Editorial

India, the current holder of the G20 Presidency, has taken a significant step towards ensuring an effective global collaboration towards sustainable development. One of the vital groups working towards this objective is Science 20 (S20), a group of scientific advisors to the G20 countries. Established during Germany's Presidency in 2017, the S20 Engagement Group comprises international experts who work together to provide science-driven recommendations to policymakers through consensus-building. The S20 focuses on identifying critical issues in science and technology (S&T) that must be addressed to achieve sustainable development goals. This year's S20 theme is "Disruptive Science for Innovative and Sustainable Development", which highlights the need for disruptive technologies, such as artificial intelligence, quantum computing, smart materials, and meta materials, in tackling complex societal problems.

Considering the various activities being organised as a part of S20, the first article in this issue discusses the potential of disruptive science in creating a sustainable future. The article highlights the crucial role of science diplomacy, which employs S&T as a means for international collaboration and diplomacy, in promoting sustainable development. One example of successful international collaborations in S&T is the establishment of institutes of national importance in India, such as the Indian Institutes of Technology (IITs), Indian Institute of Science (IISc) and the Birla Institute of Technology and Science, Pilani (BITS, Pilani). These institutes were established through collaborations between India and other countries, which led to the exchange of knowledge, resources, and expertise.

The International Advanced Research for Powder Metallurgy and New Materials (ARCI) is India's most extensive bilateral cooperation program in S&T with the erstwhile Soviet Union. The second article discusses the journey of ARCI and highlights its contributions to India's scientific and technological advancement. Another article focuses on international collaboration in astrophysical sciences in India and its significance, particularly about the Aryabhatta Research Institute of Observational Sciences. The article provides insights into the research being conducted at the institute and highlights its contributions to the field of astrophysics.

India's Council of Scientific and Industrial Research (CSIR) is driving the latest developments in S&T in the country. In particular, CSIR is developing technologies with significant potential for commercialisation and export to foreign countries. Here, two such technologies, the 'Hydrazine Hydrate Technology' from the Indian Institute of Chemical Technology (CSIR-IICT) and 'Thoxcat ES™' from CSIR-Indian Institute of Petroleum (CSIR-IIP) in collaboration with Bharat Petroleum Corporation Limited (BPCL), have been covered in the present issue.

Overall, these articles showcase the importance of international collaboration in promoting scientific and technological advancement and achieving sustainable development goals. Such partnerships facilitate the exchange of knowledge, resources, and expertise and pave the way for innovative solutions to complex problems. The last two articles are on the Accademia Nazionale dei Lincei, one of the oldest and most prestigious science academies in Italy and on the G20 Research and Innovation Initiative Gathering Conference on Materials for Sustainable Energy.

We hope that our esteemed readers will find the latest issue of the *Science Diplomacy* informative and insightful. We look forward to your valuable feedback and comments.

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