We remember all the memories well as we endured the challenges and changes that the COVID-19 pandemic has brought to our lives. At the beginning of 2021, most of us were yearning and praying for stability, and were holding on to the hopes that we would get our old lives back. As the year 2022 started, it seems clearer that the era of uncertainties is here to stay. And the Office of International Relations continued with the majority of its activities in virtual mode. We'd like to take this opportunity to thank you for participating in international relations activities for strengthening and enhancing the collaborations with our international partner universities and being with us as we braved and navigated the new normal. We hope you enjoy the good memories of the past six months of international activities. Stay safe!

Virtual Meetings

Meeting people is a stepping stone and an important element for building relationships. Over recent months, the globe received a firm push into the world of virtual meetings, due to the COVID pandemic. This meant that institutes everywhere, no matter what circumstances had to look at alternatives to their usual co-located ways of working. This included a huge shift to virtual meetings. Of course, the pandemic didn’t create virtual meetings, but it raised their popularity drastically. Towards the end of the year, we did start with a few in-person meetings but had to shift back to virtual meetings due to a rise in COVID cases. In the past six months we had the following meetings:

- 1st July, 2021 - Mr. Gasan Gasanbalaev, Head of the Department for the provision of Human Resources, Russian Far East and Arctic Development Corporation; Ms. Alexandra Chernova Head International Cooperation Division, Russian Far East and Arctic Development Corporation; Dr. Evgeny E. Vlasov, Deputy Vice-President for International Relations, Far Eastern Federal University; Ms. Veronika S. Gorelkina Specialist of International Relations Office International Affairs Department, Pacific National University and Ms. Lyubov Zarubina, Deputy Vice-Head of International Cooperation Department, Northern Artic Federal University.

- 7th July, 2021 - Instituto Tecnológico de Buenos Aires (ITBA), Argentina – Ms. Eugenia Cannata, International Relations Director and Ms. Dolores Smuclir, Coordinator for International Cooperation.

- 13th July, 2021 - Dambi Dollo University, Ethiopia - Prof. Dr. R. Krishnaraj, Director,
Centre for Excellence in Indigenous Knowledge, Innovative Technology Transfer and Entrepreneurship and Prof. Arthanareewan, Professor in Chemical Engineering, NIT Trichy.

- **29th July, 2021** - FPT University, Vietnam - Ms. Vinh Nguyen (Michelle), Head of International Admission and Global Mobility; Ms. Ngoc Tran, International Relations Executive and Ms. Bao Ngoc, International Relations Executive.

- **5th August, 2021** – Ecole Nationale de l'Aviation Civile, France - Dr. Nicolas Cazalis Directeur Général Adjoint Vice President and Dr. Kirsty Tan, International Dean.

- **6th August, 2021** - University of Tsukuba, Japan – Prof. Kyosuke Nagata, President; Prof. Caroline F.Benton, Vice President and Executive Director for Global Affairs; Prof. Osamu Ohneda, Executive Officer for International Strategy; Mr. Hiromi Matsuda, CEO, IBJ, Inc. and Ms. Shizuyo Matsuda, Executive Director, IBJ, Inc.

- **11th August, 2021** - Samarkand State University, Uzbekistan - Dr. Muhtar Nasirov Vice-Rector, International Relations.

- **25th August, 2021** - Universiti Teknologi Malaysia (UTM) - Assoc. Prof. Dr. Mohd Ismid Md Said, Pro-Vice Chancellor International, UTM International; Prof. Dr. Nor Haniza Sarmin, Assoc. Director Global Strategy & Engagement, UTM International and Mr. Ahmad Hilman Borhan, Manager International Relations.

- **26th August, 2021** - King Abdulaziz University, Saudi Arabia - Prof. Abdulrahman Al-Wahhabi, International Relations Head; Dr. Muhammad Kabli, Dean of Faculty of Engineering and Prof. Hamad Al-Turaif, Vice Dean for Higher Studies and Research.

