

Highlight of the Issue

IN CONVERSATION WITH ...
Dr. Biren Banerjee



Silicon University



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SLATE

Silicon Language for Arts Technology & Education

Our Vision: "To become a center of excellence in the fields of technical education & research and create responsible citizens"

From the Editor's Desk...

Dear Readers:

The year 2024 did bring with it a great new start for Silicon: the Institute being upgraded to Silicon University. The 31st of January, 2024 will remain a historic date for the Silicon Family, when we officially became a University. It is a great moment of pride and honour for all of us who have been a part of the success journey. Congratulations to all of you as you have also been an integral part of the entire process.

As an organization, our underlying and unifying motive has always been to ensure a holistic development of our students. We not only make engineers, but we prepare our students to become efficient technocrats: professionals who would be able to meet all the demands and dictates of their profession. To enable them to work effectively we provide them with opportunities for recreational development as well and keep them engaged 'beyond teaching'.

Silicon University provides enough opportunities to its students to further their talents in the areas of sports, culture, technical paraphernalia and other co-curricular activities. The various student activity clubs, cells, chapters and professional memberships provide extensive training in developing various talents in students beyond academic preparations.

The student activity bodies are categorized under two groups namely the Silicon Students' Council (SSC) and Silicon Innovation and Promotion Cell (SIPC). The clubs under the aegis of SSC include the Cultural Society of Silicon (CSS), the Meta-Academics Cell, the Photography and Creative Club, the Quiz Club, the Green Club, the Cinemax Club, the Youth for Sustainability (YfS) Club, the Health Club, and SAGE-W Cell. The clubs under SIPC are The Silicon Robotics Club, Circuit Club, Switch Club, ISTE and IEEE, CSI students' chapter. The labs under SIPC are Makerspace, Hyperspace, IoT and Embedded lab.

Both SSC and SIPC organize several events throughout the year at intra and inter University levels. The two most important of these are Nirman: the Inter-University Technical Fest and Zygon: the Annual Cultural Fest of Silicon University. The other noteworthy events conducted by the SSC are SIT-MUN (Model United Nations), the Literary Fest, the Inter-University Sports and Cricket Tournament's, Inter-University Quiz Fest, Plantation Drives, YfS Camps, Blood Donation Camps, Nukkad and Theatre Fests, Womens' Day Celebrations, and Film Screenings, observing World Photography Day and many more.

Through their participation in these groups students are likely to evolve as well-developed personalities.

We do look forward to more students getting attached to these cells and clubs to strike an appropriate balance between academics and extracurricular activities.

Ananya Roychoudhury

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EDUCATING US

Generation Z

Generation Z, often mentioned as Gen Z, are the ones who were born between 1997 and 2012 according to researchers. Our generation is considered to be the most digitally advanced generation. We were born into a world filled with technology and saw rapid progress that fundamentally altered how we lived, connected, and interacted. Growing up surrounded by the constant evolution of gadgets, platforms, and communication methods has undeniably shaped us in several ways.

Having access to social media and the internet has helped the generation to have all the information from an early age. Gone are the days when we solely relied on several books and encyclopaedias to have the answers to a question or to get the answers to several others. Today with the advancement of technology we have access to everything with just a few clicks. Through interactive videos online tutorials teach us new skills today. Intellectual curiosity and self-directed learning are encouraged through such exposure.

Social media platforms have empowered young people to become content creators, not just passive consumers. They can share their ideas, thoughts, experiences, and views with global audiences. This encourages self-expression, creativity, and an overall sense of agency.

Every coin has two sides, and this digitally active generation is considered as one of the loneliest generations ever. We feel connected, with our friends, families, and loved ones but are we connected? Even with social media and other digital platforms keeping them continuously linked, Gen Z claims to feel more lonely. There are various reasons for this problem. Social media's carefully controlled and frequently exaggerated



depiction of reality may cause emotions of loneliness and inadequacy. Constantly comparing one's life to the supposedly ideal lives one sees online can hurt one's mental health and cause one to feel disconnected from reality.

