

IAU STRATEGIC PLAN 2020-2030

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IAU STRATEGIC PLAN 2020-2030

i. PREFACE

As part of its long-term strategic planning, the IAU adopted the ‘Strategic Plan 2010-2020: Astronomy for Development’ (www.iau.org/static/education/strategicplan_2010-2020.pdf) at its General Assembly (GA) in 2009. It describes primarily the then-new Office of Astronomy for Development (OAD). At the 2015 IAU GA in Honolulu, the GA adopted a resolution that calls for an updated Strategic Plan by 2018:

1. That the pursuit of the goals of the Strategic Plan: Astronomy for the Developing World should continue until the XXXI General Assembly to be held August 2021,
2. That the Executive Committee should present for approval at the XXX General Assembly to be held in Vienna, Austria in August 2018 an extended Strategic Plan which addresses the future of the OAD and its activities beyond 2021,
3. That the Executive Committee should consult existing and potential stakeholders in the preparation of this Strategic Plan.

As a new decade approaches, the Executive Committee (EC) concluded that an updated document that includes all activities of the IAU is warranted. Accordingly, EC 98 at its meeting in Mexico City in May 2016 appointed a small working group consisting of Debra Elmegreen, Ewine van Dishoeck, Renée Kraan-Korteweg and Piero Benvenuti to start preparing the new IAU Strategic Plan. The working group drafted an overview of all IAU activities and formulated a number of long-term goals and actions. It solicited input from the OAD, OAO and OYA/ISYA, along with the EC and Division Presidents.

The new “extended” Strategic Plan 2020-2030 provides a comprehensive overview of the IAU, describing how the different IAU activities fit together and how they complement each other, and presents the long-term goals. The actions and activities required to meet these goals are described in the following sections.

ii. EXECUTIVE SUMMARY: to be written

I. INTRODUCTION: to be written

II. OVERVIEW AND GOALS

A. MISSION STATEMENT

The mission of the International Astronomical Union is to develop, promote and safeguard astronomy in all its aspects through international cooperation.

(The addition of the word “develop” in this revised mission statement emphasizes the importance of this component of IAU activities).

B. BACKGROUND

The International Astronomical Union (IAU) was founded in 1919. Its individual members — structured into Divisions, Commissions, and Working Groups — are professional astronomers from all over the world, at the Ph.D. level and beyond, who are active in professional research, education and / or outreach in astronomy.

A key activity of the IAU is the organization of scientific meetings and its flagship IAU Symposia publications. Other important tasks of the IAU include the definition of fundamental astronomical and physical constants; unambiguous astronomical nomenclature; protection of dark and quiet skies; and informal discussions on the possibilities for future international large-scale facilities. Furthermore, the IAU serves as the internationally recognized authority for assigning designations to celestial bodies and surface features on them.

The IAU also works to promote astronomical education, research and public outreach actions. To this end, the IAU has created three offices: (i) the Office of Astronomy for Development (OAD), a joint venture with the South African National Research Foundation; (ii) the Office for Astronomy Outreach (OAO), a joint venture with the National Astronomical Observatory of Japan; and (iii) the Office for Young Astronomers, a joint venture with the Norwegian Academy of Sciences and Letters. Through the OAD and its regional nodes across the world, astronomy is used as a tool for stimulating capacity building and development. In all of its activities, the IAU promotes equitable and inclusive opportunities for access to astronomy and its benefits.

C. PRIORITIES

The IAU’s activities center around 7 main areas (order does not imply ranking):

1. Stimulation and facilitation of scientific meetings and exchange of ideas
2. Coordination of various professional tasks and interactions with other fields
3. Recognition of excellence in astronomy through prizes
4. Education of the next generation astronomers and scientists
5. Inclusive development of the field of astronomy
6. Engagement of the public in astronomy
7. Use of astronomy for global development

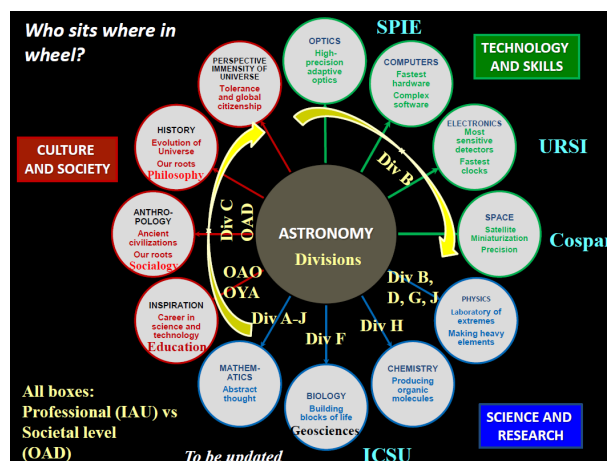
D. MANDATES

The proposed responsibilities of the various IAU bodies are:

- The IAU Executive Committee and Divisions, as well as the Office for Young Astronomers (OYA), have as their main focus the development of the field of astronomy (**development of astronomy**), both in terms of stimulating and disseminating astronomy knowledge and producing the next generation of astronomers, while safeguarding the science of astronomy in terms of dark skies, standards, etc. They are also the professional interface with neighboring fields, industry, culture and society.
- The IAU Office of Astronomy for Development (OAD) has as its main focus the use of astronomy to stimulate global development (**astronomy for development**). It seeks to further the use of astronomy as a tool for development by capitalizing on the field's scientific, technological and cultural links and its impacts on society.
- The IAU Office for Astronomy Outreach (OAO) is focused on engaging with the public, providing access to astronomical information and communicating the science of astronomy widely (**astronomy communication**). It maintains a network of National Outreach Contacts and amateur astronomy groups which provide an ideal public dissemination function for any major astronomical event.

