DEPARTMENT OF ELECTRONICS

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To

The Registrar Cochin University of Science and Technology Kochi 22

Sir,

Comprehensive Report on the Visit to Russia by CUSAT Professors: Strengthening International Academic Ties

The recent two-week visit to Russia has been a highly enriching experience, fostering academic cooperation, knowledge sharing, and opening avenues for potential partnerships between CUSAT and esteemed Russian institutions. This report summarizes my participation in the visit, covering both phases, which have significantly contributed to our understanding of advanced technologies, research methodologies, and possible future collaborations.

Phase I: Visit to Saint Petersburg Electrotechnical University

The first phase of my visit to **Saint Petersburg Electrotechnical University** (ETU) was an intensive and productive experience. Representatives from China, Vietnam, Egypt, and Malaysia also joined in this exchange, creating a diverse and collaborative environment. The week's agenda was packed with insightful interactions, offering deep exposure to the latest research and technological innovations.

Key Laboratory Visits

During my time at ETU, I had the opportunity to visit several advanced laboratories, gaining exposure to cutting-edge research and technologies:

- Microwave Electronics Devices Laboratory
- X-Ray Diagnostics and Production Control Laboratory
- Magnonics and Radio Photonics Devices Laboratory
- Semiconductor Materials and Nano Heterostructures Laboratory
- Perovskite Energy Converters Laboratory

These visits were not only informative but allowed for in-depth exchanges with ETU faculty, administration, and students.

India Day Presentation

One of the key highlights of this phase was delivering the "India Day" presentation, where I presented a detailed overview of **India**, **Kerala**, and **CUSAT**. The presentation fostered greater understanding and paved the way for stronger ties between our institutions.

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Meeting with the Vice Rector for International Cooperation

A productive meeting with **Dr. Anasthesia**, Vice Rector for International Cooperation, focused on:

· Enhancing coordination for the new MS joint program.

Collaborating on joint applications to the Indo-Russia Research Fund.

Expanding dual degree programs into other academic fields.

Phase II: Visit to the Obninsk Institute for Nuclear Power Engineering

The second phase of the visit, at the **Obninsk Institute for Nuclear Power Engineering**, was equally impactful. This segment focused on **nuclear power engineering**, modern training methodologies, and practical applications in the nuclear industry.

Key Exposures and Interactions

During this phase, I participated in several insightful sessions, including:

- Training of high-qualification personnel for peaceful nuclear energy, providing insights into specialized education practices.
- Electronics and automatics personnel training, highlighting the institute's expertise.
- Application of WorldSkills standards for student training, promoting hands-on, practical skills development.
- Participation in master classes on 'Robotics in Industry' and 'Practical Approaches to Microcontroller Programming', focusing on modern technological advances.
- A visit to the Fast Critical Assembly Complex, showcasing cutting-edge nuclear research.

Industry Visits

The delegation also visited key industry leaders, where we explored real-world applications of nuclear technologies:

- **Diaprom**: A leading supplier of equipment to nuclear power plants, showcasing state-of-the-art manufacturing.
- **Prolog**: Renowned for innovative solutions in nuclear power, offering insights into industry applications.

Closing Ceremony

The visit concluded with a formal ceremony, during which we reflected on the outcomes and potential collaborations. Certificates were awarded to participants, recognizing our engagement and contributions to the exchange.

Key Outcomes and Takeaways

- 1. I gained a deeper understanding of **nuclear power engineering**, training methodologies, and industry applications.
- 2. The visit provided valuable exposure to **robotics**, **microcontroller programming**, and other cutting-edge technologies.
- 3. Insights were gathered from industry visits to **Diaprom** and **Prolog**, focusing on best practices and innovations.
- 4. Potential avenues for **joint research**, **student exchange programs**, and curriculum development were identified.

5. Stronger academic ties were established between CUSAT and Russian institutions, paving the way for future collaborations.

Future Prospects

This visit has laid a strong foundation for numerous future initiatives, including:

- Joint research programs between CUSAT and Russian universities.
- Student exchange programs and faculty collaborations.
- Curriculum development based on advanced methodologies observed.
- Industry partnerships for developing innovative solutions in nuclear power and related fields.

Conclusion

In summary, this two-week visit has been highly productive, enhancing CUSAT's international engagement and providing valuable insights into emerging technologies. The experiences and connections made during this trip will significantly contribute to CUSAT's growth, research excellence, and global collaborations in fields such as nuclear power engineering and beyond.

I will continue to keep you updated as we move forward with these collaborations. The next phase of the visit will involve follow-ups on our discussions and potential joint research initiatives.

Thanking you,

Yours sincerely,

Supriya M F