive, bringing our community together for a greener campus and to promote sustainability.

Prof. P. V. Rao, Department of Civil Engineering delivered an insightful lecture on "Decentralized and Centralized Composting Technologies for Sustainable Waste Management."





Dr. B.R. Ambedkar Birth Anniversary

14 April 2024



NIT Warangal paid homage to the principal architect of the Indian Constitution, Dr Bhimrao Ramji Ambedkar on his 134th birth anniversary.

14th Swachhata Campaign

29 April 2024

NIT Warangal successfully completed the 14th Swachhata Campaign near the Biogas Plant, Hostels area.

Thanks to everyone who participated and made this campaign a great success to work towards a cleaner and greener campus.



15th Swachhata Campaign

29 June 2024



The Institute successfully organised its 15th Swachhata Campaign. Our dedicated faculty and enthusiastic students came together for a cleaning and plantation drive.

International Day of Yoga

21 June 2024

NIT Warangal celebrated the 10th Edition of International Day of Yoga at the Indoor Games Complex. Over 100 participants, including faculty, staff, and students, come together for the rejuvenating event. The session was inaugurated by the Director, Prof. Bidyadhar Subudhi.





PATENTS GRANTED

- **Prof. Garije Rajesh Kumar,** Civil Engineering, A system for damage assessment of RC bridge arrows using a simplified damage index, German Patent, No. 202023101791, 18.04.2023.

- **Prof. D. Haranath,** Siju mishra, **Prof. R. Rakesh Kumar, Prof. D. Dinakar**, Physics, All-in-One OzoNIT Multipurpose Disinfection Unit, No. 202241068798 533731, 19.04.2024.

- **Prof. Voruganti Hari Kumar,** Susarla Satya Narasimham,Kothuri L Kameswari Vaishnavi, Karthik Gupta, Shubham kumar Choudhary, Thomas Jacob**, Prof. Karthik Balasubramanian**, Multi functional Toothbrush, No. 400694-001(design), 25.04.2024.

- **Prof. C. B. Kameswara Rao**, Civil Engineering, Helical Interlock System for Rapid Erection of Pre-Case Members, No. 201841039017 532609, 12.04.2024.

- **Prof. Shirish H Sonawane**, Chemical Engineering, Time and productive method for the production of cellulose nanocrystals and its use thereof, No. 202241064456 538910, 21.05.2024.

- **Prof. Shirish H Sonawane,** Chemical Engineering, **Prof. P.Shyam,** Biotechnology, Yogesh Patil, M.Surya Teja, Dr.Amol Vijay Sonawane, Ozonation and oxygenator integrated hydrodynamic cavitation-based waste water treatment unit", No. 387543-001(design patent) 206194, Apr-24.

- **Prof. Shirish H Sonawane, Prof. Murali Mohan Seepana, Prof. K S Rajmohan**, Chemical Engineering, Novel design of hydrodynamic cavitation coupled ceramic membrane textile treatment plant, No. 385980-001[DesignPatent] 205841, Apr-24.

- **Prof. Hari Kumar V,** Chatrathi satya Krishna Tejaswi,Diwakar Kant,Dasharath Harsha Vardhan,Dumpala Pavan sai,Harshitha Agrawal, **Prof. Gaurav Kumar Sharma, Prof. Shivaraman**, Mechanical Engineering, Multi-functional Pepper Spray, No. 411605-001(design Patent), 16.05.2024.

- **Prof. Shirish H Sonawane,** Chemical Engineering, Time and productive method for the production of cellulose nanocrystals and its use thereof, No. 202241064456 538910, 21.05.2024.

- **Prof. C. B. Kameswara Rao, Prof. D. Rama Seshu, Prof. T. D. Gunneswara Rao**, Civil Engineering, Chintamanjula, Prefabricated Mesa as Longitudinal Core Reinforcement in Reinforced Concrete Members ,No. 202041003566 541364, 11.06.2024.

CONFERENCE GRANTS



Prof. K. Thangaraju, Physics, International Conference On Emwrging Multifunctional Materials AndDevices For Sustainable Technologies (IEMDST-2024), SERB, Rs. 3,50,000.



Prof. Sanjaya Kumar Panda, Computer Science and Engineering, Conference On Computing, Communication And Learning (Cocole), SERB, Rs. 2,00,000.

R&D PROJECTS



Prof. P. V. Suresh, Chemical Engineering Design And Devlopment Of Indigenous Membrane Less Water Elctrolysis System, Kellton Tech Solutions Ltd, Rs. 11,88,000.



