

**University Research
Alliance of Micron**

Forging meaningful partnerships with industry and academia



**University
Research
Alliance**

Contents

Foreward by Scott Deboer	3
The joy of editorship	5
Driving the cause of STEM education - URAM scholarship the powerful ecosystem	6
Meet some of our URAM scholars	9
Driving STEM across society	10
Semiconductor memory: A means to an end	11
Micron India – A hotbed of opportunities	12
Campus connect – An ongoing journey	13
Fueling innovation – Micron India Research Centre	14
NCG speaks	14
URAM scholar speaks	15
Students Caffe	17
The trivia test	20
Building blocks of the alliance	20

Foreward

By **Scott Deboer**

Executive Vice President, Technology and Products



I am excited for the opportunity to contribute to this edition of the University Research Alliance of Micron (URAM) newsletter.

I fondly recollect my years at the campus, and the transition from campus to corporate life has been a significant milestone in my life. Today, organizations are building programs and frameworks to reach students right at their doorstep. This student outreach is essential to Micron's focus on attracting the best minds into our talented global team.

Micron India's University Research Alliance (URAM) is an integrated framework to build stronger partnerships with Indian universities, fostering research, innovation, and collaboration. We have 21 premier engineering institutions as anchor partners in the framework. At its core, the alliance brings together academic key faculty experts, advanced research labs, student communities, industry associations, startups, and government agencies to further research, education, and innovation in memory design, data sciences, AI/ML and emergent technology.

The memory and storage business sits at a critical intersection between meeting today's current (and rapidly growing) demand for memory and storage solutions while simultaneously pursuing the innovation required to meet the ever-increasing system and product complexity. URAM's focus on building alliances between Micron, academia, and students will significantly impact fostering learning and innovation, preparing the next generation of STEM professionals, and building a strong alliance between Micron and the university ecosystem across India. There has never been a time in our history when an alliance of this kind has been more important.

It is no secret that the amount of data generated is exploding. Every two years, we create more data than in the entire human history combined. And now everything is producing data, so data stores (and memory and storage demand) are on the rise. Our challenge is not only to meet the increasing demand for memory and storage. From cloud to a client, from auto to AI, the increased demand for memory and storage is underpinned by expanding use models which require increasingly complex product and system solutions. This increase in complexity challenges the traditional memory and storage architectures of today's computing platforms. It forces us to reimagine how data is moved and stored within and between computing systems.

Technology and product leadership - today

Micron has closed what was a 2-year long gap with the competition and achieved technology leadership in both DRAM and NAND through faster node transitions and an unwavering focus on innovation. We have aggressively focused on design excellence, execution, and driven quality leadership across our product portfolio. Parallely, we have responded to increasingly complex use of models by significantly focusing on growing the mix of high-value differentiated solutions. These efforts have transformed Micron into a technology and product leader.

At the same time, Micron India has witnessed one of the fastest ramps in Indian semiconductor history, scaling to a headcount of ~3500 in 3 years since inception. Approximately 70% of global engineering and R&D programs are supported or led by Indian teams. Hiring new college graduates (NCG) is integral to our India talent strategy. We hired over 300 NCGs from leading engineering institutions in our previous cycle. The India team today has significant expertise cutting across mobile media controllers, NAND/DRAM verification and layout functions, memory design, I.P. development, and core technology development. A culture of innovation at Micron India has led to a 6x growth in patents and a 13x growth in disclosures in the last three years. In a short time, many of the products designed and engineered in India (Micron SSD 2450 – a leading example) have seen significant customer adoption leading to increased revenue generation.

Technology and product leadership - tomorrow

Through years of commitment to innovating and executing excellence, Micron presently leads the industry in DRAM and NAND technology and products. Maintaining leadership in the future will require significant commitment. Luckily, our world-class, global R&D team provides Micron with its competitive edge. Our team will undergo major technology transitions to develop the next generation of memory and storage solutions in the upcoming years. They will tackle the change from planar to 3D DRAM, develop the next generation of high bandwidth and AI memory, and architect solutions that bring memory and computing closer together.

