



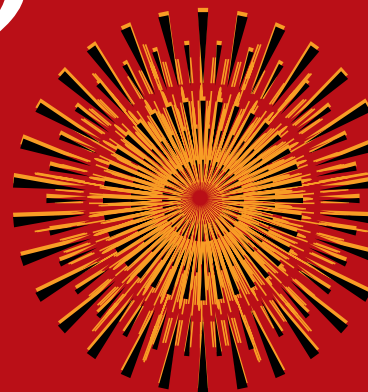
DEPARTMENT OF MECHANICAL ENGINEERING

Presents

News Letter

EVEN SEM
2020-2021

Volume-3



EDITOR'S NOTE

Dear Readers,

A journey into the Department of Mechanical Engineering at Atria Institute of Technology through the academic year 2020-2021. Years of memories have passed by, filled with a plethora of cherishing moments in our eyes; it is our responsibility to record every step. This newsletter shall show that we have given our best. AIT often buzzes with activities. This volume of our Newsletter bears testimony to it. Every day inspires us to look at life with a fresh perspective and this academic year was no different though we've all been physically distanced but we're socially close and it has sent us into a frenzied spirit of enthusiasm.

From the pre-industrial time to now, humans have seen great and marvelous works of human intelligence mostly in the development and advancements of grand to small machines. All this happened in the hands of proven-worthy mechanical engineers, just like the ones that are preparing here at AIT and set to go out to the world and prove worthy of themselves. It is an honor that we, the editorial team, are members of that dynamic fraternity. We wish all of our confrere and all our readers to do great in being their best.

These beautifully assembled pages would have just been a dream to us without the vision and support of our HOD Dr. MS Rajendra Kumar, who took personal interest and gave insightful inputs. We will always be thankful to this institution for giving us a platter of opportunities and allowing us to learn, grow and experience. To conclude, we'd like to quote Harriet Tubman "You have within you the strength, the patience, and the passion to reach for the stars to change the world. "

Sam Prabhakar and Team



MESSAGE FROM PRINCIPAL

Dr. T N Sreenivasa
Principal, Atria IT



Our institution is committed to its vision and creating an outstanding academic environment through imparting objective oriented education, dedicated faculty members, research-oriented programs, along with excellent infrastructure. The students are always encouraged to participate in extra co-curricular activities. This brings confidence in everyone to train the students towards excellence. We believe in emphasizing more on Student Centric Learning.



MESSAGE FROM HOD

Dr. M S Rajendra Kumar
HOD, Atria IT



A warm welcome to the Department of Mechanical Engineering at Atria Institute Technology, Bangalore. The institute has been simply unstoppable in its progress as it has been actively involved in various activities that have brought to light the hidden talents of the department's students and staff. Mechanical Engineering is a professional core engineering discipline that deals with the design, thermal and production or manufacturing stream. Mechanical Engineering is one of the oldest and broadest engineering disciplines that plays a significant role in enhancing safety, economic vitality, enjoyment and overall quality of life throughout the world. Our department has a team of highly qualified and experienced faculty, good infrastructure 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. We always work with the motto "Nothing can be achieved without genuine effort." The core values of the department help the students to develop their overall personality and make them worthy to compete and work at a global level.



SNIPPETS!!

Every situation in life is temporary. So, when life is good, make sure you enjoy and receive it fully, remember that it will not last forever and better days are on the way

It is not beauty that endears, it's love that makes us see beauty.

"Before you act, listen. Before you react, think. Before you spend, earn. Before you criticize, wait. Before you pray, forgive. Before you quit, try."

Learn to love and celebrate yourself, the way you are, You are enough. But if there are things you want to change and can change them then go for it. But if there are things that you have no control over, accept them to be a part of you and your personality. It is what makes you, You. You are unique. One of a kind.

Every situation in life is temporary. So, when life is good, make sure you enjoy and receive it fully. And when life is not so good, remember that it will not last forever and better days are on the way.

