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## FUKUOKA DECLARATION ON ACTIONS TO CHANGE THE RELATIONSHIP BETWEEN SOCIETY AND SCIENCE

# Harmonising Reason with Sensibility for an Inclusive and Sustainable Future

### PREAMBLE

Great efforts have been made for countries to move towards achieving the UN Sustainable Development Goals (SDGs); however, more efforts are needed to bring about positive transformative changes globally. Scientific research is still at times fragmented and trust in science is fragile in many places. A new generation of researchers need to work together across disciplines to regenerate science to tackle the global challenges we are facing.

In June 2022, the Global Young Academy (GYA), in collaboration with Young Academy of Japan, convened its members and alumni along with early-career researchers (ECRs), students, and science policy stakeholders from around the world to discuss ways to transcend disciplinary silos; to spark a global interdisciplinary dialogue to reform the science system and rethink the contribution of science to society. As an interdisciplinary science academy, the GYA fosters collaboration among the natural, physical and social sciences, as well as engineering, medicine, the arts and humanities, aiming to develop a more human-oriented perspective on science and scholarship.

A total of 791 participants (139 on site and 652 online) from 80 countries took part in the hybrid conference, with the in-person event held at Kyushu University in Fukuoka, Japan. The venue was selected because the university provides an example of how to share knowledge on biodiversity: Engineers and scientists work together to establish sustainable campuses by using Information Communication Technology (ICT) and harmonising the local ecosystem, which is relevant to the theme of the 2022 International Conference of Young Scientists and the following statement. For this reason, the statement is titled “Fukuoka Declaration”.

## WHAT IS HARMONISING REASON WITH SENSIBILITY?

Science is more than a rational, impersonal or utilitarian power. Connecting science to emotional intelligence, common sense and cultural sensibilities can forge new bonds with society, bolster existing bonds and restore trust. It is also important to go beyond a superficial opposition between tradition and science. Considering human intuition, artistic creativity, neglected disciplines and indigenous knowledge are all means of enriching science and broadening our knowledge base, making this process more inclusive.

Conference participants discussed the importance of sharing common goals among scientists and citizens and developing action plans to achieve these goals. ECRs can act as leaders and mediators conveying this message to different audiences, to bring a sustainable and inclusive future. The recommendations in this statement aim to inform ECRs who are not yet involved in this discussion, senior scientists with active roles in the global science community and the ability to support younger generations, stakeholders with diverse roles in the global and local science community and members of the public who are involved or interested in science.

## WHAT ARE SHARED COMMON GOALS?

As a common goal, we identify ensuring a good balance of reason and sensibility in every context and utilising this balance for a better relationship between science and society in the following domains:

- To empower both scientists and societies to value creativity, curiosity, and communication.
- To build and strengthen trust between scientists, stakeholders, and citizens.
- To support decision-makers informed by science.
- To facilitate that citizens can bring bottom-up needs to scientific processes to solve issues important to them.

## HOW DO WE ACHIEVE THEM?

We distil below three areas of action in which the harmonisation of reason and sensibility can be achieved.

### 1. WORK WITH SOCIETY TO MAKE SCIENCE NOT ONLY FORMALLY OPEN, BUT ALSO

**ACCESSIBLE AND ATTRACTIVE SUBSTANTIALLY.** – Dialogue is key to realising this.

With dialogue, we mean the exchange of information between people who do not know each other, or who inevitably have different values. We encourage continuous dialogue among scientists, stakeholders, and citizens. Instrumental to this aim, we need to nurture not only logical understanding but also higher levels

of empathy in the scientific community that will allow us to connect to different stakeholders. The following recommendations for science and education emerged from discussions:

- Dialogue can happen in different ways: meetings (online and in person), sending newsletters, blogs, social media, etc.
- Universities can act as a platform for continuous dialogue. E.g., by promoting digital transformation for any student/citizens to access information, such as online learning systems (“open for all” university). Access should be accompanied by assistance and education as to how the information can be interpreted, and its limitations, to avoid misconceptions and loss of trust in the scientific process.
- Scientific creativity, or the “fun” side of science, can work as a key for connecting different actors with science. Creativity as a common language can take us further through enhanced collaborations and boost our consolidated capacities. Life-long learning options can greatly contribute to keeping and even improving creativity – of all generations.