The URAM program (and programs like it around the globe) is central to our strategy to support, recruit and develop the best engineering and R&D minds in the industry.

Through technical workshops, hackathons, and collaborative research projects, URAM influences curriculum, engages students and faculty and inspires a pipeline of new college graduates.

The alliances with universities in India will prepare the next generation of innovators and engineers to fuel future innovation and sustain Micron's product and technology leadership through the next decade.

The joy of editorship

The editorial journey is filled with enigmatic moments – the leap from doubt to success is an exhilarating experience. When we plunged into creating a URAM newsletter, we encountered a series of doubts coupled with a plethora of unanswered questions – would a cross-segment of the audience accept it? Would the millennials embrace it? Would it serve our purpose of sharing the exciting world of semicon?

However, the response to the very first edition leveled our thoughts and gave a boost to our purpose. An audience of over 5000 received the newsletter, connecting people from the industry, government, academia, and the student community. The news and stories were widely accepted and appreciated. Our interactions with the academic environment were enriching, and the world of semicon found a new outlet in the Indian ecosystem. Motivating feedback to our effort!

Over the past couple of months, several updates have been curated for the second edition of the newsletter. We hope you enjoy each one of them. We especially enjoyed putting together the cover story – the announcement of the winners of our URAM scholarship program. Moving scholars' accounts have come our way, and a few of them have been shared for a read here. We have put in the journeys of some of our young college graduates, insights of our leaders, and some thought leadership pieces to make the read enjoyable.

Micron India's programs drive STEM across society, our core focus is expanding our R&D capabilities through MIRC. We believe the flagship interventions will boost our efforts of inspiring many minds to explore semicon as a promising career in the present era. We will be happy to receive proposals for cross-collaboration projects to further STEM in society.

The success of the first edition propelled us to launch an exclusive space for students – **Students Caffe**. We have tagged this as an open space for the student community to express and share contributors across any walk of life. We were delighted to receive engaging and inspiring contributions that spanned across different streams of thought. Do take a look at the introductory articles and share your views.

As a workplace, we prioritize fun and bonding. An extension of our vibe was essential for the external ecosystem to experience. And in this edition, you would come across a trivia test, which we believe will trigger wonder, appreciation for the contributions, and drive some fun in the run :).

Wish you a happy reading. Drop a note at uram@micron.com sharing your feedback about this newsletter we curated for you with great love and care.



Bhavna Sethi,
Director, Government Affairs & Citizenship, Micron India

Driving the cause of STEM education

- URAM scholarship



URAM scholar shares



You have lightened my financial burden, which allows me to focus more on the most crucial aspect: learning. Your generosity has inspired me to help others and give back to the community....”

Chidam Srimeghana

URAM Scholarship was a way for us to achieve several goals at a time. Like supporting women engineers through Scholarships for academic excellence, nurturing and rewarding innovation, research, and co-curricular pursuits of women engineers, providing financial support to deserving women engineers challenged by socio-economic conditions and including scholarships for persons with disabilities across gender.

We further detailed the selection criteria and focused on women engineering students pursuing a full-term B.E/ B.Tech/Dual degree in the 3rd/pre-final year of their course with a minimum CGPA of 8.0 and a guideline that toppers in streams would stand a clear advantage.

To encourage an innovative mindset, we also gave heavy weightage to candidates who have excelled or shown promise through participation in research initiatives, published research, scientific papers, publications, PoC, prototypes, innovation, disclosures, patents, etc. The fields chosen were: EEE, ECE, and CSE.

Though it institutionalizes Micron in colleges and augments engagement with faculty & students by awarding merit-based scholarships to deserving candidates, the objective was to touch lives in gentle ways and act as a support system. It has been a fulfilling journey reaching out to various cohorts and experiencing the enthusiasm of a cross-section of students and colleges.