- **30th August, 2021** - University of Peradeniya, Sri Lanka - Prof. G.B. Herath, Dean, Faculty of Engineering; Prof. Shameen Jinadasa, Director International Relations Office; Dr. Kamalanath Samarakoon, Head Dept. of Computer Engineering; Prof. M.A.R.M.Fernando Head Dept. of Electrical and Electronic Engineering; Dr. Asela Kulathunga, Head Dept. of Manufacturing & Industrial Engineering; Prof. Asanga Ratnaweera, Head Dept. of Mechanical Engineering and Dr. Panduka Neluwala, Faculty representative International Relations Office.

- **31st August, 2021** - Institut Teknologi Sepuluh Nopember (ITS), Indonesia - Assoc. Prof. Maria Anityasari, Director of ITS Global Engagement; Dr. Astria Nur Irfansyah, Senior Manager on International Partnership; Dr. Atok Setiawan, Head of Department of Mechanical Engineering ITS; Dr. Sigit Tri Wicaksono, Head of Department of Materials and Metallurgical Engineering ITS and Ms. Nastiti Prima, International Partnership.
• 16th September, 2021 - The American University in Cairo, Egypt - Dr. Deena Boraie, Vice President for Student Life and Ms. Dahlia El Tayeb, Senior Director, International Programs and Services Office.

• 27th September, 2021 - Mr. Arne Jan, Consul General, Royal Norwegian Consulate General, Mumbai and Dr. Maan Singh Sidhu, Counsellor Science and Technology, Royal Norwegian Embassy in New Delhi.

• 7th October, 2021 - Pokhara University, Nepal - Prof. Dr. Prem Narayan Aryal, Vice-Chancellor and Dr. Umesh Singh Yadav, Executive Director, International Relations Center.

• 9th November, 2021 - Komsomolsk-na-Amure State University (Russia) - Ms. Tatiana Nalivaiko, Vice rector for Education and General Issues; Ms. Marina Siui, Head of International Department and Ms. Natalia Soboleva, Specialist of International Department.

• 11th November, 2021 - Alanya Alaaddin Keykubat University, Turkey - Mr. Eren Irfanoglu, Deputy General Coordinator of the International Relations Office and Ms. Ludmilla Reger, International Relations Office.

• 12th November, 2021 - The European University of Tunis, Tunisia, Africa - Mrs. Linda Guedri, Executive Director and Ms. Neïla Ahlem Zakraoui, In charge of the International Relations Department.

• 17th November, 2021 - Mbarara University of Science and Technology, Uganda - Prof. Charles Tushabomwe-Kazooba, Deputy Vice Chancellor Finance & Administration; Dr. Imelda Kemeza, Department of Educational Foundations and Psychology and Ms. Sheila Niinye, International Relations Officer.

• 22nd November, 2021 - University of Toronto, Canada – Prof. Joe Wong, Vice-President, International; Prof. Alex Mihailidis, Associate Vice-President, International Partnerships and Ms. Vanessa Laufer, Director, International Relations.

• 8th December, 2021 - Consulate General of the Arab Republic of Egypt in Mumbai - Mr. Attia Abou El Naga, Consul General.

• 9th December, 2021 - Fergana Polytechnic University, Uzbekistan - Mr. Nodirbek Ismailov, Head of International Relations Department and Mr. Shohida Khamdamova, Head of Educational and Methodological Management.
• 15th December, 2021 - Sungkyunkwan University, South Korea – Mr. Christopher Boreman, Global Network Coordinator and Ms. Yoo Jin Choi, Global Network & Protocol Coordinator.

• 17th December, 2021 - Tomsk Polytechnic University, Russia - Dr. Maxim Volkov, Head of International Cooperation Division & Rector's advisor on external relations; Dr. Artyom Dankov, Head of the International Analytics Body and Dr. Natalia Zhadovets – Head of the International Cooperation Body.

• 21st December, 2021 - Ms. Hannah Anzi, Country Representative India, Technion Israel Institute of Technology.

