



Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
DEEMED TO BE UNIVERSITY



University with Graded Autonomy Status

(An ISO 21001 : 2018 Certified Institution)

Periyar E.V.R. High Road, Maduravoyal, Chennai-95. Tamilnadu, India.

**FACULTY OF ENGINEERING AND
TECHNOLOGY
DEPARTMENT OF MECHANICAL
ENGINEERING**

MESSAGE:

HOD

EDITOR'S

ARTICLES CORNER

- The Importance of Interdisciplinary Learning
- Latest Innovations in Science & Technology
- Advancements in Additive Manufacturing (3D Printing)
 - INSPIRING PAPER CRAFT - A HOBBY
 - Success Story of Jeff Bezos

Alumni Corner

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EDITORIAL BOARD

HOD-DESK

MESSAGE



by,
Dr.K.RAJAN,
HOD/Mech Engg.

Greetings!

I am delighted that Dr. MGR University has provided us with the opportunity and vision to support the release of the Newsletter series throughout all quarters of each academic year. This platform serves as a valuable forum to connect with all stakeholders.

I am especially pleased to see our department releasing the Newsletter for the period of April 2023 to June 2023. Wishing for many more successful editions ahead and a wonderful reading experience for all!

MESSAGE

It gives us immense pleasure to be an integral part of this Newsletter—a powerful communication platform tailored to the needs of the time. It serves as a bridge, delivering important messages about events, achievements, and key happenings to all concerned.

This initiative plays a crucial role in fostering a sense of belonging among faculty, alumni, and students. Life does not offer rewinds, only flashbacks, and our talented alumni hold a wealth of experience and skills to share with current students through talks and newsletters.

We believe our efforts will be truly successful when, after reading these articles, you feel inspired and motivated to contribute even more to future editions. Let's continue this journey of knowledge sharing and collaboration!

EDITORIAL BOARD

Mr.W.Andrew Nallayan – Asst Prof

Mr.D.A.Vinoth – Asst Prof

Hari Krishnan D – III Mechanical Engineering

Aravinth.V – III Mechanical Engineering

Parimala Sowmyaa N.V – III Mechanical Engineering



Jai Kishore.M - III Mechanical Engineering



ACTION CORNER

SNIPPETS FROM PALS AND OUR UNIVERSITY

APRIL TO JUNE

DATE	EVENT TITLE	SPEAKERS	EVENT COORDINATE
26-May-2023	FDP on energy and material characterization	Dr M. Vijay Anand, Professor,Thai Mookambigai Dental College	
07--Apr-2023	Alumni lecture on career guidance and oppurtunities in Industries 1819	Mr Vikas Pandey, CEO- The Education Company	

PALS: MAY**EVENT: PALS VIRTUAL WEBINAR ON RESEARCH MENTORSHIP****SPEAKER: Prof. Mahesh Panchagnula****DATE: 24.05.2023****VENUE: ZOOM**

On 24th May 2023, PALS hosted a virtual webinar on "Research Mentorship," led by Prof. Mahesh Panchagnula, Dean of Alumni & Corporate Relations. The webinar focused on the importance of mentorship in research and the role of experienced professionals in guiding students and young researchers. Prof. Panchagnula shared his insights on fostering research skills, building academic networks, and navigating the challenges of the research landscape. The session aimed to inspire and equip participants with the knowledge to approach research with a strong foundation in mentorship.

ARTICLES CORNER

10 BENEFITS OF STUDYING ABROAD

by,

Mr. Andrew Nallayan,
Asst. Professor/ Mech Engineering.



Introduction

In today's rapidly evolving world, the ability to integrate knowledge from different disciplines has become increasingly important. Interdisciplinary learning, which involves the combination of multiple academic fields to solve complex problems, is crucial for innovation, adaptability, and comprehensive understanding. This approach fosters critical thinking, creativity, and problem-solving skills that are essential in various domains.

Breaking Down Knowledge Silos

Traditional education often segments knowledge into distinct disciplines such as science, mathematics, literature, and the arts. While specialization has its merits, it can also create silos that limit cross-disciplinary insights. Interdisciplinary learning breaks down these barriers, enabling students and professionals to apply diverse perspectives and methodologies to tackle real-world challenges.

