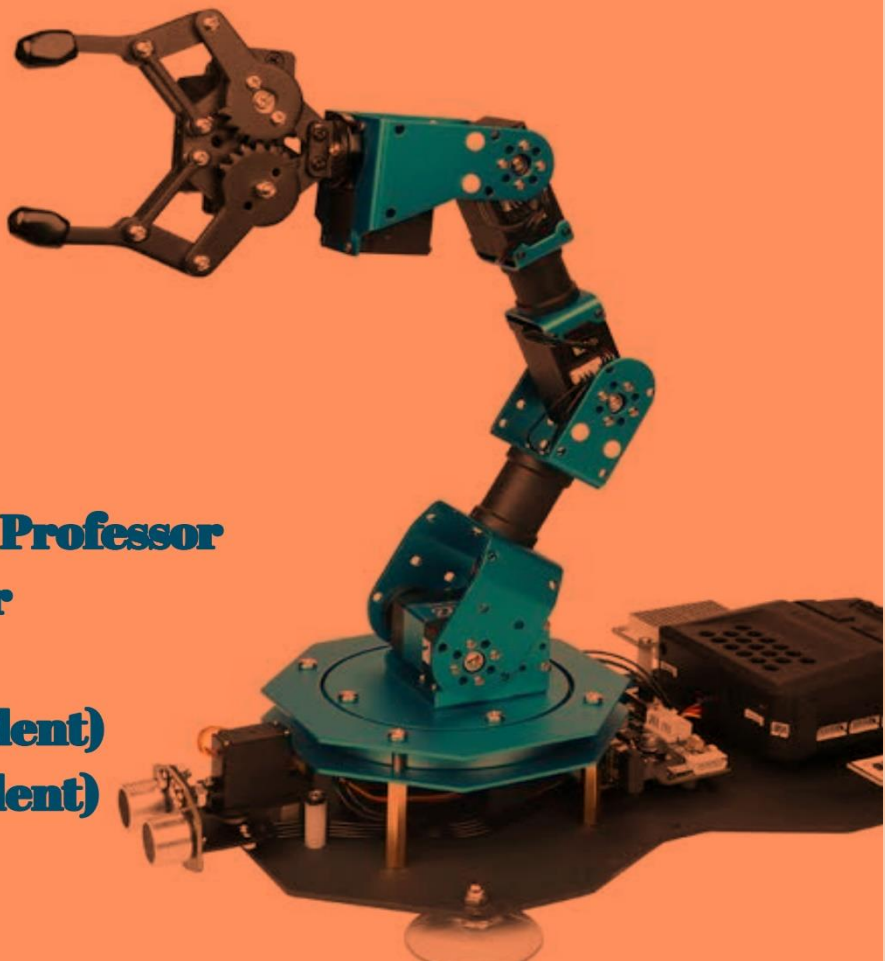
Aditya College of Engineering & Technology

Department of Mechanical Engineering

IGNITO MAGAZINE

JUNE-NOV 2019



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Chairman's Message

I believe in the philosophy of thought, word and deed as eternal which made Aditya what it is today. My thought to set a high bar to the institutions I setup by rising to the challenges of the educational field and get prepared for a life dedicated to the pursuit of knowledge, my word which always reflected my vision and gained the conviction of the heads of the institutes and parents, and my deed which makes my home and workplace as extensions of each other by considering the staff and students as the members of my extended family shaped Aditya

I know the value of a good education, more so because I did not have the benefit of the facilities that make the learning process smooth. I began my career as a lecturer, giving up my desire of qualifying in the Service Commission Examination. Out of my despair was born a strong determination which took the shape of Aditya Educational Institutions. The present-day job market poses fresh challenges that need to be managed innovatively. Global business Incubation centre, Microsoft Innovation Centre, Technical Skill Development Institute, T-hub, Training and Placement Cell, GATE coaching etc., act as perfect vehicles for this.