• 23rd December, 2021 - Consulate General of the Republic of Indonesia in Mumbai - Mr. Agus Saptono, Consul General; Mr. Pangky B. P. Saputra, Vice Consul for Economic Affairs and Mr. M.P. Hutomo, Staff Social & Culture.

IIT Bombay has been building partnerships with a wide range of leading universities, many of these being active for several years and have achieved excellence in their fields. The content of these partnerships varies from student exchange to faculty exchange, from research collaboration to the development of joint programs (degree, short-term, conferences, workshops, etc.), and from capacity building to articulation. In a world surrounded by a global pandemic, networking is now more important than ever before. IIT Bombay values being in continuous communication with its counterparts and uses every chance to stay connected with its partners. We have signed new agreements as well as renewed agreements with the following universities in the past six months:

- Consortium of Finnish Universities, Finland
- Instituto Tecnologico De Buenos Aires, Argentina
- Polytechnique Montreal, Canada (extension)
- Dambi Dollo University, Ethiopia
- Ecole Nationale de l'Aviation Civile, France
- Universitas Gadjah Mada, Indonesia
- Institut Teknologi Sepuluh Nopember, Indonesia
- Universita Degli Study di Napoli L Orientale, Italy
- Universiti Teknologi Malaysia, Malaysia
- Vyatka State University, Russia
- Malardalen University, Sweden (extension)
Research Workshops

The faculty research workshops serve as a platform for faculty members to share their research, knowledge, opinions, theories, research projects, and recent developments. The purpose of these research workshops is to promote connections among researchers and creative scholars. It aims to bring together researchers, scholars and students to exchange and share their experiences, new ideas, research results and discuss the practical challenges encountered and solutions adopted. These workshops through the expertise and collaboration of faculty members help create an environment that promotes innovation and builds knowledge, contributing in important and tangible ways to the economic development and advancement of society. In the last six months we had five research workshops with our following international partner universities:

- Mahidol University, Thailand – 13th September, 2021
- King Mongkut's University of Technology Thonburi, Thailand – 14th September, 2021
- University of Gadjah Mada, Indonesia – 17th September, 2021
- Russian Indian Network (RIN) of Institution of Higher Education’s Online Symposium on Energy Technologies – 20th October, 2021
- University of Peradeniya, Sri Lanka – 13th December, 2021

Activities under Consortia/Networks

IIT Bombay is part of many consortiums and is associated with many networks as well. These consortia/networks provide a venue for universities to share their valuable experiences to improve higher education and international cooperation by fostering academic and cultural exchanges. There were high level meetings held during the past six months wherein senior management from IIT Bombay participated, the details are as follows:

Asian Universities Alliance (AUA)

Asian Universities Alliance (AUA) is a consortium of Asian universities. It is a regional organization established with the aim of jointly addressing regional and global challenges, specifically related to higher education and economic, scientific and technological development by strengthening collaboration among member institutions. This is a very active consortia, and the activities that have taken place under this consortium in the past six months are given below:
AUA-IITB Overseas Study Program: The AUA-IIT Bombay Overseas Study Program on Sustainable Energy System was hosted in online mode by the Office of International Relations in association with the Department of Energy Sciences and Engineering (DESE) from 5th to 16th July 2021. Prof. Rangan Banerjee and Prof. Anish Modi from the DESE coordinated this program. This program provided the students with an overview of the various renewable energy conversion and storage technologies. Various sustainability and climate related aspects were discussed along with equipping the students with knowledge on evaluating alternatives based on economic and environmental aspects. The virtual visits to the labs and energy system installations in the institute campus were organised. The course therefore gave the students a strong exposure to the current energy scenario, with a particular focus on the countries of AUA member universities, and help them develop a perspective by comparing the energy scenario in their country with that in the other countries. A diverse set of 19 students participated in this program from 7 AUA member universities.

