

Editorial

We arrived at the 20th number of the RELEA with interesting perspectives in Education which we would like to share with our readers.

Last August, one of us (PSB) participated in the XXIX International Astronomical Union General Assembly (IAU), held between 03-14 in Honolulu, Hawaii, United States. At the time, it was presented the oral communication "Ten years of RELEA: achievements and challenges for the development of astronomy in education" as part of Focus Meeting 20, whose theme was "Astronomy for Development". The summary can be read at: <<https://guidebook.com/guide/39106/event/11378707/>>.

In addition, PSB also represented the RELEA participating in a round table with the theme "Publishing Your Astronomy Education and Outreach Research and Evaluation Results". Also participated in the debate Timothy F. Slater, representing *the Journal of Astronomy & Earth Sciences Education* (JAESE) and Pedro Russo, representing the *Communicating Astronomy with the Public Journal* (CAP).

We also announce that the *Proceedings of the Third National Education Symposium on Astronomy* (III SNEA) are now available at: <www.sab-astro.org.br/sneaIII/atas>, with abstracts of papers approved in oral presentations and panels, the complete works submitted and the reports produced by the research groups. Also the Proceedings of the previous SNEAs have been migrated and are hosted in the SAB servers.

We would like to announce the IAU Symposium 326 ("Research in astronomy education: far reaching impacts and future directions") chaired by PSB and Timothy F. Slater, to be held in Heidelberg, Germany, 4-7 October 2016. The Registration will be open soon and more information can be obtained at: <www.iau-symposium2016.heidelberg.unitt.de>.

In this issue we feature six articles:

Divulgação científica: as representações sociais de pesquisadores brasileiros que atuam no campo da astronomia (Science divulgation: the social representations of Brazilian researchers working in the field of astronomy), by Dalira Lucia Cunha Maradei Carneiro and Marcos Daniel Longhini. The article discusses the role of science communication in the interaction between science and society and the relevance of astronomy within science communication. In the context of the theory of social representations, the social representations of scientific dissemination of Brazilian researchers who participated in interviews are studied. The results show two representations: one for society at large and another for their peers and show that, despite advances, science communication and astronomy education are in a context of social fragility.

Instituições de educação não-formal de astronomia no Brasil e sua distribuição no território nacional (Institutions of non-formal education of astronomy in Brazil and their distribution on the national territory), by Joana Brás Varanda Marques and Denise de Freitas. This paper presents the results of a survey of Brazilian institutions of non-formal education and dissemination of astronomy with the location of planetariums, observatories, museums and associations. Even with this network of institutions, there is little research on this topics and the information about the institutions are not integrated or updated. A compilation and updating of the already existing listings is made, showing that Brazil has nearly 500 institutions distributed rather unevenly.

A teoria do Big Bang e a natureza da ciência (The Big Bang theory and the nature of science), by Luiz H. M. Arthur and Luiz O. Q. Peduzzi. This paper presents the Big Bang theory, as an excellent field of knowledge to discuss issues regarding the scientific activity. The main elements of this theory are discussed with an epistemological look, resulting in a useful text for working on educational activities with related goals.

Aprendizagem mediada por uma hipermídia educacional (Learning mediated by an educational hypermedia), by Luiz Adriano Fagundes, Tatiana da Silva and Marta Feijó Barroso. This article presents the phases of the moon as a learning object by adopting the theory of cognitive load. The research involved 77 undergraduate students in physics and used pre-testing and evaluation of learning for a qualitative and quantitative assessment. The results show a net 33% gain in learning. The authors point out characteristics of the material that may have contributed to its capability as a facilitator of learning.

Confiança demonstrada por estudantes de pedagogia sobre o ensino de astronomia para as séries iniciais do ensino fundamental (Confidence demonstrated by students of pedagogy on the teaching of astronomy in the initial years of the elementary school), by Wellington Cerqueira Junior, Robenildo dos Santos Almeida, Regiane dos Santos da Conceição and Glênon Dutra. This paper seeks to identify the confidence level of the Major of Education students of a public University in the interior of the Bahia state, for teaching astronomy contents in the early grades of elementary school. Data was collected from a questionnaire answered by 16 students. The results were analyzed taking into account the curriculum of the Faculty of Education, the reading profile of the students and their experience in relation to teaching. The results show a great insecurity of the students in relation to teaching such content, a finding which is compatible with those obtained by other researchers in this field.

The new curriculum standards for astronomy in the United States, by Sharon P. Schleigh, Stephanie J. Slater, Timothy F. Slater and Debra J. Stork. This article discusses the idea that although there is no compulsory curriculum in the United States, an analysis of recent efforts to create an appropriate sequence of concepts to be taught in schools reveals a lack of consensus. A comparison of astronomy apprenticeship schemes in the United States and a discussion of the criticisms raised can provide international educators comparison data for formulating recommendations for their own regions.

More information about the Journal and instructions for authors are listed in the address: <www.relea.ufscar.br>. Articles may be written in Portuguese, Spanish or English.

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