Dear Well Wishers,

Greetings and Happy New Year to all of you and your families.

We are thrilled to share an update on the state of our Integrated Circuits Center of Excellence (IC-COE) activities, which commenced in February 2023 and have continued through the New Year.

At the very onset, I would like to give a shout-out to a few alumni who had been particularly instrumental in various connections, introductions, networking and advice to help make this initiative a success in the last year. **Thank you.**

1. Dr. Santanu Das
2. Mr. Mrinal Das
3. Mr. Amit Roy
4. Mr. Biswadeep Chatterjee
4. Mr. Prabal Bhattacharya
5. Mr. Kishalay Halder
6. Mr. Bani Maiti
7. Mr. Parantap Lahiri
8. Mr. Arghajit Basu
9. Dr. Shubhankar Basu

Key Highlights: (Detailed report attached)

1. **New Laboratory Setups:**
    - Digital VLSI Laboratory established in August 2023.
    - Analog & Mixed Signal Laboratory and Embedded Systems AI/ML Laboratory both launched in January 2024.
2. **Training and Education:**
    - 30 students from four departments are currently undergoing hands-on training at the Digital VLSI Laboratory, offered by Synopsys.
    - A Digital VLSI Club was launched at Jadavpur University (JU), enrolling approximately 70 students from various departments, structured into four sub-groups to develop projects for national competition. Current focus is on RISC-V based SoC design for AI and Generative AI applications.
3. **Research and Innovation:**

- JU submitted five proposals in areas such as EV Charging Tech, Consumer Charging Tech, Healthcare Charging Tech, Age Tech for senior citizens, and Smart Water systems, collaborating with global universities and corporate entities.

4. **Conferences and Collaborations:**
    - Credible presence at the VLSI Design & Embedded Systems conference in Kolkata in January 2024, with significant achievements by JU students and faculty. (Field report attached)
5. **Strategic Partnerships:**
    - Five Memorandums of Understanding (MoUs) signed with strategic partners including Synopsys, Globalfoundries, HCL, Electronic Center of Excellence, and Utah Tech Labs throughout the year.
6. **Student Opportunities:**
    - Students have begun benefiting from focused partnerships, training, and opportunities, with notable selections for internships and projects by Synopsys, Globalfoundries, HCL, and other corporations.
7. **Curriculum Development:**
    - Efforts are underway to update the curriculum to include modern requirements, emphasizing software and hardware-oriented coursework.
8. **Infrastructure and Support:**
    - The Global Jadavpur University Alumni Foundation transferred USD $32K to JU for IC-COE infrastructure development, with additional donations such as a Blade Server for AI/ML laboratory simulations.
9. **Future Outlook:**
    - Plans for 2024 include fundraising for research fellowships, hiring a program manager, conducting paid internships, and additional infrastructure purchases. Plan details will be shared during June 2024.
10. **Achievements and Collaborations:**
    - Partial win in the strategic Chips to Startups program by the Ministry of Electronics and IT, Government of India. This is a big step to get recognition at the national level (DST and MEiTY)
    - New training and research collaborations with industry experts and academic institutions.

Closing Note: While 2023 focused on rebuilding infrastructure, student engagement, and establishing partnerships, 2024 is aimed at achieving substantial results. Our journey this year has

been marked by significant milestones and strategic initiatives, setting a robust foundation for continued success.

We look forward to sharing more accomplishments and updates as we progress further in our mission to excel in the field of integrated circuits and technology innovation.

Warm regards,

The IC-COE Team at Jadavpur University

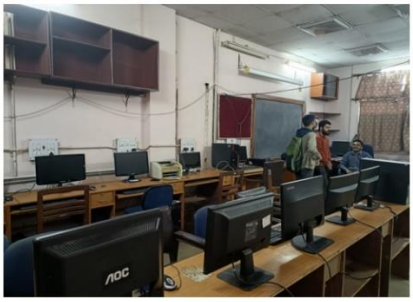
Participation in Science Fair- January '24
IoT and Embedded Machine Learning Lab

Students of ETCE and EE department participated in the 25th annual BIGYAN O PRAJUKTI MELA held in the memory of Acharya Satyendranath Basu.
Organized by the Paschim Banga Vigyan Mancha , the *mela* was staged from January 19-23, 2024, between 2:30 pm to 7 pm.
Two projects were showcased, and visitors took great interest in them.

Fig : AI-driven Agrover for Weed detection and Pesticide Spraying System

Fig: AI-driven Bengali Sign-language Translator

Inauguration of Lab



CALIFORNIA-BASED FORMER STUDENTS RAISED Rs 32 LAKH FOR ALMA MATER

New-age labs set up at JU with funds from alumni

SUBHANKAR CHOWDHURY

Jadavpur: A platform of former students of Jadavpur University, based in the US has contributed Rs 32 lakh so students get the opportunity to engage in new-age research in a university struggling with outdated facilities.