Vice- Chairman's Message

As a direct product of Aditya, I know how hard my father worked to put Aditya on the academic map of the country during its many stages of expansion, even in the most trying conditions. My master's degree from UTS Australia, the continent's premier university, has given me a better grasp of the educational system. Aditya technical campus in Surampalem was constructed in the aftermath to provide professional education in engineering, technology, management, and pharmacy, with the underlying principle of excellence and quality The campus has made rapid growth since its beginning in 2001 by upholding its unwavering dedication to advance knowledge and educate students in science and technology. The campus' main goal is to make teaching and research more relevant to the real world. The ultimate aim of Aditya is to make the campus the 'first stop' for companies in the recruitment process. Keeping in view the demands of the work environment which is beyond just knowledge and marks, a lot of emphasis is laid on the overall personality development of the students.

Principal's Message

Dr. T. K. Rama Krishna Rao
PRINCIPAL

The major issues we confront can't be handled at the same level of reasoning that we used to create them." Albert Einstein is credited with coining the phrase "theory of relativity." Man can only achieve immortality through knowledge. To stay relevant, knowledge must extend or grow. The road to excellence is the world's toughest, roughest, and steepest. Only quality is required and rewarded in our world. To develop new knowledge, available information must be directed by wisdom and intellect. Education's new duty is to promote creativity. The only way to address current and future problems and discover dynamic answers is to think creatively. Technology should be used to aid in the eradication of poverty around the world. In truth, India is home to 40% of the world's poor. Capacity is a result of confidence.

Miracles are the result of one's faith in oneself. At ACET, education aims to develop character, strengthen the mind, broaden the intellect, and foster a culture of problem-solving. The student is placed through rigorous training so that when he leaves the Institute, he can stand on his own two feet.

HOD Message

Dr. T. Srihari, HOD

Mechanical engineering is one of the oldest and broadest engineering discipline, and plays a significant role in enhancing safety, economic vitality, enjoyment and overall quality of life throughout the world.

Mechanical engineers develop state-of-the-art technologies and exhilarating solutions for the mankind. We attempt to provide our students with a cheerful, productive and satisfying experience at all levels of their program of studies to explore the amazing world of mechanical engineering.

Our department has a team of highly qualified and experienced faculty, good infra structure and lab facilities. We are striving hard continuously to improve upon the quality of education and to maintain its position of leadership in engineering and technology

Department of Mechanical Engineering

The Department of Mechanical Engineering is a pioneer department since the establishment of college in 2011. The department has extensive facilities in terms of faculty, infrastructure & equipment. The department is recognised as a research centre by JNTUK, Kakinada for pursuing Ph.D. programme in Mechanical Engineering. The department has spacious laboratories and well equipped with experimental set-ups as per the requirement of the curriculum. The faculty are very active and encourage the students in fabricating real models viz., Go-kart, Robots, Solar based vehicles and other working models, which are very useful in day-to-day life and teach students with live examples.

The department has an entrepreneurship cell through which it organises lectures by successful entrepreneurs, bank officers, MSME officials to nurture them as successful entrepreneurs in future. To nurture the students to gain all-round development, the department has many clubs like, ‘cultural club’, “We can talk” to improve soft skills and improve their intra and inter-personal skills, interactive skills to make them leaders of tomorrow. The faculty encourages students to participate in competitions like Go-kart at National level and present technical papers in conferences and publish papers in journals

Department Vision

To be a center of excellence in Mechanical Engineering education and research

Department Mission

- *To promote trainings with institutional association*
- *To achieve learning centric infra-structure.*
- *To provide skill-based education with focus on Automotive*
- *To promote innovative ideas through creativity and leadership quality*

PSO'S

PSO1 Mechanical Engineers must be able to analyze, design and evaluate mechanical components and systems using cutting edge software tools as required by the industries from time to time.

PSO2 The ability to work in manufacturing and other sectors operations and maintenance plants.

PSO3 As part of a team or individually, plan and manage activities in micro, small, medium and large enterprise.