Prof. Syed Ismail, Mechanical Engineering, Lasershock Peening Effect on The Biodegradability Tribocorrosion Behaviour Of Zm21 Magnesium Alloy For Bone Frature Implants, ANRF, SERB, Govt Of India, Rs. 20,56,863.



Prof. Satyanand Abraham, Mechanical Engineering, Development of Coil Type Pulsating Heat Pipe acting As Turbulence Promoter and Super Conducting Fin For Heat Enhancement in Double Pipe Heat Exchanger, SERB, Rs. 24,86,000.



Prof. Brahma Raju, Metallurgical and Materials Engineering, Development of Si3n4-Srtio3 Composites at Extremely Low Temperatures And Exploration of Its Potential Application, SERB-CRG, Rs. 31,07,192.



Prof. CSRK Prasad, Civil Engineering, Advanced Transport Modelling and Simulation For National Highways In India, IAHE,MORTH,GOI,NEW DELHI, Rs. 2,32,90,560.



Prof. P Suresh, Mechanical Engineering, Property Measurements and Adulteration Detection using Ultrasonic Sensors Technique, ANRF(DST), Rs. 28,65,192.



Prof. R. Narasimha Rao, Mechanical Engineering, Bio-Tribocorrosion Behaviour of Silicon Nitride Reinforced Magnesium Matrix Nanocomposites for Temporary Osteosynthesis Implants, ANRF(DST), Rs. 20,44,955.



Prof. Manish Kumar Bajpai, Computer Science and Engineering, High Resolution Three Dimensional Image Reconstruction from Sparse Data over Helical Trajectories using Nature Inspired Metaheuristic Algorithms, CSIR, Rs. 3,50,000.



Prof. Raghu Raja Pandiyan Kuppusamy, Chemical Engineering, Combinatorial Approach to Design Aerodynamically Stable Thermal Protective Systems Using Hybrid Nano-Filled Phenolic Carbon Composite Ablators through Experimentations and Process Simulations, SERB, Rs. 39,32,192.



Prof. Thyageshwar Chandran, Biotechnology, Mathematical Modelling And Simulation Of Blood Flow In Sickle Cell Disease, SERB, Rs. 6,60,000.



Prof. Gopi Ram, Electronics & communication Engineering, Novel Beamforming And Mimo Antenna Design for 5g/6g Application Empoling Time Modulation Techniques, SPARC, Rs. 58,92,000.



Prof. Raghu Chitta, Chemistry, A New Class of Blood Brain Barrier Crossing Fluorescence based Nanotheranostics for Neurodegenerative Diseases, SPARC, Rs. 44,64,000.



Prof. A Kirubakaran, Electrical Engineering, Talkative Power Conversion based Networking by Means of Next Generation Communication and New Gan Based Multilevel Converts, SPARC, Rs. 52,80,000.



Prof. Maagi Venkanna, Computer Science and Engineering, Speech Disorders Of the Individuals With Autish Spectrosal Disorder An Acoustic Study, CENTRAL GOVT, Rs. 3,97,000.



Prof. CSRK Prasad, Civil Engineering, PMGSY Executive Development Programs-Fund Distribution Reg, National Rural Infrastructure Development Agency Rs. 39,79,314.



Prof. Sourabh Roy, Physics, Deep Learning Based Macro-Bending Loss Detection by Plastic Optical Fiber Spectogram Analysis, SERB, Rs. 1,56,682.



Prof. Hari Ponnamma Rani, Mathematics, Intrinsic Convection and Magnetism Inside the Earth, Planets and Fast Rotating Starts: New Similarity Criteria, Scaling Laws And Simplest Models, SPARC, Rs. 74,04,000.



Prof. Surajbhan Sevda, Biotechnology, Development of an Integrated Biorefinery System: Synergizing Microalgar Biofuel Production, Waste Water Treatment And Biogas Generation in a Bioelectrochemical System Platform, SPARC, Rs. 46,68,000.



Prof. Aneetha Vilventhan, Civil Engineering, Development of Digital Twin of Underground Utilities For Smart Cities, SPARC, Rs. 71,16,000.



Prof. KVR Ravishankar, Civil Engineering, Safe System Perspective on Vulnerable Road Users In India, SPARC, Rs. 71,16,000.



Prof. Manjaiah M, Mechanical Engineering, Development of Functionally Graded Materials (Bimetallic Joints) using Laser Directed Energy Deposition Process for Space Applications, SPARC, Rs. 29,31,929.

National Conference on Emerging Library and Information Technologies

26 & 27 April 2024



Two High-end workshops (Karyashala) on Post-processing of Additive Manufactured parts and Artificial Intelligence and Computational Techniques in Additive Manufacturing organized by Department of Mechanical Engineering.