Enhancing Problem-Solving Skills

Many of today's global challenges—such as climate change, healthcare innovation, and artificial intelligence—cannot be addressed by a single discipline alone. For example, combating climate change requires expertise in environmental science, economics, engineering, and policy-making. Interdisciplinary learning encourages collaboration across fields, leading to more effective and holistic solutions.

Fostering Innovation and Creativity

Some of the greatest breakthroughs in history have resulted from interdisciplinary approaches. The intersection of biology and technology led to advancements in medical imaging and prosthetics. The fusion of computer science and linguistics gave rise to artificial intelligence and natural language processing. By integrating knowledge from multiple fields, individuals can generate novel ideas and drive innovation.



Real-World Applications

Interdisciplinary learning is increasingly valued in various industries. In business, marketing strategies often combine psychology, data science, and design thinking to understand consumer behavior. In medicine, bioinformatics merges biology and computer science to improve disease diagnosis and treatment. Engineering projects frequently incorporate environmental science, ethics, and policy considerations. These examples highlight the importance of interdisciplinary skills in career development and industry advancements.

Encouraging Lifelong Learning and Adaptability

The job market is continuously evolving, and professionals must adapt to new challenges and technologies. Interdisciplinary learning promotes lifelong learning by encouraging individuals to explore multiple domains and adapt to changing circumstances. This flexibility enhances career prospects and enables individuals to remain competitive in diverse fields.

The Role of Education and Institutions

Educational institutions play a crucial role in fostering interdisciplinary learning by designing curricula that encourage cross-disciplinary exploration. Universities and schools can introduce project-based learning, collaborative research initiatives, and flexible coursework that bridge multiple fields. Encouraging students to engage in interdisciplinary discussions and real-world problem-solving exercises can equip them with the necessary skills for the future.

Challenges and Considerations

Despite its many advantages, interdisciplinary learning also comes with challenges. Integrating different fields requires a balanced curriculum, effective communication between disciplines, and overcoming resistance to change. Institutions and educators must address these challenges by creating supportive environments that value collaboration and innovation.

Future Prospects of Interdisciplinary Learning

As technology and globalization continue to reshape industries, the demand for interdisciplinary expertise will only increase. Fields such as robotics, biotechnology, and sustainable development require professionals who can bridge gaps between science, engineering, business, and social sciences. Emerging educational models, including hybrid degree programs and online learning platforms, are making interdisciplinary education more accessible than ever. By encouraging a culture of continuous learning and adaptability, we can prepare future generations to thrive in a dynamic and interconnected world.

Conclusion

Interdisciplinary learning is more than just an academic approach; it is a mindset that prepares individuals to tackle complex, real-world issues. By integrating knowledge across disciplines, fostering collaboration, and enhancing problem-solving abilities, interdisciplinary learning equips individuals with the tools needed for innovation and success. As we move towards a more interconnected world, embracing interdisciplinary education will be key to addressing global challenges and driving progress.

- **CRISPR Gene Editing:** New breakthroughs in gene-editing technology allow for potential cures for genetic disorders.
- **Lab-Grown Organs:** Scientists are making progress in bioprinting and regenerative medicine, bringing hope for organ transplants without donors.
- **mRNA Vaccine Advancements:** The success of COVID-19 vaccines has led to new mRNA-based treatments for diseases like cancer.
- **Wearable Health Tech:** Smart devices are increasingly monitoring vital signs, detecting anomalies, and improving early diagnosis.
- **Telemedicine Growth:** Remote healthcare services continue to expand, improving accessibility for patients worldwide.

6. Smart Cities and IoT

The integration of technology in urban development is making cities more efficient and sustainable.

- **5G Connectivity:** Faster internet speeds enable smarter infrastructure and real-time data processing.
- **Autonomous Vehicles:** Self-driving technology is improving, making transportation safer and reducing traffic congestion.
- **AI-Powered Urban Planning:** Data-driven smart city initiatives help optimize energy use, waste management, and public safety.
- **IoT in Agriculture:** Precision farming techniques using IoT sensors optimize crop production and reduce resource waste.
- **Sustainable Infrastructure:** Smart buildings utilize automation and renewable energy to minimize environmental impact.

7. Advanced Robotics and Automation

Robots are becoming increasingly sophisticated, revolutionizing industries like manufacturing, healthcare, and service.