Article

BOTS IN CONSTRUCTION SITES

Construction robots are a sub-set of industrial robots used for building and infrastructure construction at site. These robots have to be able to move and fix itself to the working zone, handle construction materials and interact with humans and other machineries. Currently, most of the activities are in research level while some real-world application has also been done such as for dam construction in Japan. Articles are mostly published by researchers in France and Singapore. Other major countries include USA, Germany, China and Japan. These robots have been successful to do works such as finishing the exterior, steel placement, construction of masonry wall, reinforcement concrete, etc. The main challenge to use robots in site is due to limitation in workspace.

Scaled Robotics has developed a robot that can generate precise 3D progress maps of construction sites within minutes, detecting potential issues with the location of construction materials or the measurement of components such as beams, for instance. According to the researchers, the robots accomplish these tasks much faster than human construction workers might.

In addition to real-time updates on what has been accomplished on a site, the robot can also be used to measure components and to determine if the site has any safety issues, for instance obstacles such as scattered construction materials.

T Uday Shankar
III Mechanical, Student

Technical Events

Automobile Workshop

Hands on experience on automotive:

Automobile club students are encouraged to participate in automotive hands-on experience as part of skill development program

Hands on experience on Welding Technology

Department Mechanical Engineering has conducted National workshop on Welding technology in collaboration with Institution of engineers (India)

Hands on experience on Welding

Training Programs

A training program has conducted on modelling and design of mechanical components using Solid works, CATIA and AUTOCAD

SolidWorks and CATIA

ADITYA COLLEGE OF ENGINEERING & TECHNOLOGY

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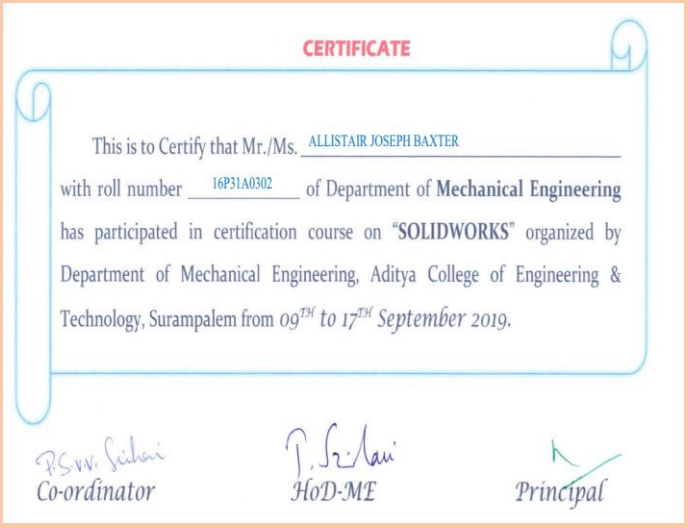
Recognized by UGC under sec (2f) and 12(B) of UGC Act 1956
Aditya Nagar, ADB Road, Surampalem-533437

CERTIFICATE

This is to Certify that Mr./Ms. ADAPA SIVANNARAYANA with roll number 16P31A0301 of Department of **Mechanical Engineering** has participated in certification course on "**SOLIDWORKS**" organized by Department of Mechanical Engineering, Aditya College of Engineering & Technology, Surampalem from 09TH to 17TH September 2019.

Co-ordinator HoD-ME Principal



CERTIFICATE

This is to Certify that Mr./Ms. ALLISTAIR JOSEPH BAXTER with roll number 16P31A0302 of Department of **Mechanical Engineering** has participated in certification course on "**SOLIDWORKS**" organized by Department of Mechanical Engineering, Aditya College of Engineering & Technology, Surampalem from 09TH to 17TH September 2019.

Co-ordinator HoD-ME Principal

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CERTIFICATE

This is to Certify that Mr./Ms. ALLURI JAYAVENKATA RAJESH REDDY with roll number 17P31A0303 of Department of **Mechanical Engineering** has participated in certification course on "**CATIA**" organized by Department of Mechanical Engineering, Aditya College of Engineering & Technology, Surampalem from 12th to 20th August 2019.

Co-ordinator HoD-ME Principal

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CERTIFICATE

This is to Certify that Mr./Ms. AMARADI VEERA VENKATA GANESH with roll number 17P31A0304 of Department of **Mechanical Engineering** has participated in certification course on "**CATIA**" organized by Department of Mechanical Engineering, Aditya College of Engineering & Technology, Surampalem from 12th to 20th August 2019.