The generation is constantly haunted by FOMO (the fear of missing out), and cases of depression are but too rampant. Research indicates that this generation is experiencing higher rates of depression than those of prior generations. Academic pressure, economic uncertainty, peer pressure and the constant barrage of unfavorable news and events on social media are all contributing causes. This demonstrates the need to have candid discussions about mental health and provide Gen Z with safe settings to ask for assistance and get through these obstacles.

Pratishya Priyadarshni
3rd Sem, EEE

HEALTH WATCH

Mind-Body Connection



In the evolving landscape of health and wellness, the recognition of relationship between the mind and body is at the forefront of transformative changes. The year 2024 is witnessing a significant shift towards a more comprehensive approach to health that acknowledges the profound impact of mental and emotional well-being on physical health.

- **The Ascent of Mindfulness**

Being fully present and involved in the present moment is a mindfulness technique that is becoming more and more well-known for its therapeutic advantages. Mindfulness is fast emerging as a key component of holistic well-being, with benefits ranging from lowering stress and anxiety to enhancing focus and general mental resilience. We predict that in 2024, there will be a greater focus on incorporating mindfulness into regular activities in order to promote inner peace among the chaos of contemporary living.

- **Stress Management as a Priority**

Stress management is becoming more and more important as it is realised that long-term stress can have significant negative effects on physical health. In 2024, stress-reduction tactics—which can range from individualised stress-reduction plans to workplace wellness

initiatives—are becoming more and more important to both individuals and organisations. The knowledge that a robust and balanced mind supports a healthier body is motivating a group effort to tackle stress at its source.

- **Holistic Well-Being**

The significance of adopting a holistic perspective on health is highlighted by the mind-body connection. It is becoming more important to treat the underlying causes of illnesses rather than only treating their isolated symptoms because mental, emotional, and physical health are interdependent. By promoting a deeper knowledge of the mind-body connection, this holistic approach seeks to enable people to take control of their health.

As we traverse the uncharted territory of a more integrated approach to health, 2024 invites us to explore and embrace practices that nurture both our mental and physical selves. By acknowledging and strengthening the intricate connection between mind and body, individuals can embark on a journey towards a more balanced, resilient, and harmonious well-being.

Prayas Raj Mahapatro
8th Sem, CST

FOOD FOR THOUGHT

Mindful Eating

This article on Food for Thought offers a refreshing perspective on nourishing both our body and soul with food. It tells us to embrace a conscious symphony of senses, awareness, and self-compassion or adopting mindful eating.

Mindful eating encourages attentiveness to taste, texture, and aroma. It is also about acknowledging the journey that our food takes before reaching our plate. The farmer's toil, the baker's passion, the sunlight's kiss on ripening fruit—with this each bite becomes a tapestry woven with countless threads of effort and generosity. Cultivating a gratitude for these unseen hands fosters a deeper connection to our food, transforming it from sustenance into a shared human story.

Each mindful bite becomes a silent expression of gratitude to this incredible internal orchestra.

Ultimately, mindful eating is not just about savoring individual bites; it is about fostering a holistic mindset of appreciation for food. It is acknowledging the gift of nature, the dedication of others, and the miracle of our own bodies. It is about conscious appreciation which transforms everyday meals into celebration of life, connection, and respect.

We can practice mindful eating in the following ways:

1. **Eat Without Distractions:** Avoid watching TV or using electronic devices while eating. Focus on the act of eating.
2. **Savor Each Bite:** Take time to appreciate the taste, texture, and aroma of your food. Chew slowly and enjoy the experience.
3. **Listen to Hunger Cues:** Pay attention to your body's signals. Eat when you're hungry and stop when you're satisfied, not overly full.



4. **Portion Control:** Serve smaller portions to prevent overeating. You can always have more if you're still hungry.
5. **Mindful Planning:** Plan balanced meals and snacks ahead of time. This helps you make conscious choices and avoid impulsive eating.
6. **Engage Your Senses:** Notice the colors, smells, and sounds of your food. Engaging your senses enhances the mindful eating experience.
7. **Practice Gratitude:** Before eating, take a moment to express gratitude for your food. This can create a positive mindset around eating.
8. **Slow Down:** Eating at a slower pace allows your body to recognize signals of fullness, preventing overconsumption.
9. **Recognize Emotional Eating:** Distinguish between physical hunger and emotional triggers. Find alternative ways to cope with emotions rather than turning to food.
10. **Mealtime Rituals:** Establish rituals like setting the table nicely or saying a few words of thanks. These rituals enhance the mindful aspect of eating.

