

SeneSTEM: promoting STEM in Senegal

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Abstract. SeneSTEM aims to bring Senegalese children and young people into contact with science, and – by extension – with the STEM disciplines (Science Technology Engineering Mathematics) in a very accessible and illustrative way. We do this with concrete workshops and experiments, for both teachers and for groups of children and young people. In collaboration with different educational organisations in Senegal, among which the Senegalese Association for the Promotion of Astronomy, SeneSTEM ensures that all layers of the population are enthusiastic about science (education). Special attention is given to motivating girls for scientific careers. SeneSTEM actions are based on an international collaboration partly supported by development funds from the city of Antwerp and the University of Antwerp (Belgium).

Keywords. STEM, workshops, experiments, teachers, girls in STEM, international collaboration

1. Introduction

SeneSTEM is born from the ideas of a long collaboration between Senegalese and Belgian actors working in the fields of research in astronomy, physics, science education, science promotion, and also art. It all started in 2010 with the organization of a seminar at the University Cheikh Anta Diop (UCAD) as part of the Teaching Astronomy for Development programs (TAD) of the International Astronomical Union. This made it possible to bring together students from UCAD, secondary school teachers, and the general public for five days to initiate them into basic astronomy via presentations but also practical observation sessions in partnership with the Senegalese Association for the Promotion of Astronomy (ASPA).

The great success motivated to organize other events the following years with specific target audiences, with the goal of making our activities more concrete and sustainable.

With some seed funding from a development program of the city and University of Antwerp (Belgium), we set up the SeneSTEM program in 2018. The program consists of scientific activities intended for all levels of school education by putting astronomy at the



Visit to secondary schools with a telescope, thanks to SSVI (<https://www.ssvi.be/>)



Electricity workshop in Kolda, in the south of Senegal and at UVS (<https://www.uvs.sn/>)



Spacecraft materials' workshop, April 2019

Figure 1. Activities of SeneSTEM.

center thanks to its transversal character and its attractive power. In this framework we also take part in regular astronomical activities at the local level (Baratoux *et al.* 2017).

2. Mission and example activities

The SeneSTEM program responds to four Sustainable Development Goals (SDGs) namely:

- Quality education (SDG 4);
- Gender equality (SDG 5);
- Decent work and economic growth (SDG 8);
- Partnerships for the achievement of our objectives.

Some example activities (Fig. 1) include: (1) conferences in three secondary schools in Senegal in collaboration with the Association of Young Geologists and Environmentalists of Senegal, and donation of a telescope thanks to the SSVI program; (2) workshop on testing spacecraft materials to secondary school teachers thanks to the support of the Open Astronomy School, the Direction for the Promotion of Scientific Culture (DPCS) of the Ministry of Higher Education, Research and Innovation, and the Institute of Applied Nuclear Technologies (ITNA / UCAD); (3) participation in the science week organized

by the ambassador of the Next Einstein Forum (NEF) in Senegal; (4) participation in “Science Wednesdays” organized by the DPCS.

Reference

Baratoux, D., et al. 2017, *Eos*, 96, <https://eos.org/features/the-state-of-planetary-and-space-space-sciences-in-africa>; doi:10.1029/2017EO075833