In January 2022, the program was widely launched in the academic ecosystem and external media. We continued to receive applications until around February. Over 440 applications rushed in to be assessed and reviewed. The process took over two months as it included a series of checks and a step of ratification by the colleges. The total number of shortlisted scholars for the 1st season of this program stood at 59. The scholarship has been remitted to the students, and we were overwhelmed to receive gratitude notes from many of them.



With the academic year 2021-22 acting as a fulfilling mission for Micron India, we would aim to reach out to the deeper segments of society, identify areas where STEM education needs a further thrust, and ensure to include it in our upcoming seasons of the URAM scholarship program.



URAM scholar shares

I want to take my family to a position where they should do the farming because they love it but not anymore as the financial support for the family. I want to take responsibility for the family, being the elder daughter, and let them enjoy their work. I aim to start a business and develop and bring new and innovative technologies to my country. I believe my efforts and steps towards trying to make a difference in my family and country will make enough difference to me.”

Pravalika Mukkiri, pre-final year, IIIT Hyderabad.

Selection guidance for candidates*	Metric
Academic excellence	CGPA of 8 & above (cumulative)
Research & co-curricular engagement	PoC, prototyping, research, patent, publication, innovation, achievements at international/national/state level.
Socio-economic status	Family income/hardships with supportive

<u>No. of scholarships</u>	<u>Amount</u>	<u>College category</u>	<u>Amount</u>
45 Scholarships for women candidates	\$1350 each	Tier 1 URAM colleges	\$59,500
14 Scholarships for PWD candidates	\$1350 each	Tier 1 URAM colleges/other/ tier 2 engr./IT colleges	\$20,500

Total number of scholarships	59	Total value	\$80,000
------------------------------	-----------	-------------	-----------------

Participating institutes and universities

- BITS Pilani
- BITS Hyderabad
- CMI
- IIT Madras
- IIT Bombay
- IIT Delhi
- IIT Kanpur
- IIT Hyderabad
- NIT Tiruchy
- IIT Kharagpur
- IIT Roorkee
- IIT (BHU) Varanasi
- IIT Guwahati
- Indian Institute of Science
- Delhi Technical University
- NIT Calicut
- NIT Surathkal
- IIIT Hyderabad
- IIIT Bangalore
- NIT Warangal
- NIT Rourkela
- Osmania University
- GNITS
- Cummins
- Anna University/Government College of Engineering, Thanjavur
- Others



URAM scholar shares

I got to know about the URAM Scholarship program through a poster that was put up on my college noticeboard. It was a great surprise when my name was announced. I applied but never expected to win a scholarship. Thanks to Micron and United Way of Hyderabad for giving me this opportunity. Thanks for being so helpful in the entire process.

I always believe in the quote - Do what you love and always love what you do.

Gratitude to my mother, who is my inspiration. She manages her office and house errands all by herself. She is just so perfect. I can never be like her, but I can try to be."

Akanksha Verma from Agra, pursuing B.Tech in Electrical, IIT Roorkee.



URAM scholar shares

Just believe in yourself. If I can do it, why not you? Thank you, URAM committee - you were great. I received news about the URAM scholarship program from a professor. And when I received the information about winning the scholarship, I was overwhelmed. It is the first time that Micron

has introduced this excellent program, and the experience has been great. It is an excellent initiative; I think everyone must have benefited from the scholarship.

Being one of my parents' three girl children, I have always seen people pitying them, to which they would proudly disagree. I am happy that I am living up to their expectations though not 100%. At least they are pleased with my performance. I wish to contribute to the country in the space of science and technology. And I believe that I am only responsible for always making myself a better version. I firmly believe that everything will be alright :)

Pasikanti Meghala from Telangana, pursuing B.Tech in Electronics and Communication Engineering, IIT-Guwahati.