AUA Education Fair: AUA hosted the Live Education Fair 2021 with the participation of the 15 leading Asian Universities (member universities of AUA) on 25th and 26th September 2021 for UG and PG programs respectively. In order to attract good quality post graduate international students, IIT Bombay participated in this fair on 26th September 2021. During this Education Fair, every AUA member university was given the time slot to make the presentation and provide information about their university. Prof. Amit Agrawal, Dean International Relations shared the information on Life and Higher Education Opportunities at IIT Bombay during this session.

AUA Lecture Series: The Office of International Relations in coordination with the Department of Humanities and Social Sciences (HSS) participated in the Lecture Series hosted by the Asian Universities Alliance (AUA). The AUA Lecture Series was held in online mode and was themed on "Challenges and opportunities of Asian economies in the era of COVID-19 and post COVID-19". The aim of this lecture series was to have both students and audience members gain a level of understanding about different Asian economies and offer the AUA students an opportunity to study from and have discussions with other students of Asia. The lecture series was scheduled for 15 weeks (Sep to Dec 2021), with one lecture per week. Each member university was invited to organize a lecture conducted by the faculty member(s) of their university and Prof. Krishnan Narayanan, Dept. of HSS gave a lecture on “COVID 19 and Livelihood Challenges in Rural India” in this series from IIT Bombay on 14th October 2021. Also, 3 students from HSS were nominated to participate in this series who attended all the lectures conducted during this Lecture Series.

AUA Executives Meeting: The fifth AUA Executives Meeting was held on 10th November 2021. Prof. K V K Rao, Deputy Director Finance and External Affairs, Prof. Amit Agrawal, Dean International Relations and Ms. Tanvi Mehta, Executive Officer, Office of International Relations participated in this meeting from IIT Bombay. This meeting consisted of a session on the review of all AUA activities and programs held in the
year 2021-22, a session on policy discussion followed by a discussion on AUA programs to be held in the year 2022-23.

**AUA Program:** The AUA member universities i.e., Chulalongkorn University, Thailand and University of Malaya, Malaysia also hosted the AUA Overseas Study Program like IIT Bombay in July 2021 and December 2021 respectively. The Chulalongkorn University hosted the program on “Humanizing Digital 2021: Addressing Global Challenges in the AI and Data Science” wherein 4 students from IIT Bombay participated and the University of Malaya hosted the program on “Artificial Intelligence in Health Sciences” wherein 2 students from IIT Bombay participated.

**U7+ Worldwide Student Forum:** On behalf of the U7+ Steering Committee and UK members of U7+, University College London (UCL) and Northwestern University co-hosted a worldwide student forum centred on the theme of "Climate Change: Intergenerational Conflict or Intergenerational Alliance?". The aim of this forum was to support the global student community across U7+ members in their endeavours to make a genuine difference in how climate change, intergenerational justice and sustainability issues are framed and how individuals and institutions can respond to them. From IDP Climate Studies, three students were nominated to participate in this forum. This forum was spread from June to November 2021 and it offered students an exciting opportunity to connect with students globally, learn lifelong skills and make a positive impact on global challenges.

**U7+ Working Groups Workshop:** The U7+ Working Groups Workshop was held on 29th and 30th September 2021. The theme of the workshop was “From ideation to action: Fulfilling the U7+ commitments”. The workshop was hosted by Northwestern University and highlighted the successes of the U7+ working groups, gave space for reflection on the purpose of the working groups, and lead to the creation of a new U7+ Working Groups Guide. This workshop was open for all Presidential Delegates along with all faculty, staff and administrators who are active in the U7+ working groups. From IIT Bombay, Prof. Amit Agrawal, Dean International Relations and Ms. Tanvi Mehta, Executive Officer, Office of International Relations participated.