Believe in yourself and all that you are. Know that there is something inside of you that is greater than any obstacle.

To find a rainbow, you need to look upwards. Stop dreaming, start working and chase your dream. Never regret a day in your life.

SELF LOVE AND SELF CONFIDENCE ARE TWO SIDES OF THE SAME COIN; WITHOUT ONE THERE IS NO OTHER. NOBODY CAN VALIDATE THIS BUT YOURSELF. SMALL CHANGES IN LIFE IS WHAT LEADS TO A BETTER LIFE AND ACCUSTOMED HAPPINESS. JUST LIKE A FLOWER, SURVIVE THE RAIN AND USE IT TO GROW.

AASHA L. GOWDA
SCS DEPARTMENT

We don't always need to be guided by our emotions. Just because I'm angry, doesn't mean I can go around punching people. We have the ability to deal with our emotions in a productive way and not recklessly let them loose.

Mark Sequiera
B.A - English, Psychology, Journalism

"Be still and know that I am God"

Why fight the battles on your own when you have The Almighty to fight for you. When in pain just be still in his presence and allow him to fill your void. No matter how low you are, He will lift you up. The situation may not change but what will change is you, your perspective. Look at yourself with eyes of Faith and Love. The Love with which the Almighty looks and patiently waits for you.

Rushwin Cardoza
Mech Department

What is the antidote of Death? Is it stem cells, is it science? No, it's neither one of these. It's Love. There are some people who live and are alive, but are still "dead" because they have ceased to love. On the other hand, there are some people whose love still continues and lives on even after they die. Love is our hope. Never cease to love, for love is stronger than death itself. Spread love, spread life.

Martha Francis
R&D Engineer, Nokia

A wise man once told me,
"Bro it's ok to fail.. it really is.. else you will never know what it feels like at the bottom. If you keep having victory where is the journey in that?"

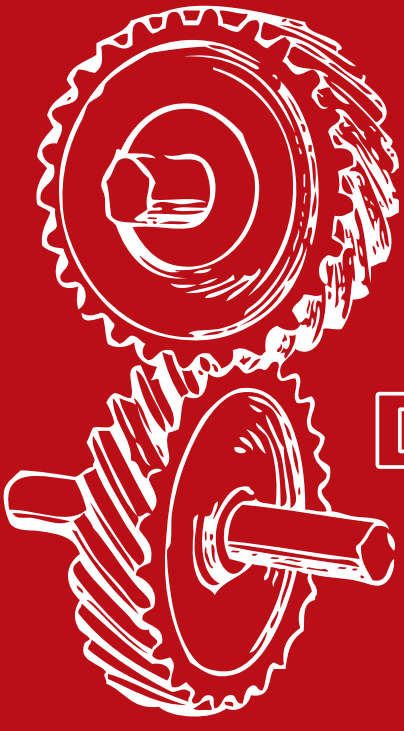
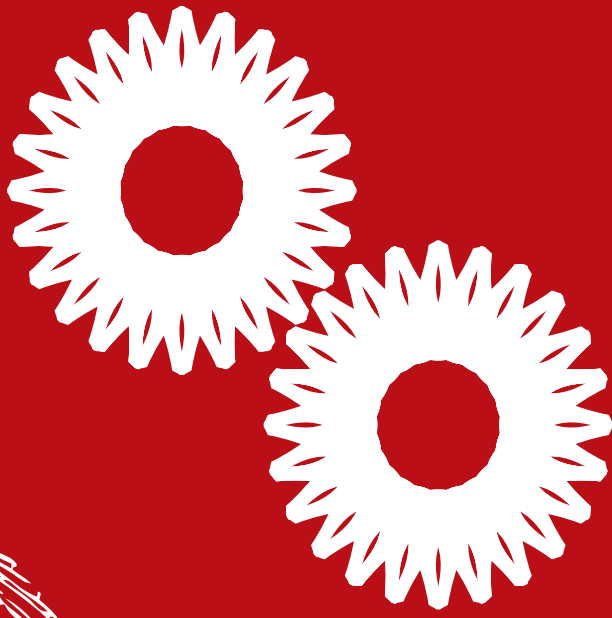