Meet some of our URAM scholars



Akanksha Verma



Arpitha Malavalli



Shloka Bhuwalka



Riya Chhabra



Chhatrola Parth



Dipanwita



Divya Domala



Keerthana G



Gurleen Dhod



Sahithi



Vishnu Priya



Vyshnavi Malluru



Pote Payal Umesh



Subhanshu Chandra



Pravalika Mukkiri



Rakesh Mohanpatel



Repala Vamshikrishna



Manivasanthan



Srimeghana Chindam



Praveena



Nandhakishore



Zoaya Zahoor



Nikitha A N



Meghana Galidevara



Shikha Bhat



Diti Sanghai



Pasikanti Meghala



Manikanth Jawalagi



Gayathri Venkatesh



Pranathi Mushanolla



Tanishka Gaur



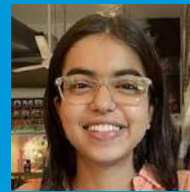
Shanmathi



Sharvani



Lakshya



Mukta Wagle



Zainab Khan



Saurav Uppadhya



Nitya Mittal



Sunayana Koora



Supriya Chakilam



Nidhi Sharma



Hridya V



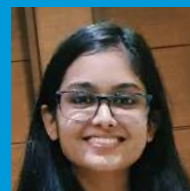
Nandini Dutta



Aditi Bhardwaj



Ramesh Bhukya



Manika Jain



Driving STEM across society

Micron Mavericks

It was an absolute delight to experience the enthusiasm of the Micron Mavericks. They infused fresh energy into our Hyderabad and Bengaluru sites filling the time with joy and fun.

Over 50 of our employees' kids immersed themselves in a daylong summer camp with elements of learning, activities, quizzes, and fun. Micron Mavericks summer camp was designed for children between the 7th and 10th grades to explore STEM, learn about semiconductors, our product manufacturing cycle, lab tour, and hands-on learning activities. The children were also exposed to wafer fabrication process simulation.

Digital lab in Zilla Parishad school

May 17, the students of Zilla Parishad school, Ganesh Nagar, Telangana were overjoyed as they participated in the inauguration of a digital lab right in their school campus.

As a part of the Micron Gives program, setting up a digital lab is an extension of furthering the cause of STEM education amongst the less privileged communities in India. Basic computer literacy & hardware knowledge, STEM education, and awareness about STEM careers will be an ongoing part of this exercise.

The beneficiaries of this CSR project are 400+ students from grades 6th to 10th who were managing with just two computer sets.

Sumit Sadana, EVP & CBO, Micron, inaugurated the lab. A short fun camp on Kids Going Tech was also organized. It was a sheer delight to experience the exuberance of the children towards life despite all odds and witness their curiosity to build a career in STEM.



Semiconductor memory: A means to an end

By **Linda K. Somerville**
CVP, Mask and Materials Characterization



Forty-four years ago, when Micron Technology was designing the world's smallest 64K DRAM in a small office in Boise, Idaho, USA, our founders had no way of knowing the digital age's impact on the world.

Micron's green engineering program encompasses all the environmental efforts of the company. Besides our lead-free and green efforts, we have developed programs in pollution prevention, chemical reclamation, and material recycling to help conserve and protect our natural resources.

In the digital age, information became freely available due to advances in computer technology. It has resulted in a significant shift from an industry-based world economy to an information-based world economy. Today, an enormous amount of data is being generated every minute of every day, and we have an opportunity to use that data to solve our most complex challenges. According to the International Data Corporation (IDC), at the beginning of 2020, the amount of data in the global datasphere was estimated to be 44 zettabytes*. By 2025, this number is expected to quadruple to 175 zettabytes.

In the last few years, memory chips have become crucial components in systems due to the availability of high-performance computing, advanced algorithms, and massive data sets. Working memory and storage memory are critically important to our ability to move, store, and process data and gain insight from it in real time. Two of the most noteworthy innovations fueling the data economy are artificial intelligence (AI) and 5G connectivity. These technological innovations significantly impact every memory market vertical, from automotive to mobile, from the data center to the industrial sector. AI drives the need for high-end, next-generation graphics cards and ultrafast solid-state storage. AI and 5G enable smart homes, smart manufacturing, and smart grids with cumulative impact to address climate change. Memory content in all these sectors will grow with accelerating automation and bandwidth requirements.

