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## ごあいさつ

平素より東北大学大学院環境科学研究科の研究・教育活動にご理解とご支援を賜り、心より感謝 申し上げます。

2022年は、ロシアの突然のウクライナ侵攻で、平和な日常の有り難さと脆さとを痛感させられた 年でした。国内では、3年間続いたコロナ禍への対応が新しい段階に入り、以前の生活が戻りつつ あるところですが、円安の影響もあり、高騰したエネルギー価格が、暮らしや経済を直撃しています。 人々や国々の間の分断も少しずつ深まっているように見えます。こういうときにこそ、目先の波風に 捉われずに、冷静に将来のあり方を考えたいところです。

環境科学研究科は、2003年4月に設立され、まもなく20周年を迎えます。この間、持続可能 な資源やエネルギー利用の「技術」と、それを成り立たせる「人と社会」の未来の姿を描くこと、そして、 そこで活躍する担い手を育てることが私たちの目標であり責務であると考え、研究・教育に取り組ん できました。各教員がそれぞれの研究分野で活躍するとともに、研究科としては、これらを支援し 社会実装を促す体制作りを進めています。「環境研究推進センター」には、新たに「地域共創ビジョ ン推進室」を設置して、連携協定を結ぶ各自治体との協力体制を強化し、地域密着型の研究を推進 しています。4月からは、もう一つのセンターとして「資源戦略研究センター」を立ち上げ、国際文化 研究科を始めとする学内外との連携を進め、資源に関わる環境影響、サプライチェーン、地政学的 リスク等を新しい視点から掘り下げる拠点とすべく、体制を整備しつつあります。

バンドン工科大学との部局間協定の更新、ソウル国立大学の Specialized Graduate School of Intelligent Ecological Sciences との連携協定締結など、国際連携も進めてきました。国費 留学生優先配置プログラム "IESLP" と国際共同大学院プログラム "GP-RSS" の共同開催として行っ たサマーセミナーでは、対面とリモートのハイブリッド形式で、活発なディスカションが行われました。 今後も、ポストコロナの体制を見据えながら、留学生の受け入れと国際連携を進めてまいります。

研究科創立時からご支援をいただいておりました DOWA ホールディングス寄附講座は 2023 年 4 月から第8期に入り、体制を刷新し、さらなる協力関係を構築してまいります。また関連各社様のご 支援のもと開設した硬質材料環境科学人材養成履修証明プログラムは、2023年度からは「硬質材 料環境調和設計学講座」として新たに研究・教育をスタートすることになりました。反応解析機器開 発学 (フロンティア・ラボ) 寄附講座も期を新たにし、研究・人材育成・社会貢献を進めてまいります。 さて、この20年の間に人々の環境に対する関心は急速に高まり、世界は脱炭素に向けて大きく舵 を切り始めました。今こそ、私たちが培ってきた研究を社会に還元するときと考え、新たな 20 年に 向けた歩みを力強く進めてまいります。

今後とも、ご指導ご鞭撻を賜りますよう、お願い申し上げます。

## **Prefatory Note**

We sincerely appreciate your understanding and support for the research and educational activities of the Graduate School of Environmental Studies at Tohoku University. The year 2022 made us keenly aware of the importance and fragility of peaceful everyday life due to Russia's sudden invasion of Ukraine. In Japan, we are gradually returning to how things were before the three-year-long COVID-19 pandemic as we enter a new phase of pandemic management. However, the impact of the weakened yen has resulted in skyrocketing energy prices that are hitting our lives and the economy hard. In addition, it seems that the divisions between people and nations are gradually deepening. In times like these, it is important to think calmly about the future and to avoid being caught up in short-term setbacks.

The Graduate School of Environmental Studies was established in April 2003 and will soon celebrate its 20th anniversary. During this time, the goal and responsibility we have strived to accomplish through our research and education have been to envision the future of "technology" for sustainable resource and energy use and the "people and society" that sustain it, and to foster the people who will play a role in advancing these fields. Each faculty member is active in their respective research fields, and as a graduate school, we are working to establish a system that supports these efforts and promotes their implementation into society. The "Environmental Research Promotion Center" has established a new "Co-creation for Social Innovation Division" to strengthen collaboration with each municipality that has signed a cooperative agreement and to promote researches that work closely with local communities. In April, we will launch another center, the "Institute for Resource Initiatives" to deepen our understanding of resource-related environmental impacts, supply chains, and geopolitical risks from a new perspective, and we are developing a base for these initiatives while collaborating with faculties both inside and outside the university, including the Graduate School of International Cultural Studies.

Furthermore, we have worked to promoted international collaboration, such as updating the inter-faculty agreement with Bandung Institute of Technology and finalizing a collaborative agreement with the Specialized Graduate School of Intelligent Ecological Sciences at Seoul National University. At the Summer Seminar held as a joint event between the International Environmental Security Leadership Program (IESLP) and the International Joint Graduate Program in Resilience and Safety Studies (GP-RSS), attendees participated in active discussions that were held in a hybrid format of face-to-face and remote meetings. In the future, we will continue to accept international students and to promote international collaboration, while considering the post-COVID-19 situation.

The Endowed Division by the DOWA Holdings Co., Ltd., which has supported us since the establishment of the graduate school, will enter its 8th term in April 2023, refreshing its structure and building further cooperative relationships. The Hard Materials Environmental Science Human Resource Development Certification Program was established with the support of various related companies and starting the academic year 2023, it will offer new research and education as the "Course for Environmental Harmony Design of Hard Materials." The Innovative Analytical Pyrolysis (Frontier Laboratories, Ltd.) Endowed Division will also start its new academic year and will continue to strive to advance research, human resource development, and social contribution.

Over the past 20 years, interest in the environment has rapidly increased among people, and the world has begun to steer significantly towards decarbonization. We believe that now is the time to share the research we have cultivated with society and vigorously advance in the new 20 years.

We respectfully request your continued guidance and support.