- **Humanoid Robots:** Companies like Tesla and Boston Dynamics are developing robots that can assist with daily tasks and industrial work.
- **Exoskeletons:** Wearable robotic suits are enhancing mobility for people with disabilities and aiding workers in heavy labor industries.
- **Autonomous Drones:** AI-powered drones are being used for surveillance, delivery, and emergency response applications.
- **Soft Robotics:** Advances in flexible materials are leading to robots that can perform delicate tasks in healthcare and search-and-rescue operations.
- **AI-Powered Personal Assistants:** Virtual and robotic assistants are becoming more interactive and capable of handling complex tasks.

Conclusion

From artificial intelligence to space exploration and biotechnology, the latest scientific and technological innovations continue to shape the future. As these advancements progress, they hold the potential to solve some of the world's most pressing challenges and improve human

Advancements in Additive Manufacturing (3D Printing)

By: Aravinth.V,

3rd Yr, Mechanical Engg.

Introduction Additive manufacturing, commonly known as 3D printing, has revolutionized industries by enabling rapid prototyping, complex designs, and cost-effective production. Over the years, significant advancements have propelled this technology to new heights, making it an indispensable tool across multiple sectors, including healthcare, aerospace, automotive, and construction.

Breakthroughs in 3D Printing Technologies Several innovations have enhanced the capabilities of 3D printing:

1. Multi-Material and Multi-Color Printing

Modern 3D printers now support multi-material printing, allowing the integration of different textures, colors, and mechanical properties within a single print job. This advancement has proven essential in prototyping and end-use product manufacturing. Recent improvements in software algorithms enable precise material blending and enhanced print resolution.

2. Metal 3D Printing

Traditional 3D printing primarily focused on plastics, but metal additive manufacturing has gained momentum. Technologies like Direct Metal Laser Sintering (DMLS) and Electron Beam Melting (EBM) enable the production of high-strength metal components used in aerospace, automotive, and medical implants. Additionally, advancements in binder jetting and cold spray techniques are making metal 3D printing more affordable and accessible. Researchers are also developing new metal alloys optimized for 3D printing, improving strength, corrosion resistance, and thermal properties.

3. Bioprinting and Tissue Engineering

The healthcare industry has witnessed remarkable progress in bioprinting, where living tissues, blood vessels, and even organ prototypes are being developed using bio-inks composed of living cells. This innovation holds the potential to revolutionize organ transplantation and regenerative medicine. Researchers are also exploring the integration of stem cells into bio-inks for enhanced cell growth and functionality. Breakthroughs in vascularized tissue printing could soon lead to fully functional organ fabrication.

4. **Large-Scale 3D Printing**

Recent advancements in large-scale additive manufacturing have enabled the construction of buildings, bridges, and other infrastructure using 3D-printed concrete. This approach reduces material waste and speeds up construction timelines while maintaining structural integrity. Emerging developments include robotic arms for on-site printing and the use of sustainable materials like recycled plastics and bio-based composites. Automated monitoring systems now enhance precision and structural integrity in large-scale prints.

5. **High-Speed Printing and Automation**

New printing techniques such as Continuous Liquid Interface Production (CLIP) and

Multi Jet Fusion (MJF) have significantly increased print speeds while improving resolution and material properties. Additionally, AI-driven automation is optimizing print processes, ensuring precision and repeatability. Machine learning algorithms are also being integrated to predict and mitigate defects in printed parts, reducing material waste and production costs. Real-time monitoring systems enable adaptive printing, adjusting parameters on the fly for improved quality control.