As we continue to scale semiconductor technology, we are hindered by fundamental physical and chemical limitations. Consequently, research and development in device technology are vitally crucial to Micron's ability to continue to innovate memory and storage solutions. For this reason, we are partnering with university researchers and external partners around the world to gain insight into our new architectures and integration techniques for memory and storage, as well as advanced technologies such as quantum computing, DNA-based storage technologies, and advanced materials for novel devices, to name a few.

What will our lives be like forty-four years from now? Will we have tempered the climate crisis? I hope that we work diligently to use AI for good, that more sustainably, that we figure out how to optimize agriculture to feed the planet, and that we become more resilient. Micron's corporate vision is to "transform how the world uses information to enrich life for all". For me, this commitment to enriching the world through technological advancement becomes even more vibrant when reflecting on how the world has changed since the beginning of the digital age.

*One zettabyte (ZB) equals approximately one billion terabytes (T.B.).

Micron India – A hotbed of opportunities

By **Subhash Chintameni**
ASIC Head, Micron India

There has never been a better time to build a career in the semiconductor domain, states Subhash C, who made the team from scratch to multiple hundreds – a record of the fastest ramp-up in the semiconductor industry in India.

We look for people in analog design, digital design, architecture, physical design, digital verification, and validation, to name a few. In addition to strong basics in these areas, we are looking for individuals with a desire to learn continuously and the ability to thrive in a multi-site, multi-cultural environment. Having expertise in the core area is a must. As with many domains, a basic understanding of programming/scripting is a huge plus.

We focus on developing best-in-class storage controllers. We design, develop, and productize storage controllers, which, along with Micron flash memory, form the products going into mobile storage, client SSD, and enterprise SSDs.

Subhash joined Micron about three years ago after more than two decades of experience in the semiconductor industry in multiple companies and geographies (U.S. and India).



A memory shared
by Subhash

The excitement of building and contributing to high-value products is a challenging and personally the most rewarding aspect of my career so far. It has been a very satisfying and enriching journey till now. We continue to build upon our engineering strength, innovation, and research focus.

Great
Place
To
Work®

Certified

INDIA

Winner of Zinnov Awards

- Champions in unlocking center value (ER&D)
- Aatmanirbhar GCoE

Campus connect – An ongoing journey

We take campus connect seriously. While our plan to onboard students continues, our primary focus is to have a vital lifeline with the students and partner them in their journey to build their research capabilities and employability and expose them to various nuances of the semicon industry.

URAM lecture by Raj Hazra, SVP, Compute and Networking Business, Micron



URAM lecture series is a part of Micron India's targeted outreach to the student fraternity aimed at educating them about the latest in world trends, semicon space, and Micron, in particular.

This lecture by **Raj Hazra, SVP, Compute and Networking Business, Micron**, introduced varied dimensions to living in a digital world. Attended by students from across institutes, the talk proved to be an eye-opener into the myriad possibilities and realities of functioning in a world that digitizes experiences beyond our imagination.

Hackathon - The Micron Hack 2022



The first-of-a-kind event where Micron India partnered with ~18 universities and invited B.Tech students to participate in this national hackathon challenge.

Designed to shape and showcase the future in coding, students were extended an opportunity to showcase their potential to the world and leapfrog in their careers. The best walks away with internship offers with the "**Smart Manufacturing and AI Organization**" of Micron India.



On August 1, 2022, Micron India welcomed 250+ NCGs (New College Graduates) to its campus.

Fueling innovation

- Micron India Research Centre



MIRC deliverables serve multiple purposes – research, collaboration, customer experience, patents, ideation, incubation, brand, and innovation. Its research orientation focuses on forward-looking and cross-functional solutions in areas of commonality - AI/ML, data sciences/analytics, engineering CAD, system level solutions.