VERTICAL TAKE-OFF & LANDING TECHNOLOGIES

Vertical take-off and landing (VTOL) aircraft, as the name suggests, are those which have the capability to take-off and land vertically, and can even hover above the ground. They do not require a runway for taking-off and landing. Rather than using speed and lift to take off, these aircrafts make use of vertical lift or thrust produced by a propulsion system to lift themselves off of the ground. This technique of lift-off reduces or even eliminates the dependence on the airport runway. Although this technology has its roots in military applications, it could also be proved to be useful in non-military applications such as private and civil aviation, as these aircrafts can play important role in performance of tasks in complex terrain environments and in cases like earthquake or flood relief etc. This was the technology that led to the creation of helicopters as there was a need to carry men and supplies to difficult terrains during the war. But as time progressed, it was realised that faster aircrafts were required to have an advantage over others. Since propellers were not able to fulfil these needs, a new method of propulsion using jet engines was incorporated and the thrust from the exhaust of this engine was now used for VTOL in aircrafts like the Harrier. The jet-propelled VTOL aircrafts were capable of higher speeds but they had shorter range and the pilots faced maneuverability problems in dogfight situations. To overcome these setbacks, a new concept of VTOL has been introduced in the recent years, which consists of gas-driven fan propulsion system. This is considered particularly for fixed wing aircraft and it would help in increasing the cruising efficiency and hence the overall performance of the aircraft. The popularity of Unmanned Air Vehicles (UAVs) is increasing lately as they help in surveillance of large areas economically and swiftly. The concept of VTOL has also been incorporated in the UAVs as it has advantages over traditional UAVs which require a runway or launcher for take-off. These UAVs are also able to hover over an area while carrying the payload. Vertical take-off and landing also has its applications in civil aviation. VTOL UAVs are seen as the future of transportation and travelling. However, it is not appropriate to use the same engine propulsion system from the military as it is uncomfortable and inefficient for civil use. Hence, the concept of ducted fans came into picture. Ducted fans are seen to produce more thrust with less energy wastage than conventional methods and also produce much lesser noise. Thus, the introduction of ducted fans proved to improve the aerodynamic efficiency of the VTOL aircrafts. In addition to this, the geometry of the propeller should also be considered during the design of VTOL UAV for civil applications as these aircraft would need to carry heavier payloads.

Naveen G | 4th Year

“Failure is the opportunity to begin again more intelligently.” – Henry Ford



DEPARTMENTAL ACTIVITIES.



MOU



30th June 2021

Party Name : SkillDzire Technologies Private Limited, Hyderabad.

Purpose of MoU Agreement : To jointly work on imparting knowledge by conducting workshops, FDPs, internships, job-oriented trainings, placements, real time projects and industry training and provide placements to the deserving candidates.



17th July 2021

Party Name : Cadmaxx Solutions Education Trust, Bengaluru

Purpose of MoU Agreement : To promote collaboration in engineering education and problem-solving activities between the Department of Mechanical Engineering of Atria Institute of Technology and Cadmaxx Solutions Education Trust.

“All our dreams can come true; if we have the courage to pursue them.”. – Walt Disney.

PAPER PUBLICATIONS

Plasma metal deposition of stainless steel 316L over mild steel surface

Authors: M Dhaneshwaran, Suyog Jhavar

Publication date: 20/02/2021

Journal Materials Today: Proceedings

Publisher: Elsevier

Description:

Plasma metal deposition (PMD) is an additive manufacturing process capable of layer by layer construction, repair, and reconstruction of metallic parts. One of the important characteristics of cladding with PMD is the ability to control the wire feed, plasma arc energy, thus allowing the melt pool to be controlled. In this paper stainless steel 316L was deposited in the form of wire on a block of mild steel. Experiments were focused to infer the influence of plasma power, travel speed and wire feed rate on the quality of track. Different parameters were varied to observe the various geometrical parameters and their relationship with the energy source and material feed rate was established. The results show that plasma power and wire feed rate have a significant impact on height and width of the deposited track. Aspect ratios ranging from 0.85 to 4.6 were obtained. Higher values of aspect ratio at lower wire feed rates and at...