6. **Sustainable and Eco-Friendly Printing**

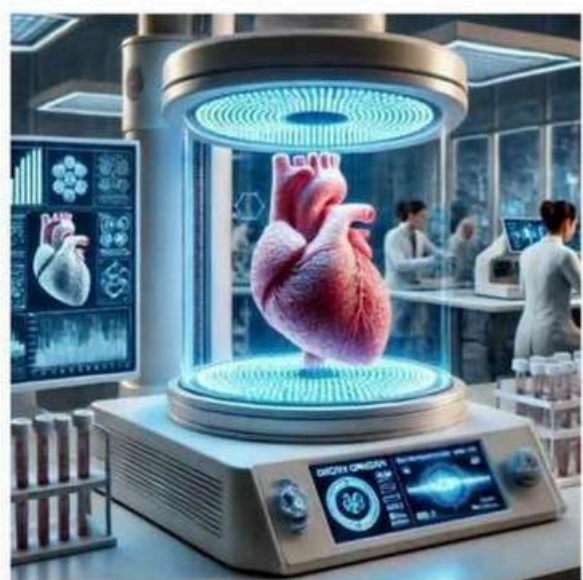
The push for sustainability has led to innovations in biodegradable filaments, recycled materials, and energy-efficient printing processes. Researchers are developing plant-based resins and recyclable metal powders to minimize environmental impact. Additionally, closed-loop recycling systems allow manufacturers to reuse and repurpose 3D-printed waste materials. Sustainable energy sources, such as solar-powered 3D printing, are being explored to further reduce carbon footprints.

Applications Across Industries

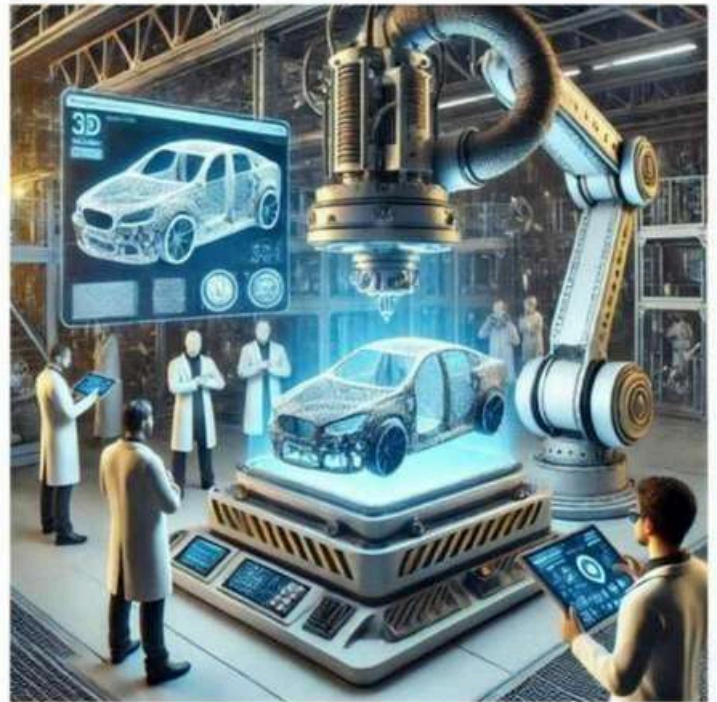
- **Aerospace & Defense:** Lightweight, high-strength components for aircraft and spacecraft reduce costs and improve efficiency. 3D printing is also being used to create custom tools and jigs for maintenance operations. The development of self-repairing materials could enhance aircraft longevity.
- **Automotive:** Custom parts, rapid prototyping, and even full-scale vehicle production benefit from 3D printing. Automakers are exploring on-demand manufacturing for spare parts, reducing supply chain dependencies. 3D-printed electric vehicle components and battery housings are being researched for improved efficiency.

- **Healthcare:** Patient-specific implants, prosthetics, and surgical models enhance medical treatments. 3D-printed drug formulations and bioresorbable scaffolds are advancing personalized medicine. Researchers are developing implantable sensors and smart medical devices using additive manufacturing.
- **Consumer Goods:** Customizable and on-demand manufacturing allows for personalized products and reduced inventory costs. Wearable technology, fashion accessories, and even furniture are now being created using advanced 3D printing techniques. Advanced polymer and composite materials are improving product durability and aesthetics.
- **Construction:** 3D-printed homes and buildings offer sustainable and affordable housing solutions. Advanced composite materials are being developed to enhance durability and insulation properties. The integration of automation and robotics into construction printing is reducing labor costs and construction time.
- **Education & Research:** Educational institutions are utilizing 3D printing to facilitate hands-on learning and innovative research, from material sciences to robotics. The development of low-cost, modular 3D printers for classrooms is making the technology more accessible for students and researchers.