Obviously, there are various relations and cross-cutting activities between these three branches. Synergies will be essential in implementing the strategic plan.

The front cover of the 2010-2020 Strategic Plan contained a 'wheel' illustrating the various links of astronomy with other scientific fields and society. The updated version ([work in progress](#)) will show the connections of different components of the IAU with each other and with parts of the wheel.



E. STRATEGIC GOALS

In the coming decade, broad strategic goals for the IAU in the development of astronomy, astronomy for development, and astronomy communication will be achieved through implementation of various activities and proposed action items that encompass each of the 7 priorities listed above.

Goal I: The IAU leads the worldwide coordination of astronomy and the fostering of communication and dissemination of astronomical knowledge among professional astronomers

1. Stimulate and facilitate sharing of astronomical knowledge among professional astronomers

- a. Host General Assembly every 3 years
- b. Encourage broad membership
 - i. National members
 - ii. Individual members
 - iii. Early-career members (proposed)
 - iv. Associate Members
- c. Sponsor IAU Meetings
 - i. Host 9 Symposia per year (6 GA and 3 non-GA in GA year)
 - ii. Host 12 Focus Meetings at GA
 - iii. Host additional meetings at GA
- d. Sponsor Regional IAU meetings (MEARIM, APRIM, LARIM)
- e. Co-sponsor other meetings (e.g., CAP, COSPAR)
- f. Consider and drive systemic changes that would benefit the professional astronomy field
 - i. Aid Student supervision (e.g. provide training, best practice guidelines)
 - ii. Inform about career paths (e.g., alternatives to short term postdocs)
 - iii. Consider publication aspects (e.g., open access; double blind peer review; publication of data, data analysis and simulation code)
 - iv. Advise on hiring practices (e.g., inclusive and unbiased hiring)
- g. Publish IAU-related reports
 - i. Symposia and Colloquia, transactions, highlights, GA newspapers (update guidelines)

2. Coordinate astronomical topics and professional tasks, and interact with other fields at the professional level

- a. Represent astronomy at ICSU/ISSC and build professional interdisciplinary collaborations where applicable
- b. Support 9 Divisions
 - i. Foster (enhanced) links with neighboring science fields
- c. Support Commissions (currently 35)

- d. Support Working Groups (currently 51)
 - i. Executive Committee Working Groups
 - 1. Dark and Quiet Sky Protection
 - 2. Global Coordination of Ground and Space Astrophysics
 - 3. Women in Astronomy
 - a. Coordinate with Commission C1 WG on Astronomy for Equity and Inclusion
 - ii. Naming of astronomical objects, surface features
 - iii. Setting astronomical standards

3. Award annual prizes to recognize excellence in astrophysics

- a. Gruber Cosmology Prize
- b. The Gruber Foundation Fellowship in Astrophysics
- c. IAU PhD prize in each Division

Goal II: The IAU promotes the inclusive development of the field of astronomy in every country

4. Facilitate the development of young astronomers

- a. Support the Office for Young Astronomers (OYA)
 - i. Help develop next generation of astronomers and scientists
 - 1. Coordinate with IAU commissions that focus on this area
 - ii. Host International Schools for Young Astronomers (ISYAs)
- b. Encourage use of new, novel methods of learning; e.g., provide links to online material including MOOCs and best practices in pedagogy at university level; involve students from related fields (e.g. Physics/Mathematics/Computer Science) in research projects
- c. Include early career astronomer membership

5. Ensure that Inclusion is a key part of the development of astronomy

- a. Participate in STEM surveys through Working Group on Women in Astronomy engaging with ICSU
- b. Continue to ensure broad and inclusive IAU-sponsored meetings, symposia, workshops, schools
- c. Ensure that awarding of prizes reflects a diverse and inclusive body of astronomers
- d. Broaden geographical spread of IAU national membership through “observer” category
- e. Broaden geographic and demographic spread of IAU individual membership, e.g. through early-career membership
- f. Encourage and facilitate “North-South” and “South-South” collaborations through institute twinning, mobility, and joint student supervision
- g. Build on ISYA alumni networks, NOCs and ROADS/LOADs to stimulate and grow astronomy communities in astronomically developing regions

Goal III: The IAU engages the public in astronomy through access to astronomical information and communication of the science of astronomy

6. Engage with the public in astronomy

- a. Support the Office of Astronomy for Outreach (OAO)
 - i. Communicate astronomy through education and public outreach
 - 1. Maintain and expand network of National Outreach Contacts and amateur astronomy groups
 - 2. Act as the public interface for IAU scientific bodies
 - 3. Promote inclusiveness and gender balance in astronomy
 - ii. Make astronomical resources accessible to the public
 - 1. Establish astronomy literacy guidelines for simple facts
 - 2. Provide IAU-endorsed astronomy information
 - 3. Encourage IAU members to communicate astronomy
 - 4. Encourage professional-amateur and citizen science activities (e.g., exoplanet naming)

Goal IV: The IAU promotes the use of astronomy as a tool for development in every country

7. Stimulate global development through the use of astronomy

- a. Support the Office of Astronomy for Development (OAD)
 - i. Leverage astronomy's scientific, technological, and cultural links
 - 1. Establish regional offices as nodes around the world
 - 2. Engage volunteers in OAD activities and provide relevant capacity building
 - 3. Determine which astronomy-for-development approaches are the most effective
 - 4. Seek or renew partnerships with organizations
 - ii. Demonstrate to the public and governments the power of astronomy as a vehicle for diplomacy and peace
 - iii. Promote links with industry and other disciplines
 - 1. Provide career guidance on non-academic job opportunities especially to young astronomers
 - 2. Foster links with other fields
 - 3. Demonstrate to the public and funding agencies the benefits of astronomy to society

The activities and actions of the IAU in support of these goals are detailed in the remainder of this document.