PAPER PUBLICATIONS

Surface Properties Modification of SS316L Using Plasma Beam Remelting (PBR) and Its Applications in Additive Manufacturing

Authors: V Srinivasa Chari, Suyog Jhavar

Publication date: 08/05/2021

Journal Transactions of the Indian National Academy of Engineering

Pages 1-9

Publisher: **Springer Singapore**

Description:

Additive manufactured part poses poor surface finish and anisotropy of mechanical properties. In this paper, plasma beam remelting (PBR) was attempted for altering surface properties of SS316L. Plasma beam remelting helped in the improvement of mechanical properties and surface finish of the substrate. The experiments revealed the relationship between plasma energy supplied per unit length and the surface roughness of remelted samples. Plasma beam remelting was seen as an effective technique for altering the microstructure and subsequently micro-hardness up to a few 100-u level. An improvement of up to 60% in the surface finish and 75% in the micro-hardness of the top layer was obtained by an optimum single-pass PBR. A significant grain refinement was also observed up to sub-micron level. These initial results confirm the suitability of PBR process as an effective post-processing technique for ...

21st July 2021

Dr. Suyog Jhavar published a paper on title “Mechanisms controlling fracture toughness of additively manufactured stainless steel 316L” on 21st July 2021 in Springer Nature.

The good life is a process, not a state of being. It is a direction, not a destination.” –

Carl Rogers

KSCST FUND - UG PROJECTS

1st April 2021

Karnataka State Council for Science & Technology, IISc, Bengaluru announced 44th series of Students Project Programme 2020-21.

One project from the Mechanical Department was approved for sponsorship.

Project Title : An Automated Convertible Roof for 2 Wheelers.

Project Ref : 44S_BE_3484.

Name of the Guides : Mr. Anjan Kumar & Mr. Chetan CS

Name of the students : Md.Mubashir, Md. Sahil & Abhishek

DEPARTMENTAL EVENTS

19th & 20th March 2021

Book Exhibition 2021 was held on 19th & 20th March 2021 by Library and Information Centre.

Chief Guest for the event was Shri Shaheem Rahiman, CEO in the presence of Dr.

T.N.Sreenivasa, Principal. It was held in the main Seminar Hall.

31st July 2021

ISTE, New Delhi approved the Faculty & Student Chapters of Atria Institute of Technology.

The inaugural ceremony was held on 31st July 2021 at 10:30 am to 12:30pm in the Main Seminar Hall at the institute. Newly inducted ISTE members along with faculty with life membership were present at the inaugural ceremony.

Dr. Pratapsinh Desai, President of Indian Society for Technical Education (ISTE) was the chief guest and Dr. Suresh D.S, Chairman, ISTE – Karnataka Section was the Guest of Honor of the inaugural chapter function.

The chief guest Dr. Pratapsinh Desai in his inaugural address presented an overview of ISTE organization and the various activities that can be held under ISTE faculty chapter. He also spoke on the need for the use of technology by teachers as technology is progressing at a faster rate in today's world. He addressed the teachers on continuous learning process – learn – unlearn – relearn as the key for a successful profession. In his discourse he gave valuable insights on how world renowned companies fell apart as they could not match up with the fast changing trends in technology.