MIRC was activated in February 2022 at our Hyderabad site, with a healthy mix of senior engineers, new campus graduates who

dedicate a good number of hours to their regular projects, and a full-time senior researcher with more than 21 years of experience.

A potential bouquet of ideas has come bottom-up from our team members, which is further going through its screening and selection process. The aim is to ensure research topics that are relevant to Micron's product road-map and development strategy and foster interactions with universities, research parks, innovation hubs, etc.

We are proud of this flagship space that has served as an incubation center to birth disclosures, papers, and patents in Micron India. If you have an idea that you wish to collaborate on, write back to uram@micron.com.

Focus of research

- AI automation in systems validation
- Advanced process modeling
- Advanced CMOS
- NAND product innovation (ASIC)
- NAND product innovation (FW focused)



My bucket list - Travelling through Europe, learning to play piano, visiting Charminar in Hyderabad (Yes, I am guilty of not visiting it yet)"

New campus graduates speaks

My journey with Micron India has been of innovating and providing solutions. Presenting my work and efforts in front of the senior leadership and seeking their suggestions and vision on how our actions can translate into business value has been a one-of-a-kind experience for me. As a data scientist, I have worked on and contributed to three different projects.

I am fascinated to see how the semicon industry sits at the foundation of automation/AI revolution we are witnessing today. And from cloud servers to self-driving cars, Micron chips are making this revolution possible.

I wish to work on realizing the true potential of data science and machine learning in optimizing the modern storage memory and storage devices and their associated processes.

Manav Kaushik, BITS Pilani - Pilani Campus

URAM scholar shares



“I didn't come this far to only come this far”.

I believe the hard work and commitment of many years to my work bore fruits, and I landed with the scholarship. I started working on tech projects at the end of my first year for startups and college. A research mindset is essential to growing. I want to thank Micron for selecting me and allowing me to excel in my academic research.

Being from a middle-class family, I regularly see how hard my parents work to provide us with everything we need without a complaint. They both taught me that hard work never fails us. My inspiration comes from within my family. I work hard for the things I love to achieve without fear of failure and make those who trust me proud. I want to take the same inspiration into my research, work hard for the things I want to pursue in my life, and make everyone who keeps their trust in me proud. I believe no one needs any more motivation and inspiration than this.

Pravalika Mukkiri, IIT, Hyderabad

As a student at IITD, I stumbled across the URAM scholarship and decided to pursue it. The process was so smooth, and everything was very well executed. I am glad to have received the scholarship and would like to thank Micron Technologies for the same sincerely.

I have always been very inspired by my parents, who motivated me to pursue anything I wished to. They have been the guiding force behind all that I have been able to achieve to date!

Believe in yourself, and anything is possible!

Shloka Bhuwarka, B.Tech., Electrical Engineering, IIT Delhi



“I would like to tell all the young girls reading this to stay motivated towards your goal and believe that you too can achieve all that you wish to in STEM.”



“I am the founder of Women in Tech, where women worldwide can network & talk about opportunities that help them grow in the field of STEM.”

As an undergraduate pursuing computer science, I have realized that I want to work at the intersection of computing and social sciences; to be able to identify problems in society and use technology to solve them. I have enjoyed being a part of diverse social impact projects like my research on clinical data analysis and prediction models for COVID-19 patients, agent based modelling with various transportation settings in the pandemic, implementation of robot path planning algorithms that can be used in rescue operations and the creation of Prithvi, a web extension for eco-friendly products.

I was inspired by my brother to pursue technology, and through my own exploration, I found that I particularly love Machine Learning, because ML is a powerful tool that can improve people's lives on a large scale. I am passionate about using ML to solve humanitarian issues like forecasting floods, controlling the spread of a pandemic, or helping people with atypical speech be better understood.