Representatives of the California-based group of former Jadavpur University students, which launched a fund-raising drive to help the cash-strapped university, were present on the campus on Thursday to inaugurate the Analog and Mixed Signal VLSI Lab and IOT (Internet of Things) and Embedded ML (Machine Learning) Laboratory.

The labs, set up with the contribution from the Global Jadavpur University Alumni Foundation, will function under the Integrated Circuit Centre of Excellence, which is part of JU's electronics and tele-communication engineering (ETCE) department.

The funds have been used to procure computers and software licenses, said Shubhankar Basu, a former student who lives in San Francisco.

The centre of excellence, which is looking forward to producing new-age semiconductor professionals, requires support as the infrastructure deficiencies can be addressed, Basu said.

"Through these labs, we intend to create a full ecosystem for semi-conductor IC design capability on the campus. India today has a lot of needs for the semiconductor. These labs, the infrastructure and software licenses are all required to train students so they can create a complete integrated circuit designed at JU," said Basu.

(From left) Dwipen Ghosh of the Global Jadavpur University Alumni Foundation; Sayan Chatterjee, professor in JU's electronics and telecommunication engineering department; Ranjit Chakrawarti and Shubhankar Basu of the foundation; Bhaskar Gupta and Shell Sinha Choudhuri, professors in the department, at the inauguration of the labs on Thursday. Picture by Pradip Sanyal

The president of the foundation, Ranjit Chakrawarti, a 1981 electrical engineering graduate, said they stepped in because JU does not have any resources to undertake such an ambitious programme.

"The state government has stopped providing resources other than the salaries of faculty and administrative staff. The Union government stopped providing grants like those under Rashtriya Uchhatar Shiksha Abhiyan) and others. A team of the foundation, in cooperation with the ETCE department, sought donations from JU alumni worldwide," Chakrawarti said.

He said the centre of excellence would need Rs 1.4 crores over three years to build the necessary infrastructure.

In June 2021, the head of the electronics and telecommunication engineering department had written to the foundation for "substantial funding" because the department was finding it difficult to maintain and upgrade its labs centuries-owing to a decline in support from the state and the central governments.

The head, Manotosh Biswas, said they needed to upgrade their computers and other facilities because the world of communications had undergone a sea change.

"The inauguration of the labs provides an excellent opportunity to arm the students with the skill sets needed for the upcoming semiconductor manufacturing revolution in India. But this requires funds which the foundation is providing," said Sayan Chatterjee, a professor of the department who heads the centre.

"Gone are the days when a student would equip themselves with the skill sets while working in the industry. Now they need to acquire the skills while studying. Only then will the industry hire," Chatterjee said.

He said that while the placement scenario has been "quite satisfactory" at JU, some industries have been staying away over the years.

"Once the word goes out that JU students are working in critical areas in these labs, those industries will resume hiring," said Chatterjee.

In October last year, Ravi Prasad, a former student of chemical engineering, gifted JU a chemical reactor worth Rs 35 lakh.

Training on Synopsys

Lectures

VLSI Design & Embedded Systems 2024 Conference

Accelerating Design and Innovation in
Semiconductor Products
/ Multiphysics
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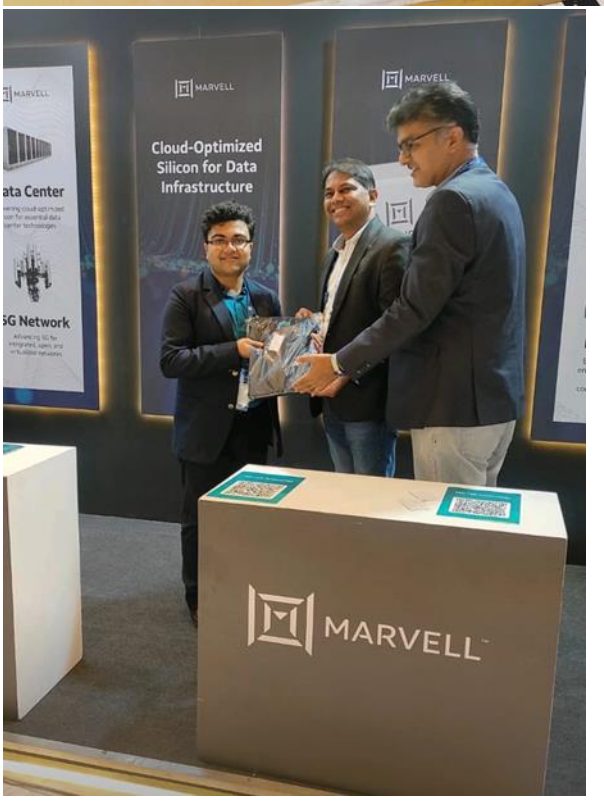
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