Future Trends and Outlook The future of additive manufacturing looks promising with ongoing research in nanomaterials, 4D printing (objects that change shape over time), and hybrid manufacturing combining 3D printing with traditional machining. As costs continue to decrease and capabilities expand, 3D printing is set to become a mainstream manufacturing method, driving innovation across industries. Advancements in AI and blockchain integration may also play a role in ensuring quality control, supply chain transparency, and intellectual property protection in the 3D printing ecosystem. Self-replicating 3D printers, capable of



Conclusion Additive manufacturing has made remarkable strides, transforming how products are designed, manufactured, and utilized. With continuous advancements in materials, speed, and scalability, 3D printing is poised to redefine the future of manufacturing, offering limitless possibilities for innovation and sustainability. As technology evolves, industries will continue to explore new frontiers in digital fabrication, making 3D printing an integral part of the global manufacturing landscape. The convergence of 3D printing with artificial intelligence, robotics, and sustainable materials will further drive its adoption and create transformative opportunities across multiple domains.



INSPIRING PAPER CRAFT - A HOBBY

by, N.V.Parimala Sowmyaa, 3rd Yr, Mechanical Engg.

There's something uniquely satisfying about the humble old newspaper. Whether I'm lost in thought, watching TV, or simply feeling blue, my hands instinctively reach for its crisp pages—rolling, folding, and shaping them into miniature works of art. This readily available material, so easy to fold into delicate shapes or roll into fine cylinders, has become my favourite medium for crafting.

Origami—the mesmerizing art of transforming a single sheet of paper into intricate figures—has always fascinated me. With nothing but imagination and a few precise folds, an ordinary page can take on infinite forms, each infused with its own charm and character. The possibilities are boundless, limited only by creativity and patience.

Like many, I started my journey with the classic paper boat, delighting in the simple magic of watching it float. But soon, curiosity took hold. I ventured into crafting delicate butterflies, intricate dino baskets, and pop-up cards, each creation becoming more detailed and expressive. The greatest reward? The joy and surprise on the faces of those who received them—especially my mom, my first and most cherished audience.

Recently, my passion has grown beyond simple folds to structured paper roll sculptures, elevating my craft to new dimensions. One of my proudest creations is a fully crafted dining table, made entirely from tightly rolled newspaper tubes. I've also experimented with elegant flower vases, decorative lamp shades, and even an outdoor swing—each piece a testament to the resilience and versatility of paper.

The process is both meditative and deeply fulfilling. With a little patience, a keen eye for detail, and a spark of imagination, paper crafting proves that remarkable creations can emerge from the simplest materials—all at little to no cost.

I look forward to sharing more of my work, techniques, and creative journey in future issues. If you, too, find joy in shaping paper into something extraordinary, let's embark on this creative adventure together. After all, with a single fold, a new possibility is born.



Success Story of Jeff Bezos

by, Hari Krishnan D, 3rd Yr, Mechanical Engg

The Inspiring Success Story of Jeff Bezos: From Garage Startup to Billionaire Visionary

Jeff Bezos, the founder of Amazon and one of the wealthiest individuals in history, is a name synonymous with innovation, perseverance, and disruptive entrepreneurship. His journey from a young tech enthusiast to the architect of the world's largest e-commerce empire is nothing short of extraordinary. By revolutionizing online shopping, cloud computing, and even space exploration, Bezos has redefined how businesses operate in the digital era. His relentless focus on customer satisfaction, long-term thinking, and adaptability has made Amazon one of the most valuable companies globally, influencing industries far beyond retail.

Early Life and Education

Born on January 12, 1964, in Albuquerque, New Mexico, Jeff Bezos was raised by his mother, Jacklyn, and stepfather, Miguel Bezos, a Cuban immigrant. From a young age, he showed exceptional curiosity and mechanical skills, often inventing gadgets at home. His family moved to Houston, and later Miami, where he excelled academically and became the valedictorian of his high school. Bezos went on to study electrical engineering and computer science at Princeton University, graduating in 1986. Fascinated by space and technology, he initially considered a career in physics but was drawn to the booming tech industry.

Early Career and the Birth of Amazon

After graduation, Bezos worked on Wall Street at firms like Fidelity, Bankers Trust, and D.E. Shaw & Co., where he quickly rose to senior vice president. However, in 1994, he came across a statistic that the

internet was growing at 2,300% annually, sparking an idea. Determined to capitalize on this opportunity, he left his lucrative job and moved to Seattle, founding Amazon in the garage of his rented home. His vision was to create an online bookstore with an extensive catalog, superior customer service, and fast delivery. He and his small team worked tirelessly, launching Amazon.com in 1995.