Nishigandha Tripathy
6th Sem, ECE

MENTAL HEALTH: The Power of Resilience

Trauma, adversity and stress are all part of every individual's life, but at times these become difficult to handle. Each change affects people differently, bringing a flood of thoughts, strong emotions, and uncertainty. While these events can be painful and difficult, there are many aspects of our life we can control, modify and grow with. That's the role of resilience. Becoming more resilient not only helps to get through difficult circumstances, it also empowers to grow and even improve our life along the way.

The American Psychological Association defines resilience as, "the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant source of stress."

Factors towards resilience:

- Positive Attitude
- Ability to regulate emotions
- Ability to see failure as a form of helpful feedback

When difficulties arise, bouncing back or falling apart is a choice to be made.

Tips for building resilience:

- Build connections
 - Prioritize relationships
 - Join a group of your interest
- Foster wellness
 - Practice mindfulness
 - Adapt positive lifestyle
 - Embrace positive thoughts
- Seek help from a mental health professional

For mental wellbeing, resilience as a life skill needs to be adopted and mastered. It also helps in overcoming the adversities in a healthy manner.

Ritu Chowhan
Counselling Psychologist

MY CYBERSPACE SECURITY RISKS with Generative AI

ChatGPT has emerged as a revolutionary buzzword in the field of IT. Though individuals and organizations are reaping benefits from it, it is not devoid of security risks. Although it is still too early to exactly evaluate the risks, some of the present concerns which have manifested as security risks are mentioned below:

- Code writing AI can be used unethically by hackers to generate Malware. For example, the code written for penetration testing can be modified into potential cyber threat
- The huge data set used in social engineering campaigns could be combined with voice spoofing to create deepfake attacks.
- The educational and training components of generative AI could be used by attackers to become more skilled & technically proficient.
- Uncovering API vulnerabilities has become less time consuming by using ChatGPT, because of which 2023 witnessed a huge surge in Cyber criminals targeting API's.
- It's a third party model trained on data which might have been exposed to bias. So using those tools to increase productivity might actually raise integrity issues.

Collectively these risks if manifested could lead to breach/loss of sensitive data, operational disruption, damage to the brand and reputation of a company and even financial losses.

To prevent or minimize these negative impacts of ChatGPT, organizations need to understand the privacy policy of ChatGPT, disable training and chat history, verify the authenticity of ChatGPT responses and avoid installing extensions and plug ins.

The perceived value of any applications depends on how judiciously we use the application without pushing the boundaries. This will help us optimize the benefits while staying safe.

Dr. Sushree Samita Rout
Associate Professor, CSE Dept.

Dr. Biren Banerjee, the Head of the Department of Molecular Medicine at the JBS Haldane Centre at Silicon University, brings profound expertise in Human Genetics and Molecular Disease Detection to his role. In



this interview with Sayeda Mahenoor of 6th sem CSE, he delves into the prospects within this field.

Sayeda: Can you introduce yourself and provide an overview of your role as the Head of Molecular Medicine at the JBS HALDANE CENTRE in Silicon University?

Dr. Banerjee: I am Dr. Biren Banerjee, a trained geneticist specializing in human genetics and molecular disease detection. My journey began with a fervent interest in understanding how diseases manifest at the molecular level, culminating in both PhD and post-doctoral studies. With a focus on cancer patients, particularly those afflicted with oral cancer in Odisha due to prevalent tobacco use, I established my research group upon returning to India. Recognizing the shift from blood to DNA-based diagnostics, I founded inDNA Life Sciences in 2013, the first DNA-based center in eastern India dedicated to molecular diagnostics. Our pioneering efforts aimed to address the pressing need for advanced diagnostic capabilities in the region. Alongside our diagnostic endeavors, I emphasized the importance of training current manpower in the field of molecular biology. At

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inDNA Life Sciences, we not only provide state-of-the-art diagnostic services but also prioritize the education and training of life sciences graduates. Our goal is to equip the next generation with the expertise needed to understand diseases at the molecular level, thus fostering innovation and progress in healthcare.