Shikha Bhat, B.E., Computer Science, BITS Pilani, Goa



“ **Nothing is impossible - the quote itself holds 'possible' in it.**”

I got to know about URAM scholarship program through a WhatsApp group. I applied and got busy with my exams until one fine day I received the news about winning the same. It was an ecstatic moment for me.

I am very excited about my future and want to build an independent house for my family. My father inspires me the most and I want to ensure I take care of him and my family well. I have a compassionate heart and want to serve the people of our country.

Domala Divya, B.E., Computer Science, Osmania University, Hyderabad

“

New campus graduates speaks



“Would have been a pilot, if not an engineer :)”

- **Get some patents as a Micron Innovator**
- **To become a certified scuba diver**
- **To learn flying planes”**

Do not learn and experiment. Instead, experiment and learn. Filing the first disclosure of my professional life within a few months of joining has taught me the art of technical writing and to keep innovating in my work. Electronic devices are the throbbing hearts of the world, and semiconductor is the heart of each device.

Memory, made by Micron, will be a critical part of devices now as connectivity takes a leap with 5G, and it is exciting to witness this transition sitting right inside the memory maker's work pit.

Helping semicon to generate a lot of data and enable semicon to learn from that data for even making better and quicker decisions fascinates me. I wish to innovate many semiconductor-unique data science solutions to allow the semiconductor industry to take the technological leap.

As I reflect on my journey, it still feels like day 1. Everyday is filled with new challenges that keep me agile, unexplored avenues that excite me, and new connections and discussions that keep me spirited.

Divyam Sharma, BITS Pilani



Students Caffe

**Relish the
fun, fervor, and
focus of entries
shared by
enthusiastic
students.**

We believe one can express creativity in several ways. In our attempt to provide the student community a forum to express and be, we introduced this exclusive corner – Students Caffe.

We enjoyed showcasing them and are confident you will love them too.

Happy to receive feedback and request for submissions at uram@micron.com

Gokulnath G, a 3rd year student of IIT Madras **recommends a book that has answers to the growing challenges of the society.**



The pandemic was probably a once-in-a-lifetime experience; very true that we feel grateful after turning resilient to handle such adversities. Disrupting startups, tech-driven businesses, health-conscious individuals, and remote working are the new normal. But I was puzzled why massive inflation and weakening trade diplomacy are among these "new normals". It is also curious to see the regrouping of nations on the backdrop of the growing polarization of power, which puts several nations on the brink of war, some of which have already begun.

It is hard to comprehend why there is increasing friction among countries with adequate resources just to sit back and enjoy! Why are these trends emerging, and where are we headed from here? Are you still curious and desperate to find answers to these questions? The answer lies beyond today's cutting-edge analytics and dynamic leadership. The answer lies in history.

“ **I was puzzled why massive inflation and weakening trade diplomacy are among these ‘new normal’.**”

Yes, history repeats itself! Here is an excellent recommendation from my side - **Principles for Dealing with the Changing World Order: Why Nations Succeed and Fail**. This book explains why there is a "Changing World Order" with unmatched clarity and diligent research. It has been amazingly crafted by an ace investor, a key thought leader, and a true master, Ray Dalio!

"The Big Cycle" is a pioneering description of how nations rise to prosperity and eventually fall back, subdued by a "new world order".

Source: <https://rb.gy/uxra97>



Kamal Narayan Baruah, Joint PhD Scholar, (Food Science & Technology) School of Agro & Rural Technology, IIT Guwahati and Gifu University (Japan) **presents a perspective - bringing nanotechnology into your morning drinks.**

“ **Bringing nanotechnology into your morning drinks is quite a possibility. Nanoencapsulation is the technology that enables us to do so.**”

Ever imagined, for those of us, who do not like drinking a cup of bitter green tea, or a cup of golden milk or bitter guard juice, what if we could get rid of all that bitterness and still have a

healthier drink? Ever wondered if the healthy drinks were all tasty, we would drink them every day. Well, that is not too far from reality. Bringing nanotechnology into your morning drinks is quite a possibility. Nanoencapsulation is the technology that enables us to do so.