Amazon's Meteoric Rise

Despite skepticism from investors, Amazon quickly gained popularity, offering an unparalleled selection of books. The company's early motto, "Get Big Fast," reflected Bezos' strategy of rapid expansion. By 1997, Amazon went public, and soon, it diversified beyond books, adding electronics, clothing, and household items. While competitors struggled with profitability, Bezos reinvested revenues into technology, logistics, and customer experience, prioritizing long-term growth over short-term gains. This approach, though risky, paid off as Amazon became the dominant force in e-commerce, continuously innovating with features like customer reviews, personalized recommendations, and one-click ordering.

Expanding Beyond Retail: AWS, Prime, and More

In the early 2000s, Bezos saw an opportunity in cloud computing, leading to the launch of Amazon Web Services (AWS) in 2006. Today, AWS powers millions of websites and applications, contributing significantly to Amazon's revenue. Meanwhile, Amazon Prime, introduced in 2005, revolutionized online shopping with fast, free shipping and exclusive content, attracting millions of subscribers. Bezos also expanded into artificial intelligence with Alexa, cashier-less stores with Amazon Go, and even physical retail by acquiring Whole Foods in 2017. These innovations positioned Amazon as a tech powerhouse, dominating multiple industries.

Blue Origin: Bezos' Vision for Space Exploration

Not content with transforming Earth's industries, Bezos set his sights on space. In 2000, he founded Blue Origin, a private aerospace company focused on making space travel affordable. Unlike SpaceX, which aims for Mars colonization, Blue Origin prioritizes suborbital tourism and reusable rockets. The company successfully launched its New Shepard rocket in 2015, and in 2021, Bezos himself traveled to space, realizing a lifelong dream. His vision is to enable millions to live and work in space, believing that humanity must expand beyond Earth to ensure long-term survival.

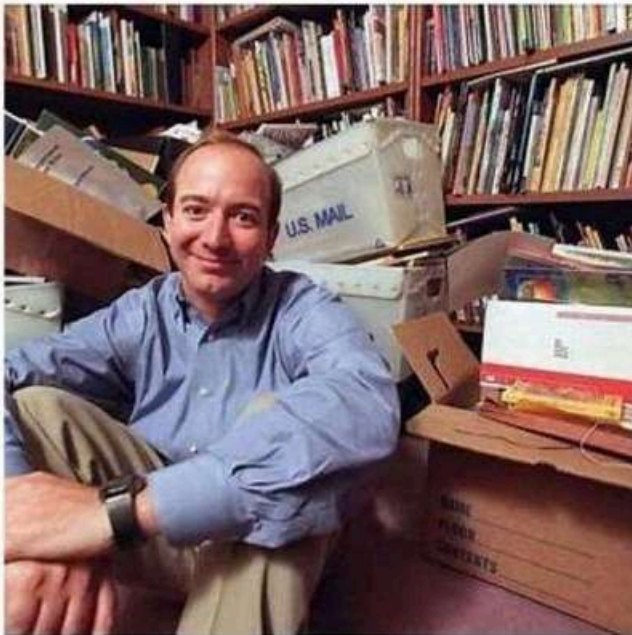
Bezos' Leadership Style and Wealth Growth

Jeff Bezos is known for his relentless customer obsession, willingness to experiment, and long-term vision. His Day 1 philosophy emphasizes innovation and agility, ensuring Amazon operates like a startup even as a trillion-dollar company. His wealth skyrocketed as Amazon's stock soared, making him the world's richest person multiple times, with a net worth exceeding \$200 billion at its peak. In 2021, he stepped down as Amazon's CEO, handing over leadership to Andy Jassy while focusing on space exploration and philanthropy. Despite criticisms regarding labor conditions and monopolistic practices, Bezos' impact on global commerce remains undeniable.

