

Subject: Biodiversity for Survival via Biomedicine (Bio2Bio)

Dear Member Academies,

The preservation of biodiversity is a critical component for achieving several of the 17 Sustainable Development Goals (SDGs) set by the United Nations. For example, Zero Hunger (SDG#2), Climate Action (SDG#13), Life below Water (SDG#14), and Life on Land (SDG#15). In particular, SDG#3 aims at “ensuring healthy lives and promoting well-being for all at all ages.” However, millions of people worldwide – especially in developing countries – do not have access to or cannot afford ‘Western’ or ‘allopathic’ medicine and rely on traditional medicines. According to the World Health Organization (WHO), such medicines, typically based on locally-available biological resources, often have a long and effective history of use and can play a large part in reaching SDG#3.

To address this need:

- IAP published 24 case studies of exploring traditional medicines from the standpoints of modern biomedicine;
- The Global Young Academy (GYA) has formed the working group ‘Biodiversity for Survival via Biomedicine’ (Bio2Bio), which is a global, trans-disciplinary initiative to consolidate the research and innovation around cross-solving rapidly escalating biodiversity and drug discovery problems.
- The GYA has released a position statement arguing that collecting, curating and disseminating knowledge on biodiversity and its underlying molecular diversity will promote the conservation of bio- and molecular diversity as it relates to the treatment of human diseases.

Now the GYA, with the support of IAP, is inviting all IAP member academies to join its network aimed at protecting the molecular diversity needed for novel biomedical discoveries and development through the following activities:

- create an open, interdisciplinary, international collaborative platform for the exchange of the data and knowledge;
- curate existing information on wild and cultured species and natural products for potential biomedical screening;
- promote research assessment of traditional medicine;
- establish analysis of rare and understudied species (including collecting digital sequencing information and small molecules identification) within wildlife and marine reserves; and
- standardize high-capacity biological assays to test natural products against cell-based disease models.

Network members will monitor relevant research grants calls by national or international funding agencies with the aim of being ready to create interdisciplinary teams develop proposals for such calls.

We therefore invite you to nominate scientists from among your membership with the expertise and interest in joining this network. Nominations (accompanied by a brief CV or biosketch) should be sent to Alexander Kagansky, co-chair of the GYA Bio2bio working group: kagasha@yahoo.com. This initiative, supported by the International Science Council and UNESCO, promises to accomplish the urgent and complex tasks imperative to the accomplishment of the SDGs by 2030. We thank you for your support.



IAP coordinator,
Peter McGrath;
GYA: co-chairs of the Bio2bio working group,
Alexander Kagansky and Milica Pesic