As it goes, all these good foods have certain compounds, the heroes responsible for all the healthy after-effects. But during digestion, going through our stomach and intestine, 80-90% of it is lost. Nanoencapsulation uses food materials such as protein, starch, and fat substances to coat these heroes like a covering of protection. The result - is a drink with the same strength as your regular bitter drinks with no bitterness. Also, you only need to drink a mere 1/10th of the usual cup to get all the benefits.

As a joint Ph.D. scholar working in Food Science & Technology at IITG & Gifu University, I believe we now have green, chemical-free ways to have nanotechnology in our food platter to eliminate every nuance that keeps us from jumping to healthy food alternatives.

Bridgerton is a Netflix show based on a series of novels by Julia Quinn, first released in 2020. The first season was a phenomenal success and was widely talked about internationally. It became the most watched Netflix show in English, a record that would be broken only by its successor two years later. The second season was released in 2022, and the Bridgerton fever has yet to go down. Predictably, the series has already been renewed for a third and fourth season.

“ **The impact that Bridgerton has caused is incredible across social media, TikTok, Twitter hashtags and the Pinterest boards.**”



Khushi Madhugiri Prashanth, 3rd year, IIT Madras writes a review on Bridgerton.

So why has this series taken over the world? Simply put, it has played well into our twenty-first-century fantasies. The series is set in old England, portraying a romantic love story with flowy gowns and perfect mannerisms. It is a beautiful escape for the viewer from their everyday life, a society where the biggest mistake one can make is choosing the wrong lover. Society is 'post racial', including people of all races, without any racism or prejudice whatsoever.

The set is filled with extravagant costumes, wigs, jewels, and chariots. So characters are played by a very attractive group of actors, all sporting flawless skin and stunning profiles. Not to mention the epic love stories of Daphne and Simon in the first season and Kate and Anthony in the second season that have become the subject of envy among all their viewers. The impact that Bridgerton has caused is incredible across social media, TikTok, Twitter hashtags, and Pinterest boards. The England of the bygone era has suddenly gained popularity. The series has thrown light on the withering loneliness that has engulfed the world's population since the pandemic.

The trivia test

“We owe a lot to the ancient Indians, teaching us how to count. Without which most modern scientific discoveries would have been impossible.” – Albert Einstein

Write back to us the names of the Indian legends who contributed to the advancement of science and technology in the world at uram@micron.com. Exciting prizes in store for the first five correct responses. Do remember to also share your experiences of the URAM newsletter in your response to the Trivia Test :)

Who gave zero (0) to mathematics, introduced usage of decimal system, the value of pie and the heliocentric theory?

The Power of Atom was propounded by which legend?

What were the findings of Varahamihira and Brahamagupta? Share a trivia about them.

Binary numbers that are used as a language to write computer programs are a set of two numbers- 1 and 0 called Bits and Bytes, respectively. Which Indian mentioned this and where?

The researcher of alchemy who contributed to metallurgy and gold plating technology was -----

What is The Raman Effect?

Mathematical analysis, number theory, infinite series of Pi and continued fractions is a contribution of which Indian genius? Share a trivia about him/her.

Building blocks of the alliance

URAM receives active mentorship from the National Institution for Transforming India (NITI) Aayog, Telangana Academy for Skill and Knowledge (TASK), National Association of Software and Service Companies (NASSCOM), and Hyderabad Software Enterprises Association (HYSEA) to work on grassroots skilling programs.





Micron India

The Skyview 20, Level 7 No. 83/1, Raidurgam, Madhapur,
Telangana 500081 Tel. : 040 6811 0912

To register for the URAM program or to feature a story in the
newsletter, write to uram@micron.com



micron.com

© 2022 Micron Technology, Inc. Micron, the Micron orbit logo, the M orbit logo, Intelligence Accelerated™, and other Micron trademarks are the property of Micron Technology, Inc. All other trademarks are the property of their respective owners.