Legacy and Philanthropy

Beyond business, Bezos has invested in philanthropy through the Bezos Day One Fund, aimed at fighting homelessness and improving early childhood education. He also pledged \$10 billion to combat climate change through the Bezos Earth Fund. His ventures into media, including acquiring *The Washington Post* in 2013, reflect his interest in shaping public discourse. While his leadership has been both admired and debated, there's no doubt that Bezos' legacy will endure as one of the most transformative entrepreneurs of the 21st century. His journey proves that with vision, persistence, and a

willingness to take risks, even the smallest ideas can change the world.



ALUMNI CORNER**My college journey****BY, Jitendra Chaudhary****Mechanical Engineering****May 2011 - May 2015****My College Journey at Dr. MGR University: A Story of Growth, Friendships, and Success**

College isn't just about lectures, assignments, and exams—it's a life-changing experience that shapes who we become. My time at Dr. MGR University (May 2011 - May 2015) was an incredible rollercoaster of emotions, learning, and unforgettable memories. From the nervous first day to the thrill of landing my first job, every moment was a mix of challenges, discoveries, and personal growth. Looking back, these four years were not just about earning a degree but about building confidence, making lifelong friends, and finding my true path.

The Beginning: A New Chapter in Life

I still remember stepping through the gates of Dr. MGR University on my first day—excited, nervous, and clueless about what lay ahead. Coming from school, where everything was structured and familiar, college felt like an entirely different world. The campus was buzzing with students from different backgrounds, all carrying their own dreams and ambitions.

Figuring out my way around the massive buildings, lecture halls, and canteens was both thrilling and overwhelming. But soon, I realized that college wasn't just about academics—it was about making connections, stepping out of my comfort zone, and shaping myself for the future.

First-Year Challenges and Growth

The first year was a wake-up call. Managing my schedule, adapting to university-level studies, and making new friends wasn't as easy as I had imagined. Balancing lectures, assignments, and personal time was tough, and there were days when I felt completely lost.

Academically, the subjects were intense, pushing me to think differently. I spent long hours in the library, joined study groups, and slowly got the hang of things. Group projects and late-night exam revisions taught me teamwork, discipline, and perseverance. Even though it was challenging, the sense of accomplishment after each semester kept me going.

Beyond Books: Discovering Passion in Extracurricular Activities

College life wasn't just about textbooks—it was also about exploring new interests and finding what truly excited me. Extracurricular activities became a huge part of my journey, making my college life way more fun and meaningful.

- **Joining the Society of Mechanical Engineering helped me understand real-world applications of my studies, attend workshops, and meet industry experts.**
- **Being part of the Event Management Club taught me leadership and organizational skills as we planned and executed college events.**
- **Volunteering for community service projects gave me a sense of fulfilment, reminding me of the importance of giving back to society.**

Through these activities, I made amazing friends, built my confidence, and developed skills that would later help me in my career.

Memorable Moments and Achievements

One of the best experiences of my college life was participating in a national-level technical competition, where my team worked day and night to build an innovative project. The effort paid off when we secured second place, making all those sleepless nights worth it!

Another proud moment was presenting my research paper at a student conference. Standing on stage, explaining my ideas, and getting recognition from professors and peers was a confidence booster. These achievements weren't just about winning but about proving to myself that I could push my limits and succeed.

The Final Year: The Road to Success

By the time my final year (2014-2015) arrived, I was filled with mixed emotions—excitement for the future but also sadness knowing that my college journey was coming to an end. The pressure was real, with final projects, internships, and, of course, the much-anticipated campus placements.

The placement season was intense. I remember the nervousness before interviews and the endless preparations with my friends. Then came the best moment—getting the offer letter from a top energy company! That feeling of joy, relief, and pride was indescribable. After four years of hard work and struggles, this was the moment I had been waiting for.

Gratitude and Looking Ahead

As I stepped into the corporate world in May 2015, I realized how much I had grown during these years. I wouldn't have made it without:

- My professors, whose guidance and encouragement shaped my knowledge and confidence.
- My family and friends, who stood by me through all the ups and downs.
- Dr. MGR University, which gave me the platform to learn, explore, and become the person I am today.

College was more than just an education—it was a journey of self-discovery, filled with laughter, challenges, and unforgettable moments. As I move forward, I take with me the values, lessons, and friendships that will always remind me of my time at Dr. MGR University—a place that didn't just prepare me for a career but helped me find my purpose.