Co-ordinator HoD-ME Principal

Drafting and Modelling using AUTOCAD

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CERTIFICATE

This is to Certify that Mr./Ms. ABHISHEK SINHA with roll number 18P31A0302 of Department of **Mechanical Engineering** has participated in certification course on "**DRAFTING & MODELING USING AUTOCAD**" organized by Department of Mechanical Engineering, Aditya College of Engineering & Technology, Surampalem from 19TH to 27TH August 2019.

Co-ordinator HoD-ME Principal

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CERTIFICATE

This is to Certify that Mr./Ms. AALAMURI NAGA VENU SATYA BHARGAV with roll number 18P31A0301 of Department of **Mechanical Engineering** has participated in certification course on "**DRAFTING & MODELING USING AUTOCAD**" organized by Department of Mechanical Engineering, Aditya College of Engineering & Technology, Surampalem from 19TH to 27TH August 2019.

Co-ordinator HoD-ME Principal

NPTEL Certification

Elite

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

PRAMOD KUMAR

for successfully completing the course

Fundamentals of Manufacturing Processes

with a consolidated score of 65 %

Online Assignments	21.88/25	Proctored Exam	42.75/75

Total number of candidates certified in this course: 1255

Prof. V. C. Srivastava, Coordinator, Continuing Education Centre, IIT Roorkee

Jul-Oct 2019 (12 week course)

Prof. Inderdeep Singh, NPTEL Coordinator, IIT Roorkee

Indian Institute of Technology Roorkee

swayam

Roll No: NPTEL19ME44S62170131 To validate and check scores: https://nptel.ac.in/noc

Elite

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

V.SIVA NAGI REDDY

for successfully completing the course

Fundamentals of Manufacturing Processes

with a consolidated score of 66 %

Online Assignments	20.56/25	Proctored Exam	45/75

Total number of candidates certified in this course: 1255

Prof. V. C. Srivastava, Coordinator, Continuing Education Centre, IIT Roorkee

Jul-Oct 2019 (12 week course)

Prof. Inderdeep Singh, NPTEL Coordinator, IIT Roorkee

Indian Institute of Technology Roorkee

swayam

Roll No: NPTEL19ME44S62030762 To validate and check scores: https://nptel.ac.in/noc

NPTEL-AICTE
Faculty Development Programme

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

AINAPURAPU CHIRANJEEVI V S PRASAD

for successfully completing the course

Fundamentals of Manufacturing Processes

with a consolidated score of 81 %

Prof. Andrew Thangaraj, NPTEL Coordinator, IIT Madras

(Jul-Oct 2019)

Prof. Dileep N. Malkhede, Advisor-I (Research, Institute & Faculty Development), All India Council for Technical Education

Roll No: NPTEL19ME44S52030102 To validate and check scores: http://nptel.ac.in/noc

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams.
This certificate is therefore acceptable for promotions under CAS as per AICTE notifications dated 24th July 2018, similar to other refresher / orientation courses.
F.No. AICTE / RIFD / FDP through MOOCs / 2017-18

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

NITLA STANLEY EBENEZER

for successfully completing the course

Advanced Materials and Processes

with a consolidated score of 45 %

Online Assignments	10.78/25	Proctored Exam	34/75

Total number of candidates certified in this course: 123

Jul-Oct 2019 (12 week course)

Prof. Adrijit Goswami, Dean, Continuing Education & NPTEL Coordinator, IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL19MM13S32030542 To validate and check scores: https://nptel.ac.in/noc

Student Placements

Congratulations

 T Giri Vijay HYUNDAI STEEL	 V Siva Manikanta HYUNDAI STEEL	 N Ram Prasad LEEWON PRECISION
 P Appalaraju LEEWON PRECISION	 CH Naveen Kumar LEEWON PRECISION LTD	 A Sivaji Rao DAEJOO AUTOMOTIVE
 A Ganesh DAEJOO AUTOMOTIVE	 K Venu KWANGJIN	 N Manikanta KWANGJIN
 A Sri Mounika HITECH-ARAI LIMITED	 A. Ajay SURYA TECH	 Anil Kumar SURYA TECH