ARB & ARDE Outreach Workshop

26 April 2024



Armament Research Board & ARDE, Pune organised outreach workshop on 26 April 2024. The workshop was attended by faculties resulting in dissemination of Research funding opportunities in niche Armament technologies.

National Technology Day

11 May 2024



In honor of the tremendous achievements of Indian scientists on the historic "Pokhran Nuclear Test - the Smiling Buddha," NIT Warangal proudly celebrated National Technology Day. This year's theme, "From Schools to Startups: Inspiring Young Minds to Innovate," embodies nation's commitment to nurturing innovation from an early age.

We were privileged to have the distinguished speaker, Padma Shri Prof. Ashok Jhunjhunwala from IIT Madras, who delivered an insightful lecture on "Making Start-ups Successful in a University Environment." Prof. Jhunjhunwala's extensive contributions to technology innovation and adoption in India provided invaluable inspiration and guidance to our community.

Karyashalas on Post-processing of Additive Manufactured parts and Artificial Intelligence and Computational Techniques in Additive Manufacturing

29 April 2024



Two High-end workshops (Karyashala) on Post-processing of Additive Manufactured parts and Artificial Intelligence and Computational Techniques in Additive Manufacturing organized by Department of Mechanical Engineering.

Summer Internship Program on "AIoT and Its Applications"

20 May 2024

Center for Training and Learning, organised Summer Internship Program on "AIoT and Its Applications" sponsored by BOEING from 20 May 2024. The program will cover the following topics:

- Introduction to Artificial Intelligence
- Computer Vision, Image Processing
- Machine Learning with Python
- Internet of Things, Industrial IoT, AIoT
- Artificial Intelligence in Healthcare
- Case studies on recent advances
- Hands-on sessions & Live projects



Prof. Bidyadhar Subudhi, Director and Dr. G. Mallikarjuna Rao, Scientist G, Technology Director, Research Centre Imarat, DRDO, Ministry of Defense, Hyderabad inaugurated summer internship program on “Artificial Intelligence of Things (AIoT) and its applications” sponsored by Boeing for engineering students. The program will be organized for one month.



The program has received an overwhelming response, attracting more than 120 students from different parts of the country.

Yusuf Hamied Inspirational Science Programme

3 - 5 May 2024

The Royal Chemistry India Foundation (RCIF) organised Yusuf Hamied Chemistry Camps as part of the Yusuf Hamied Inspirational Science Programme (YHISP), for the economically weak students of Government/Government-aided schools of India. A three-day camp from 3 May to 5 May 2024**.** The camp was organized in NIT Warangal sponsored by the Royal Chemistry India Foundation (RCIF) which is established under Section 8 of the Companies Act, 2013. It is a not-for-profit wing of the Royal Society of Chemistry (RSC) set up for the cause of promoting Science Education in India.





In the Yusuf Hamied Chemistry Camp, 74 'Grade IX' students participated. The Camp enabled the students to participate in the fun of chemistry and motivated them to develop awareness and interest in the subject through an action packed programme which includes hands-on practical activities in the labs and demonstrations.

The camp was inaugurated by Prof. Bidyadhar Subudhi, Director NIT Warangal and he has enlightened the participants with his thoughts. Prof. V. T. Somsekhar, Dean (Research & Development), Prof. D. Kashinath, Head, Department of Chemistry, Prof. Vishnu Shanker, Programme Coordinator and Mrs. Melissa Mendonza, RSC Programme Executive shared their thoughts with the students.





In addition, a interactive session was planned, where students had a friendly interaction with top academician and entrepreneur, Prof. Jitendra Kumar Bera, Professor of Chemistry, IIT Kanpur, Prof. Nand Kishore, Professor of Chemistry, IIT Bombay and Dr. R. Buchi Reddy, Technical Consultant, Bulk drug industry, Freelance. The program was highly successful and hope it initiates a spark amongst school children to learn chemistry.

2nd International Conference on Mechanical Engineering: Researches and Evolutionary Challenges-2024

29 - 31 May 2024

Department of Mechanical Engineering, NIT Warangal organised second International Conference on Mechanical Engineering: Researches and Evolutionary Challenges (ICMech-REC-2024).



PAN NIT Humanities and Social Sciences Research Conclave

28 - 30 May 2024

National Institute of Technology Warangal organized three-day International PAN NIT Humanities and Social Sciences Research Conclave, (HSSRC) 2024 on the theme "Humanities at the Crossroads: The Convergence of Language, Literature and Technology ". 26 NITs collaborated with NIT Warangal in the PAN NIT Event.