PUBLICATIONS**STAFF PUBLICATIONS APR-JUN 2023****1. CHARACTERISATION OF PLA-PMMA LAMINATE WITHOUT RESIN
FABRICATED BY FDM**

J. Sofia, Research Scholar, Associate Professor, Department of Mechanical Engineering, Panimalar Engineering College, Chennai

K.C. Kiran Kumar, Graduate, Department of Mechanical Engineering, Panimalar Engineering College, Chennai

N.Ethiraj, Professor, Department of Mechanical Engineering, Dr. MGR Educational and Research Institute, Maduravoyal, Chennai

M.P. Nikolova, Associate Professor, Department of Material Science and Technology, University of Ruse "A. Kanchev", 8 Studentska Str., Ruse, Bulgaria

**CHARACTERISATION OF PLA-PMMA LAMINATE WITHOUT
RESIN FABRICATED BY FDM**

J. Sofia^{1, 2,*}, K.C. Kiran Kumar³, N.Ethiraj⁴, M.P. Nikolova⁵

¹ *Research Scholar, Department of Mechanical Engineering, Dr. MGR Educational and Research Institute, Maduravoyal, Chennai*

² *Associate Professor, Department of Mechanical Engineering, Panimalar Engineering College, Chennai, *Email: sofia.restu@drmgrdu.ac.in*

³ *Graduate, Department of Mechanical Engineering, Panimalar Engineering College, Chennai, Email: kiran211999@gmail.com*

⁴ *Professor, Department of Mechanical Engineering, Dr. MGR Educational and Research Institute, Maduravoyal, Chennai, Email: ethiraj.mech@drmgrdu.ac.in,*

⁵ *Associate Professor, Department of Material Science and Technology, University of Ruse "A. Kanchev", 8 Studentska Str., Ruse, Bulgaria, Email: mpnikolova@uni-ruse.bg*

**2. Experimental study on effects of pilot injection mass
strategy on combustion, Performance and emission
characteristics of CRDI Engine**

Anbalagan R, Department of Mechanical Engineering, Dr.M.G.R. Educational and Research Institute, Chennai, 600095, Tamil Nadu, India

Sendilvelan S, Department of Mechanical Engineering, Dr.M.G.R. Educational and Research Institute, Chennai, 600095, Tamil Nadu, India

Rajan K, Department of Mechanical Engineering, Dr.M.G.R. Educational and Research Institute, Chennai, 600095, Tamil Nadu, India

Bhaskar K, Department of Automobile Engineering, Rajalakshmi Engineering College, Chennai, 602105, Tamil Nadu, India



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Results in Engineering

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Experimental study on effects of pilot injection mass strategy on combustion, Performance and emission characteristics of CRDI Engine

Anbalagan R^{a,*}, Sendilvelan S^a, Rajan K^a, Bhaskar K^b

^a Department of Mechanical Engineering, Dr.M.G.R. Educational and Research Institute, Chennai, 600095, Tamil Nadu, India

^b Department of Automobile Engineering, Rajalakshmi Engineering College, Chennai, 602105, Tamil Nadu, India

3. Enhance The Heat Transfer In Solar Water With Parabolic Solar Collector Using Mylar Sheet And Solar Tracking System

A Austin David, Student, Department Of Mechanical, Dr. M. G. R. Research And Educational Institute , Chennai ,India.

K Bala Murugan ,Student, Department Of Mechanical, Dr. M. G. R. Research And Educational Institute , Chennai ,India.

L Naresh Kumar , Student, Department Of Mechanical, Dr. M. G. R. Research And Educational Institute , Chennai ,India.

R Pon Somasundaram, Student, Department Of Mechanical, Dr. M. G. R. Research And Educational Institute , Chennai ,India.

M R Wilson John, Professor, Department Of Mechanical, Dr. M. G. R. Research And Educational Institute , Chennai ,India.

Enhance The Heat Transfer In Solar Water With Parabolic Solar Collector Using Mylar Sheet And Solar Tracking System

¹A Austin David, ¹K Bala Murugan , ¹L Naresh Kumar , ¹R Pon Somasundaram
²M R Wilson John

¹Student, ²Professor

^{1,2}Department Of Mechanical,

^{1,2}Dr. M. G. R. Research And Educational Institute , Chennai ,India.