Sayeda: What are some key Research areas within molecular medicine that your department focuses on?

Dr. Banerjee: The Molecular Medicine Department focuses on various research areas addressing the complexity and multifactorial nature of diseases. These diseases, such as cancer and infertility, require an understanding of the DNA level for effective management. Our department is currently directing its research efforts towards different types of cancers, including blood cancers, solid tumors like breast and colon tumors, and liquid cancers such as leukemia. Additionally, we are delving into infertility issues, particularly recurrent pregnancy loss and prolonged infertility in couples. We aim to pinpoint the molecular causes of infertility, eliminating gender bias commonly associated with this condition. Through our research endeavors, we strive to advance the understanding and treatment of these complex diseases, ultimately improving patient outcomes.

Sayeda: How do you envision the future of molecular medicine shaping healthcare delivery and patient outcomes?

Dr. Banerjee: The future of molecular medicine heralds a transformative era in healthcare delivery and patient outcomes. Previously, cancer was viewed as a dire diagnosis, often met with limited

treatment options and poor prognoses. However, advancements in molecular diagnostics have revolutionized cancer management. By diagnosing and classifying cancer at the molecular level, targeted therapies tailored to specific genotypes have emerged, rendering cancer a treatable and manageable disease. This paradigm shift extends beyond cancer treatment, encompassing fields like infertility, where a multidisciplinary approach involving embryologists, molecular biologists, and geneticists enhances the success of interventions like IVF. As such, the future of molecular medicine hinges on comprehensive training programs to equip professionals with the necessary expertise, enabling collaborative efforts between medical practitioners and scientists to optimize patient care and outcomes.

Sayeda: How do you believe molecular medicine can address current healthcare challenges and benefit society as a whole?

Dr. Banerjee: Society's shift towards prioritizing

achievement over health has led to an increase in lifestyle-related diseases like cardiovascular issues, cancer, diabetes, and hypertension. Traditional medical approaches lack a singular cure for these multifaceted ailments. However, molecular medicine research and treatment offer hope in addressing these challenges and benefiting society at large.

An emerging field, known as precision and personalized medicine, holds great promise. By mapping individuals' DNA, and incorporating their lifestyle, background, and health status, tailored treatment plans can be developed. This approach ensures a more comprehensive and precise management of diseases within society. Utilizing molecular tools, we can revolutionize healthcare by offering personalized interventions that consider both genetic makeup and lifestyle factors. Ultimately, this approach enables society to address diseases more effectively, enhancing overall well-being and quality of life for individuals.



STUDENTS' CORNER

Dead Poets Society

It's a message this time,
Ancestors blither,
Hello today's mankind,
Etch the poignance of the withered,

We fragmented words,
We scented the scars,
Dragged augmented swords,
Until we reached the stars,

We did live to love,
Spread Harmony and peace,
Oh, but what's the outcome,
In a world that's got a parasitic hiss?

Veins tempered with abhorrence,
Envy follows blood,

Wake up O cordial hearts,
Bring back the magnanimous scud,
Raise your hands with care,
Hold the sanguine sand, so rare
The animals, mountains, beaches and trees,
Await your soul, their quest to appease.

We search humanity imbibed,
And deep compassion to align,
The only cure for existence,
Every breath a sign,

Promise, thou shalt make it all better
Life, you'd revive;
Watching you from afar,
We, the dead poet's society,
Wanting to be alive.

Aradhana Dash
4th Sem, CEN



Picture Courtesy: **Salvador Dali**

ALUMNUS SPEAKS...

Soumya Ranjan Pati

2008 Graduating Batch

Soumya Ranjan Pati, our alumnus from the 2004–2008 batch, CSE, is currently working as an IT professional with around 15 years of experience. At present, he is working with Incture Technologies as a technical architect. Ms. Pratishya Priyadarshni of Electrical and Electronics Engineering, 4th semester interviewed him during the Alumni Meet conducted in December 2022. His thoughts are briefly captured below.

Soumya Ranjan's journey began with a strong foundation in computer science. On being asked about how his experiences at Silicon University helped him shape his career path following graduation, he replied, "Coming from a computer science background, I was taught concepts such as OOPs in C++ as part of my course. Then I got into Java, which greatly helped me in pursuing a career in the IT field." This early exposure sparked a passion for the IT industry, paving the way for his successful career path.