**U7+ Presidential Summit:** This alliance is the first coalition of university presidents aimed at defining concrete actions universities can take to collectively address global challenges in coordination with government leaders in G7 countries and beyond. The U7+ Presidential Summit is a unique opportunity for university leaders from a wide variety of nations to discuss a common agenda and establish a framework for university actions in today’s global landscape. The U7+ Presidential Summit was held on 25th October 2021, Prof. Subhasis Chaudhuri, Director and Prof. Amit Agrawal, Dean International Relations participated in this summit from IIT Bombay.
The objective of this forum is to strengthen academic cooperation among Taiwan and Southeast and South Asian countries. This forum provides a venue for academics to share their valuable experiences to improve higher education and international cooperation in the region. The Southeast and South Asia and Taiwanese Universities (SATU) Presidents’ Forum’s General Assembly and Steering Committee Meeting was held on 2nd and 3rd November 2021 and Prof. Amit Agrawal, Dean International Relations participated in this meeting representing IIT Bombay.

The purpose of this consortia is to connect technology-focused institutions of higher learning in Asia. Its mission is to support member universities in achieving world-class quality of education and research in engineering and technology through strategic international alliances. From IIT Bombay, Prof. Subhasis Chaudhuri, Director participated in the President Roundtable Session of ATU-Net Virtual University Presidents Forum which was themed: Brave New World of Higher Education: Realities and Vision” and held on 22nd and 23rd Nov, 2021. Prof. Amit Agrawal, Dean International Relations also attended this event.

The Office of Dean, International Relations feels proud to share the news that it has successfully conducted three online two-week courses in December 2021 as a part of IITB’s first ever edition of Winter School. This programme allowed the participants to explore different subjects within a wider academic discipline and make informed choices about their options beyond their compulsory education. It offered the programmes in three different streams naming Artificial Intelligence in Education, Structural Geology and Singular Value Decomposition: The Philosopher’s Stone in Data Science. The basic idea of the Winter School was to improve the visibility of the Institute by showcasing the strengths of the Institute, mainly, the rigour of its academic courses and/or existing research facilities of the Institute. Thanks to faculties of this programme because of whom it became a hugely successful one and received an overwhelming positive response from the various Universities and their students spread across the world. It was heartening to see that some universities where we had not sent the information also participated (they were informed about the program by our partner universities). Through a dedicated online platform provided by this programme, participants got an opportunity to interact with internationally known expert group of IIT faculties and peers from all over the world. It attracted more than 110 participants from the countries like UK, Brazil, Russia, Indonesia. This programme mainly covered the following wide areas:

- Numerical aspects of Structural Geology like finding out representative density of heterogeneous rocks, Isostatic equilibrium, etc.
- Meaning and properties of Singular Value Decomposition (SVD), the various approaches of explaining the SVD, the mode of obtaining it, the best low-rank approximation of a matrix using SVD. Applications: (a) Data Compression (b) model
order reduction of dynamical systems, (c) building recommendation systems, (d) dimensionality reduction: Principal Component Analysis (PCA).

- Basics of learning analytics that is descriptive, diagnostic, predictive and prescriptive applied to educational database, how learning analytics, which is a method to collect, measure, analyse and report data, is applied to data from learning environments.

The participants were invited to provide their precious feedback at the end of the programme in order to incorporate their suggestions for improvement with a view to introducing the same in our next Winter/Summer School. The participants appreciated not only the quality of the course content and material delivered to them but also the level of cooperation received from our faculties and TAs while interacting with them because of which they didn’t feel the barrier associated with this online mode of learning platform. A group of participants suggested that these programmes should be offered for longer durations too and expressed their interest to join other programmes offered by our Institute in future.

On successful completion of the programme, an e-participation certificate was issued to those participants who fulfilled the eligibility criteria of securing minimum attendance percentage as was informed to them by their respective course instructors/Faculties of IIT Bombay before joining the course. Following the success of this Winter School, Dean IR office is planning for its next Summer school programme in May, 2022 with a new and innovative strategy to make it more accessible to the student community spread across the globe.