Student Internships

Students of Mechanical Engineering have done internships in several core organizations

S. No	Name of the student	Organization of Internship	Duration
1	A V N A CHIRANJEEVA SANDEEP	RAKSHTRIYA ISPAT NIGAM LIMITED	18-11-2019 TO 30-11-2019
2	PATAMSETTI VEERA VENKATA	NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA	20-05-2019 TO 19-07-2019
3	T. UDAY SHANKAR	OIL AND NATURAL GAS CORPORATION LIMITED	23-07-2019 To 13-08-2019
4	D.G.S.K AVINASH RAJ	RELIANCE	11-05-2019 TO 12-06-2019

Industrial Visits

III Year Students of Mechanical Engineering have visited Sarvaraya sugars private limited

Industrial Visits

Students of Mechanical Engineering have visited AP Genco Vijayawada and Srinivasa polymers

Article

Solar-Powered System Extracts Drinkable Water from Dry Air

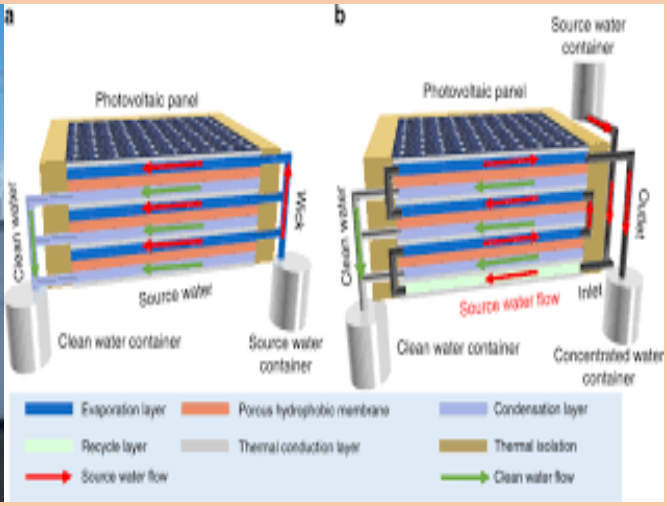
Researchers at MIT and elsewhere have significantly boosted the output from a system that can extract drinkable water directly from the air even in dry regions, using heat from the sun or another source.

The system, which builds on a design initially developed three years ago at MIT by members of the same team, brings the process closer to something that could become a practical water source for remote regions with limited access to water and electricity. The findings are described today in the journal Joule, in a paper by Professor Evelyn Wang, who is head of MIT's Department of Mechanical Engineering; graduate student Alina LaPotin and six others at MIT and in Korea and Utah.

The earlier device demonstrated by Wang and her co-workers provided a proof of concept for the system, which harnesses a temperature difference within the device to allow an adsorbent material—which collects liquid on its surface—to draw in moisture from the air at night and release it the next day. When the material is heated by sunlight, the difference in temperature between the heated top and the shaded underside makes the water release back out of the adsorbent material. The water then gets condensed on a collection plate.

But that device required the use of specialized materials called metal organic frameworks, or MOFs, which are expensive and limited in supply, and the system's water output was not sufficient for a practical system. Now, by incorporating a second stage of desorption and condensation, and by using a readily available adsorbent material, the device's output has been significantly increased, and its scalability as a potentially widespread product is greatly improved.

Instead of the MOFs, the new design uses an adsorbent material called a zeolite, which in this case is composed of a microporous iron alumino phosphate. The material is widely available, stable, and has the right adsorbent properties to provide an efficient water production system based just on typical day-night temperature fluctuations and heating with sunlight.



N Manikanta
IV Mechanical, Student

NSS Activities

Plantation

NSS team ACET has conducted awareness program on pollution and plantation in surrounding to college

Dental diagnosis and awareness

NSS team ACET has conducted dental awareness program for the students and staff