College graduation often brings a wave of challenges. Soumya Ranjan shares his experience as an introvert. "Starting from my childhood", says Soumya Ranjan, "I have been an introverted person. After joining Silicon, I got exposure to the outside world, and it worked for me to face the clients and colleagues with whom I have worked." This change demonstrates how he attempted to push himself beyond his comfort zone and achieve new goals.

When asked about his strategies for keeping up with the ever evolving IT industry, Soumya Ranjan



offers a pragmatic approach: "There's no definite strategy that will come in handy once you are out of college. You can utilize the knowledge that you have gained in college, but apart from that, you need to figure out which will work for you."

Soumya Ranjan thinks that a healthy work-life balance is the key to long-term success and says, "You must eat well, and exercise regularly, and it will enhance your productivity."

Marching towards Development : ENTREPRENEURSHIP AT SILICONTECH

Smt. Nirmala Sitharaman, India's first full-time female Union Finance Minister, highlighted the government's commitment to inclusive and sustainable economic growth in the 2024 interim budget. The Indian government aims to achieve its *Viksit Bharat* (developed India) goal by 2047 through policies that promote entrepreneurship and create opportunities for all. In a nutshell, 'Entrepreneurship' and 'Start-ups' are the buzzwords of the 21st century Indian economy.

SiliconTech, the engineering institute of Silicon University, is a pioneer in Eastern India to develop a robust entrepreneurship ecosystem. SiliconTech's entrepreneurship activities are anchored by the Entrepreneurship Development Cell (ED Cell), the Institution's Innovation Council (IIC), and the Switchtech Business Incubator (BI). The ED Cell and the IIC create opportunities for self-employment and support students in idea development, prototyping, and incubation. The BI has successfully incubated 14 startups employing 906 people.

To instill an entrepreneurial spirit among the students, SiliconTech offers two elective courses on entrepreneurship in the B.Tech. curriculum, viz. Entrepreneurship Development (Theory, carrying 3 credits) and Entrepreneurship Project/Emerging Lab (Practical, carrying 2 credits). To further enhance creativity and innovation, the ED Cell regularly conducts events like Entrepreneur's Fest (E-Fest), ideation, hackathon, poster presentation, and exhibition.

SiliconTech's ED Cell is one of the most vibrant ED cells in the state which has received several rankings and recognitions from the state and central government. The most recent achievement includes being placed in the band 151-300 in the NIRF (Innovation) Ranking 2023. SiliconTech is one of the four government/private

universities & colleges in Odisha to have received this recognition.

The dynamic entrepreneurship culture in the institute helps students to leverage their skills. Recently, two student teams comprising of Samarpita Nayak & Swayamsiddha Mohanty and Shreeman Debasmit & Dwarikanath Choudhury made it to the top 10 teams in the *Startup Yatra* event organized by Startup Odisha where each team won a cash prize of INR 3 lakhs. Earlier, our student Manisha Priyadarshini Sahoo won seed funding of INR 1 lakh in the Young India Challenge organized by YfS (Youth for Sustainability). Our students have also won prizes in numerous Hackathons, including the coveted Smart India Hackathon.

Several notable alumni of SiliconTech have emerged as successful entrepreneurs in recent years. Biraja Prasad Rout (2005-2009), founder of *Biggies Burger 'n' More*, has built a business worth INR 100 crores. Lipsa Panigrahi (2006-2010) is the entrepreneur behind *ORPHUB Consultancy Services Pvt. Ltd.* Brijesh Samantray (2007-2011) co-founded *Propelld*, while Anindita Dash (2001-2005) is the founder of *Iktaara Creations*, known for "Hands Entwining Magic".

Jeff Bezos, the Founder and CEO of Amazon, has said, "One of the only ways to get out of a tight box is to invent your way out". Thus, innovation is our key to finding novel solutions to pressing challenges. SiliconTech's commitment to foster the spirit of entrepreneurship, the triumph of the students, and the success stories of the alumni undeniably make it stand at the forefront of shaping the entrepreneurial landscape in India, contributing significantly to the nation's march towards a developed future.

Sweta Mohanty
Assistant Professor, (BSH)

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