## 2. INTEGRATE THE WISDOM OF CITIZENS AND SCIENTIFIC KNOWLEDGE FOR THE BENEFIT OF

**THE SOCIETY** – It is important to recognize the power balance in knowledge production and availability, for example academia as an ivory tower, or knowledge disparity between the Global North and South. Only through recognition can we integrate knowledge and ethically address this power balance through continuous dialogue. This includes understanding sustainability challenges as challenges of planetary, social and ecological justice and tackling intersecting crises of climate, biodiversity, poverty, and inequalities. It is essential for all actors to be aware and act as a part of a symbiotic web of interdependencies that bind us to each other and to the planet. To achieve this, we recommend to:

- Firmly recognize the importance of cultural diversity, languages, and indigenous (local) knowledge for future generations and citizens. This can be enhanced by collaboration between indigenous communities and artists with scientists and scholars. It is important to acknowledge that the richness of highly complex systems can only be achieved by building bridges via distributed networks and incorporating segmented research outputs into combined knowledge transfer.
- Propose new alliances between indigenous communities and minority groups to shift their fragility into empowering capacity building.
- Recognise the multifaceted dimensions of the human being when designing educational programmes at all stages. Focusing not just on knowing specific content but on learning to appreciate and express feelings, nuances, textures and insights beyond textual languages, thus including arts, musical scores, choreographies, visual semantics and multi-dimensional thinking.
- Enhanced creativity as an expanded language can also elucidate connections between technical approaches and innovative angles. After appreciating creativity, it is

important to focus on adaptable strategies able to harness creative power towards the common good via fair knowledge dissemination beyond all forms of discrimination.

- Retain creativity as a source of social dialogue by welcoming citizen science initiatives.

### 3. WORK TO DEVELOP LEADERSHIP CAPACITIES FOR EARLY CAREER RESEARCHERS AND TO CREATE A MECHANISM TO ENCOURAGE AND FOSTER THOSE WHO MAKE SUCH EFFORTS

- ECRs need to be more entrepreneurial and develop and take on leadership roles, including applying effective facilitation skills and bridging distances between people. At the same time, it is necessary to create a mechanism to encourage them. The GYA can be a platform to encourage Young Academy collaboration, open academia, interdisciplinarity and work with other stakeholders. In addition, it is important to engage in a discussion about science excellence and diversifying the evaluation system of funding, e.g., support evaluation that reflects scientists' engagement in science communication or public service, so that actors receive enough resources to continue such efforts.

- For developing leadership, ECRs are strongly encouraged to practice empathy through activities that are not limited to science, such as arts, sports, debates on general issues, and continue dialogue with scientists from different backgrounds or disciplines, citizens, and other stakeholders to understand different values and ways of thinking.
- Scientists must make efforts for members of global and local science community to be diverse.
- Scientists should make a commitment to societies by building bridges with global research ecosystems.
- The science community needs to establish a system in which scientists can communicate the potential impact of long-term effects of knowledge and research to policymakers and the public to provide options and support their decision-making. Decision-making based on one measurement sometimes provokes questions. One example is current university rankings. It is necessary to discuss legitimate sources for rankings, emphasising qualitative (non-quantifiable) measurement as "legitimate" depends on the culture of the country or the discipline.
- Universities need to educate the problem-solvers of the 21<sup>st</sup> century to ensure that any solution we have today, or to be developed is sustainable. Reforms of universities should be based on sharing best practices and experiences in different countries and educational systems. This can lead to educational cooperation among universities and support the priority of a balanced ecosystem for all researchers.

The GYA will act as a hub of dialogue for these actions.

## ABOUT THE GYA

The vision of the GYA is science for all; science for the future, and its mission is to give a voice to young scientists and researchers around the world. The GYA, founded in 2010, is an independent science academy of 200 outstanding early- to mid-career researchers from six continents who are selected from across disciplines based on their academic excellence and commitment to engage with society. GYA members serve five-year terms, and the GYA presently counts Members and Alumni from 100 countries. The GYA administrative Office is publicly funded and hosted at the German National Academy of Sciences Leopoldina. The wide array of GYA activities are supported by a range of international public and private funders.