CONDUCTED WEBINARS

1. A webinar on “The Role of coating in improving resisting to surface degradation” was organized by Dept. of ME by Dr. Venkate Gowda C of Atria Institute of Technology on 13th July 2021
2. A webinar on “The Role of Optimization Techniques in Engineering” was organized by Dept. of ME of Atria Institute of Technology on 13th July 2021
3. A webinar on “ROBOTICS” was organized by Dept. of ME of Atria Institute of Technology on 5th Jun 2021



Speaker
Dr M. Sreenivasa Reddy
PhD - Jawaharlal Nehru Technological
University
Principal- RLJIT Doddaballapur

Webinar

" The Role of Optimization Techniques in Engineering"

June 29th 2021 | 10:30 AM - 12:00 AM

Mr. Mohd Rizwan Jafar
Dr. Venkate Gowda
Coordinators

Dr . M S Rajendra Kumar
HoD

Dr. T.N. Sreenivasa
Principal



meet.google.com/ieg-ymsv-wkx

ATRIA INSTITUTE OF TECHNOLOGY



DEPARTMENT OF MECHANICAL ENGINEERING

Presents a Webinar
on

ROBOTICS



Gayatri Pawar Sasmil
Business Development Manager
SDK Robotics and Automation



Date : 05.06.2021 (Saturday)
Time : 10:00am to 12:00pm

“Dream as if you’ll live forever, live as if you’ll die today.” – James Dean

PARTICIPATION IN WEBINARS

1. Mr. Chetan C S has participated in a Webinar on “Insights of Criteria 3 & Criteria 7 for NBA SAR” organized by Dept. of CS Engg., Atria Institute of Technology on 06’ May, 2021.
2. Mr. Chetan C S has participated in a Webinar on “Role of Coatings in improving resistance to surface degradation” organized by Dept. of ME Engg., Atria Institute of Technology on 13’ July, 2021.
3. Mr. Chetan C S has participated in a Webinar on “Railway Monitoring system using wireless sensor network organized” organized by Dept. of EC Engg. Atria Institute of Technology on 14’ July, 2021.

PARTICIPATION IN FACULTY DEVELOPMENT PROGRAM

1. Dr. Nidhi Baranwal has participated in a FDP on “Emerging trends in mechanical, aerospace & robotics engineering” organized by VIT Bhopal on 7 to 9’ July, 2021

PATENT GRANTED

1. Title of Invention: Fully autonomous smart manufacturing unit using Intelligent Feature Recognition Algorithm
Patent number: 2021102713
Country of Patent : Australia
Name of the Faculty: SRINIVASA CHARI V of Associate Professor, Dept. of ME.

“The struggle you’re in today is developing the strength you need tomorrow.”

– Robert Tew



GALLERIA

News Letter Volume-3



Sam Prabhakar | 4th year



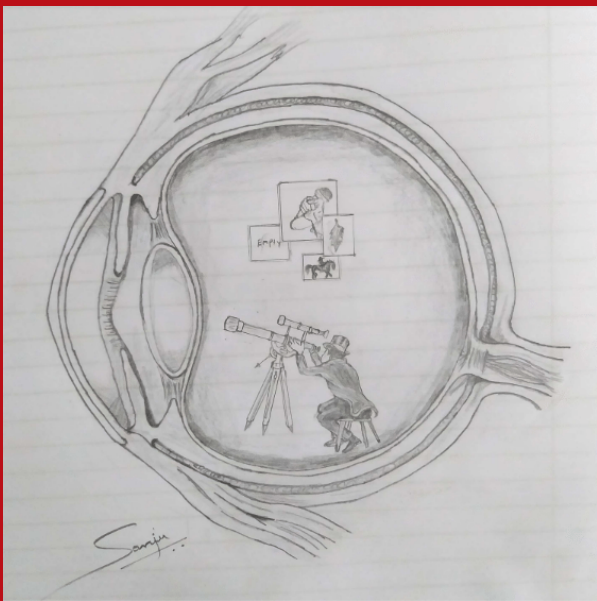
Tejas Rao | 3rd year

“Kindness is a language which the deaf can hear and the blind can see.” – Mark Twain

