Submission of a Proposal for a Commission: Letter of Intent

Proposed Commission

Name of the Commission: Astronomy Education and Development

Temporary Commission code: NC-11

Proposer details

Name:
Jean-Pierre de Greve

Institute:
Dept of Physics-DNTK
Vrije Universiteit Brussel

Postal Address:
Pleinlaan 2
1050 Brussel
Belgium

Email:
jpdgreve@vub.ac.be

Telephone:
+32

Commission Category

Regular Commission

Parent Division: Division C Education, Outreach and Heritage

Co-Proposers

First Co-Proposer

First Name: Beatriz

Last Name: García

Institute: Instituto en Tecnologias de Deteccion y Astroparticulas (ITeDA)

City: Mendoza

Country: Argentina

Email: beatrizgarciautn@gmail.com

Rationale

Commission replaces existing Commission: Division C Commission 46 Astronomy Education & Development

Text:

Rationale:

- C46 has gone through a serious revision as a result of the establishment of the OAD, and corresponding transfer of activities of several PGs to the OAD. Moreover, the fact that the new IAU structure has no PGs but Working Groups, provoked an internal revision, introducing new topics. So C46 has gone through a serious process of ‘renovation’ and ‘innovation’.

- The OC adopted a new mission statement that clearly reflects the above, but also supports both the uniqueness of C46 and its place in the IAU structure: ‘The commission seeks to further the development and improvement of scientific research into education and specifically astronomical education at all levels throughout the world, through stimulating, gathering and exchanging scientific research in the field. This research should address epistemological questions, as well as innovative teaching and learning processes appropriate to the needs of
astronomy education. The commission will further encourage and develop efforts to disseminate this information at all levels. It also strive for inclusion in working to provide people with special educational needs or people with visual, hearing and/or motor disabilities, a learning and participative space.

- C46 works on educational problems that support activities in the different Task Forces of the OAD.

- C46 realizes its mission through a thoroughly renewed structure with WGs such as Theory and Methods in Astronomy Education, Network for Astronomy School Education, and Astronomy and Inclusion.

- C46 has aims that makes it distinct from other existing Commissions, in trying to make teachers better, trying to introduce astronomy across disciplines, and in using demonstrations and research to show how astronomy can improve the scientific learning of the young.

Website: http://iaucomm46.frm.utn.edu.ar

Renewed structure of the Commission:

a. WG1 National Liaison on Astronomy Education and Newsletter
   This WG monitors the half-yearly publication of the Commission’s online Newsletter (http://iaucomm46.frm.utn.edu.ar/newsletters/) and keeps track of the national liaison officers (http://iaucomm46.frm.utn.edu.ar/national-contacts/)

b. WG2 Network for Astronomy School Education (NASE)
   The main objective of NASE is to educate new generations of teachers and re-educate the current ones. NASE works with university professors in order to train future teachers and cooperates with the departments of education in order to train experienced primary and secondary school teachers. NASE created a basic course for training teachers aiming at:
   1) teaching astronomy to teachers
   2) teaching teachers how to teach astronomy.
   At the same time, NASE works with university professors to introduce them to new methods of teaching astronomy.

c. WG3 Public Understanding at the Times of Solar Eclipses and Transits
   This WG is directed by Jay M. Pasachoff, Chair of the IAU Working Group on Solar Eclipses, and provides the outreach information and actions for solar eclipses.

d. WG Astronomy and Inclusion
   This WG creates strategies, tools, resources to provide people with special educational needs or people with visual, hearing and/or motor disabilities, a learning and participative space, accessible, interesting and educational, without neglecting the basics of scientific dissemination, ensuring interaction in a playful context. The WG realizes its mission through an interdisciplinary approach (astronomers, educators and disability specialists) in developing new teaching and learning strategies. It generates resources and tools of high-impact hierarchy in these minority populations which are usually away from astronomy, and creates a resource base of didactical approaches, models and tools for all the audiences.

e. WG Theory and Methods in Astronomy Education
   Was established to fulfill two needs:
   1. The growing amount of emerging astronomy projects, stimulated by the existence of the OAD and its annual calls for projects (but also many new initiatives outside this channel) require adequate research into educational tools, models, quality and impact evaluation.
   2. The need to innovate and adapt teacher training, curricula, pedagogical methods to the fast changing knowledge base, the societal changes and the corresponding changes in attitude of the young. Modern astronomy education can play an important role in it, if it is based on underlying research in how to bring contemporary astronomy in an innovative competence building framework.
   Hence, the discussion within the WG is about a theoretical transdisciplinary approximation to “how to teach contemporary astronomy” at different levels.

   Its goals are:
   1. To develop a promotional strategy for enhancing astronomical educational research.
   2. To identify the research needed for the design of strategies to teach modern astronomy.
   3. To identify and indicate the most interesting and needed areas for such research.
   4. To identify structures that can serve for research of education in contemporary astronomy (such as NASE and UNAWE).
   5. To prepare the framework for a symposium or special session at the GA, or a symposium just after it.