The key events of the conference are: Director's dialogue, Head's forum, 9 invited talks, Researcher's forum and 400 paper presentations scheduled across 42 tracks.

Prof. Bidyadhar Subudhi, Director of NITW joined the inaugural virtually and addressed the gathering. He emphasized that Humanities department can no longer be only a support department but plays an integral roles in technical institutes like NITs.



Inaugural of Centre for Krishna River

23 May 2024

The Centre for Krishna River Basin studies was inaugurated by Prof. Vinod Tare from cGanga and IIT Kanpur in the presence of Prof. Bidyadhar Subudhi, Director of NIT Warangal, Prof. N. V. Umamahesh, Coordinator of the Centre, Deans and faculty at the Civil Engineering Department.

This new centre is dedicated to conducting a comprehensive assessment of the Krishna River's condition and developing a robust management plan for its rejuvenation.

Following the inauguration, the first review committee meeting took place, featuring notable experts, Prof. Vinod Tare, founder head of cGanga and Emeritus Professor at IIT Kanpur, Shri Pradeep Kumar Agarwal, Joint Secretary, National River Conservation Directorate (NRCD), Shri N Ashok Babu, Director, NRCD, Shri S K Srivatsava, Scientist F, NRCD, Prof. Basavaraj Manu, NIT Surathkal



A five-day faculty orientation program

01 - 05 June 2024

A five-day faculty orientation program specifically designed for faculty members who joined in 2022 and 2023 was organised featuring interactions with distinguished experts from various IITs.

The inauguration was led by Prof. Shreepad Karmalkar, Director of IIT Bhubaneswar, Prof. Bidyadhar Subudhi, Director, NIT Warangal, and Prof. A. Venu Vinod, Dean of Faculty Welfare at NIT Warangal. Prof. Bidyadhar Subudhi expressed his aspirations for the program, emphasizing the unique opportunity for new faculty to engage with seasoned experts from IITs. "I wish you get the best benefit of the orientation program," he remarked.

Prof. Venu Vinod outlined the program's key highlights and provided a comprehensive briefing on the event's structure. The program will feature contributions from esteemed individuals such as Prof. Dhirendra S Katti, Director of IIT Goa, Prof. B. S. Murthy, Director of IIT Hyderabad, Shri. Siba Prasad Hota, Registrar of IIT Indore, and Prof. Maitryee Dutta from NITTTR Chandigarh. Additionally, various Deans and senior faculty members shared their expertise and engage with the participants. 22 faculty members participated in this enriching orientation program.



NIT Warangal hosts Open House for JEE Main

18 June 2024

NIT Warangal organised Open House for JEE Main prospective candidates at 10:00 am on 18th June 2024 at Ambedkar Learning Centre. Prof. Bidyadhar Subudhi, Director, NIT Warangal congratulated the JEE Main qualified candidates and presented an overview of the institute. The interactive session saw our admissions team addressing various questions raised by the applicants, ensuring they have all the information needed for their journey ahead.

Thank you to everyone who joined us!





AIoT and its Applications, sponsored by Boeing



We are thrilled to announce the successful conclusion of our one-month summer internship program on "AIoT and its Applications," sponsored by Boeing, on 20 June 2024.Prof. T. Kishore Kumar, Program coordinator expressed his thanks to Boeing for their generous sponsorship by Boeing and to all the participants for their dedication and enthusiasm.

A five-day executive development program for Pradhan Mantri Gram Sadak Yojana (PMGSY)

24 - 28 June 2024



National Institute of Technology (NIT) Warangal conducted a five-day executive development program for Pradhan Mantri Gram Sadak Yojana (PMGSY) engineers responsible for the construction and maintenance of rural roads. This training program, coordinated by Prof. CSRK Prasad, was sponsored by the National Rural Infrastructure Development Agency (NRIDA) under the Ministry of Rural Development (MoRD), Government of India.



'AMMA' APP - UNVEILING



We are thrilled to unveil the 'Amma' App, designed to assist children with hearing impairments and speech delays. Dr. K V Kadambari, along with B. Tech final year students Mr. Adarsh Rao and Mr. Syed Farzanauddin Nizam from the Department of Computer Science and Engineering, developed this innovative app.

How It Works: The 'Amma' App analyzes audio and speech inputs to identify speech errors and provides corrective measures, helping children refine their speech skills. Targeting children aged 1 to 5 years facing delayed speech and language development, this app promises to significantly enhance their communication abilities.