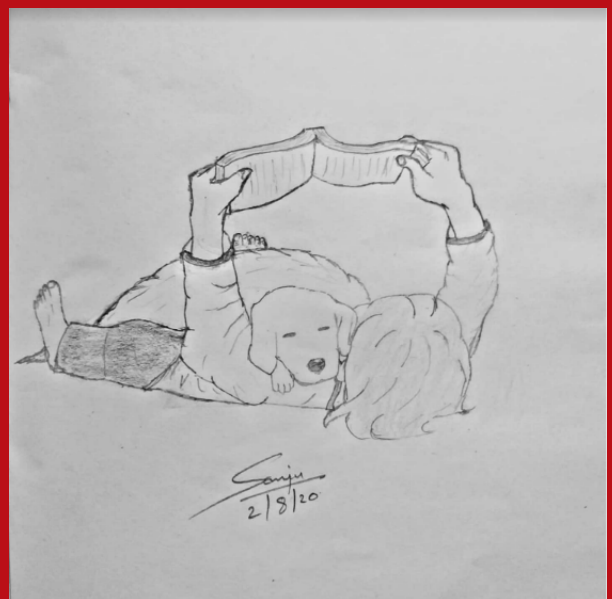
News Letter Volume-3



Sanjay S | 4th year

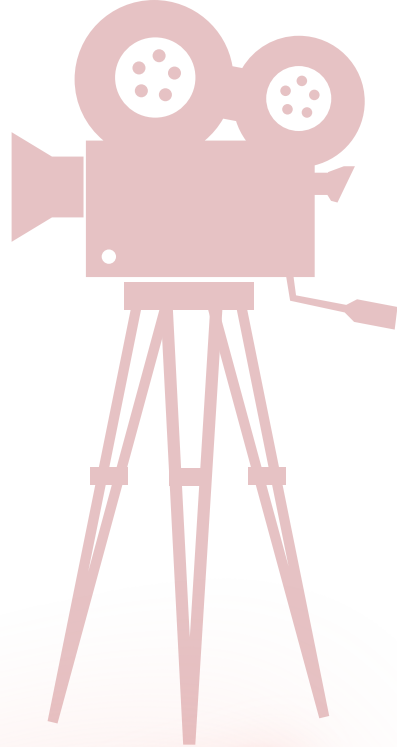


Sanjay S | 4th year



Sanjay S | 4th year

“Kindness is a language which the deaf can hear and the blind can see.” – Mark Twain



SAY CHEESE!
PICTURE PERFECT



ASHISH B RAIKAR | 4th YEAR



“Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time.”

Thomas A. Edison

MEET THE TEAM



Anjan Kumar
(Faculty In-charge)



**Dr. MS Rajendra
Kumar (HoD)**



Sam Prabhakar S
(Editor)



VISION

TO BE A CENTRE OF EXCELLENCE IN MECHANICAL ENGINEERING EDUCATION AND INTERDISCIPLINARY RESEARCH TO CONFRONT REAL WORLD SOCIETAL PROBLEMS WITH PROFESSIONAL ETHICS.

MISSION

M1 - TO PROMOTE THE FRONTIERS OF PEDAGOGY AMONGST STUDENTS AND DEVELOP NEW PARADIGMS IN RESEARCH.

M2 - TO DEVELOP PRODUCTS, PROCESSES, AND TECHNOLOGIES FOR THE BENEFIT OF THE SOCIETY IN COLLABORATION WITH INDUSTRY AND COMMERCE.

M3 - TO MOLD YOUNG MINDS AND BUILD A COMPREHENSIVE PERSONALITY BY NURTURING STRONG PROFESSIONALS WITH HUMAN ETHICS THROUGH INTERACTION WITH THE ALUMNI, EXPERTS FROM ACADEMIA / INDUSTRY, RESEARCH ORGANIZATIONS, HIGHER STUDY INSTITUTIONS AND AREA EXPERTS.

Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less.-Marie Curie