Inbound Students

During the autumn semester 2021-22, 40 students were registered for the M.Tech./Ph.D. program. Two students from Hokkaido University, Japan, did virtual project work for a period of 2 months. Currently, there are 86 international students registered for the full-time, Master’s/Ph.D degree programs at IIT Bombay.

Outbound Students

The international semester exchange programs provide broad based benefits to students where they get the opportunity to seek international exposure and acquaint themselves with new cultures and global educational standards. Such activities are an important part of the overall development of a student giving them awareness and help adopt alternative, multi-faceted approaches to learning. With changing global economic conditions, international exchange programs are becoming viable and effective prospects of learning and gaining international exposure.
IIT Bombay supports outbound exchange program for their students in order to add an international perspective to their education. We had eighteen students from IIT Bombay going for semester exchange to foreign universities like Aalto University, Finland; EPFL, Switzerland; ETH Zurich, Switzerland, KTH Royal Institute of Technology, Sweden; University of Geneva, Switzerland; University of Calgary, Canada; University of Strasbourg, France; Technical University of Denmark; INSA Lyon, France and Technical University of Munich, Germany.

**Outbound Student - Harshvardhan Nigam at Université de Strasbourg, France**

**Outbound Student - Janhvi Nandwani at Danmarks Tekniske Universitet (DTU), Denmark**

**Outbound Student - Harshit Srivastav at Danmarks Tekniske Universitet (DTU), Denmark**

### Student Experiences

**Janhvi Nandwani, Dual Degree, Department of Mechanical Engineering**

Hi! My name is Janhvi Nandwani and I was nominated for a semester exchange for the Technical University of Denmark. My experience at DTU was the most refreshing change of pace in academics. DTU promoted working in groups more than any other form of evaluation. Instead of tests, they would take oral exams and presentations which were delightful and not at all boring or redundant to prepare for. While the courses I completed there were some of the most challenging ones, the projects, and hands-on practical approach made them easy to understand and work with. The DTU student community is also a very vibrant and enthusiastic one. Their traditions and parties are things you’d never expect but they are very warm and welcoming to the newcomers. Overall I feel really grateful to be able to spend a semester in Denmark despite the COVID waves and numerous lockdowns.

**Matrika Ghimiray, PhD Scholar, IDP in Climate Studies**

The U7+ Worldwide Student Forum 2021 had its final closing event on the 3rd of November. It was almost a semester-long activity involving some lectures, debates and group activities. The theme of the forum was “Climate Change: Intergenerational Conflict or Intergenerational Alliance?”. We discussed climate change and the actions that need to be undertaken, and how universities can take up initiatives to make the campus more sustainable.

Thank you very much, for nominating us to be a part of this. It was quite challenging sometimes to work with students from different universities with different time zones. However, we overcome that and managed. Overall, I had a very enriching experience participating in this forum.
It also got me thinking about how can we (IDPCS/ IITB) possibly take a lead in actively advocating for climate action and sustainability. There obviously isn't a single answer to this, but perhaps we can start having discussions over it? Universities like ours play a very important role to take the Sustainability agenda forward and it was a resonating agreement that we need to Lead By Example.

**Roshan Keshari, PhD Scholar, Department of Biosciences and Bioengineering**

Life at IIT Bombay has been amazing. Everybody that I’ve met here is unique and ambitious about everything! I’ve found a lot of people here with similar interests as me. Everyone is so extremely friendly and helpful around here. At this point, it genuinely feels like my home town to me. IIT Bombay has one of the best nanoscience labs in India and thus it was a dream come true to do my PhD in the Nanomedicine Lab under Prof Rinti Banerjee, Bioengineering Dept. This place has helped me gain financial stability as well due to the reasonable price of almost everything. To top it all, the IIT Bombay campus has best in class sports facilities with professional coaches for the gym, basketball, table tennis, badminton, etc. Every festival, be it Eid, Holi, Diwali, Christmas, or Independence Day, is celebrated with utmost enthusiasm here on campus. IIT Bombay truly feels like a home, far from home!
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