The app was formally presented to Dr. I. Prakash, the District Coordinator of Rashtriya Bal Swasthya Karyakram (RBSK), and the District Early Intervention Centre (DEIC) under the Ministry of Health and Family Welfare, Government of India.

Before its public release, 'Amma' underwent rigorous testing under the expert supervision of A. Vanaja, Audiologist and Speech Therapist at DEIC.

LAUNCH OF E-OFFICE



We are thrilled to announce the launch of the e-Office File System at National Institute of Technology Warangal!

Developed by the National Informatics Centre, Government of India, the e-Office software promotes governance with accountability, transparency, and a paperless office environment.



Congratulations



Prof. Bidyadhar Subudhi
Director, NIT Warangal

Elected as Fellow of Industry Academy of the International Artificial Intelligence Industry Alliance



Prof. P Sreenivasa Rao
Professor
Department of Biotechnology

Fellow, Telangana Academy of Sciences



Prof. Sanjaya Kumar Panda
Assistant Professor Gr-I
Department of Computer Science and Engineering

Young Scientist Award, Telangana Academy of Sciences



Prof. K V Gobi
Professor
Department of Chemistry

Fellow, Telangana Academy of Sciences



Dr. R. Vijay
B.Tech,1990 ; M.Tech1993,
Chemical Engineering NITW

Appointed as the Director, International Advanced Research Centre for Powder Metallurgy and New Materials.

STUDENTS *Achievements*



Mr. Jitesh Pani
Ph.D Inspire Fellow
Department of Physics

For Receiving the **Best Poster Award**

Student of **Prof. Hitesh Borkar** Awarded the **TEEP 2024** (Taiwan Experience Education Program) to pursue advanced research work on energy storage in Taiwan.



K N Loukika
Research Scholar
Civil Engineering

(Student of **Prof. K. Venkata Reddy**)
ITS Scheme, SERB, Rs. 94,554.



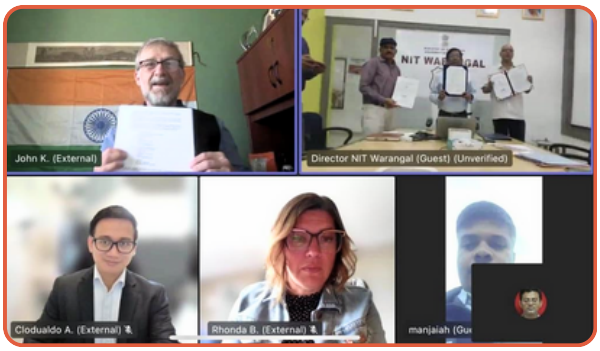
NIT Warangal and L&T Institute of Project Management Vadodara, Gujarat



NIT Warangal and Social Welfare Residential Educational Institutions Society (TSWREIS)



NIT Warangal and KIGG Systems India Limited, Mumbai



NIT Warangal and University of New Brunswick, Canada



NIT Warangal and Airports Authority of India (AAI), including its Civil Aviation Research Organization (CARO)

INTERACTION WITH

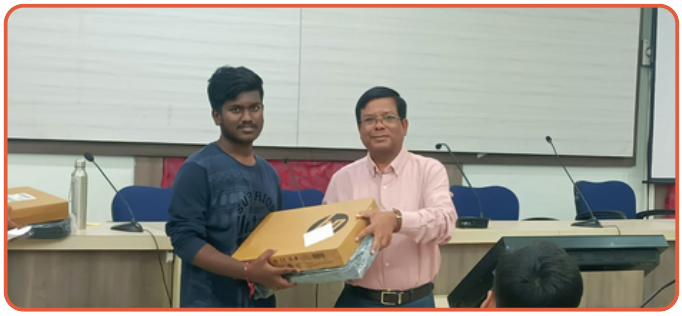
AIC T-HUB



ALUMNI ACTIVITIES

The institute has distributed the brand-new laptops on 08 April, 2024. These laptops were donated by alumni to the students who are on Rolls and have exceptional academic merit and are facing economic challenges.







Happy Retirement



Prof. D.Dinakar
Professor, Physics



Dr. K. Veeranjaneyulu
Librarian, Central Library



Shri M.A. KHADER
SUPERINTENDENT, Administration



Shri N. Srinivasulu
TECHNICAL ASSISTANT
Mechanical Engineering



Shri. K. JAYARAJU
Care Taker, SG-II
Computer Science & Engineering



Prof. G.R.K. Gupta
Associate Professor,
Mechanical Engineering



Shri S. Surya Prakash
Sr. Superintendent,
Academic Section



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Technical Assistant,
Civil Engineering



Shri K. Rajender
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Electrical Engineering



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Physical Education



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