

REPORT ON WSPUAP 2019

SEPTEMBER 23 - 27
KATHMANDU, NEPAL

T/ICT4D (ICTP) – Tribhuvan University



The Abdus Salam
International Centre
for Theoretical Physics



Workshop on Space Weather and Upper Atmosphere Physics (WSWUAP) Kathmandu, Nepal, September 23 – 27, 2019

The WSWUAP has been jointly organized by the **Dept. of Physics, Amrit Campus, Tribhuvan University, Kathmandu, Nepal** and **The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy**.

The Resource Persons of the workshop were:

- Prof. Christine Amory, Sorbonne Universities/ICTP
- Yenca Migoya-Orué, ICTP
- Katy Alazo-Cuartas, ICTP
- Prof. Narayan Chapagain, TU
- Dr. Shri Ram Sharma, TU

The participation of the ICTP team has been supported by the **Office of External Activities (OEA) of ICTP**.

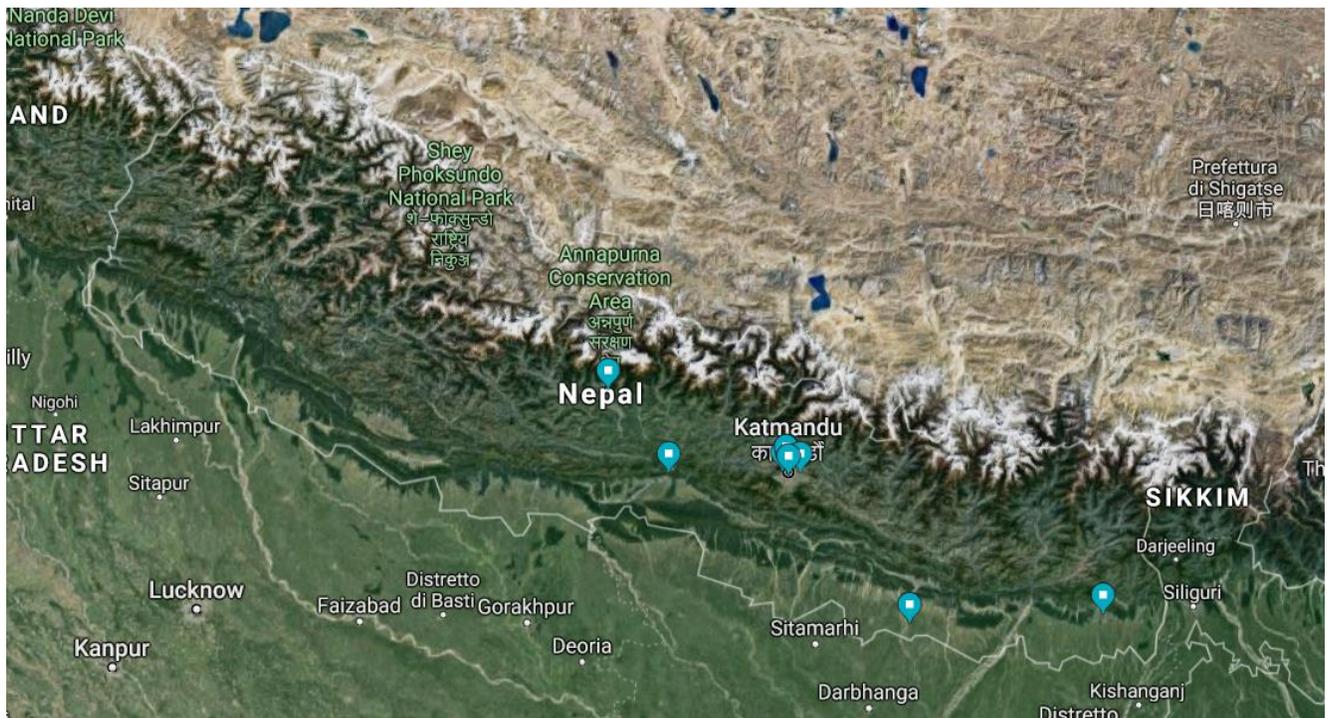


Group Photo after Opening Ceremony of the Workshop on Space Weather and Upper Atmospheric Physics.

The workshop brought together a total of **43** participants (**14** Faculties and PhD Scholars) and **29** BSc Students.

The participants were from different parts of the country:

- Central Department of Physics, TU, Kathmandu
- Amrit Campus, TU, Kathmandu
- Patan Campus, TU, Lalitpur
- Trichandra Campus, TU, Kathmandu
- St. Xavier College, Kathmandu
- PN Campus, TU, Pokhara
- Birendra Multiple Campus, TU, Bharatpur, Chitawan
- Sarlahi Campus, Sarlahi
- Damak Multiple Campus, Jhapa



The Objectives of the Workshop were:

- Build a theoretical background on Space Weather Physics, Ionosphere, Ionospheric Modeling and the Ionospheric Data Collection from GNSS observables.
- Develop necessary skills for Space Weather data processing, TEC calibration and ionospheric models through hands-on sessions.

During the workshop mornings the participants received lectures on the following subjects: **Space Weather, Ionosphere, GNSS, Ionospheric Data from GNSS observables, Airglow measurements for ionospheric irregularities, Thunderstorm and extreme Weather events and Ionospheric Modelling.** During the afternoons the students assisted to hands-on and tutorials sessions related to: **Space Weather indices and useful sites, GNSS data collection, TEC Calibration laboratory and Use of NeQuick model.**

The participants, organized in 8 groups, have been engaged in a problem solving experience regarding ionosphere characterization and Space Weather events and made a presentation the last day. They were cooperative and succeeded in performing the exercises and the final presentation, even though the participants' levels of expertise were different.

“The WSWUAP provided a high-yield and educational but also interactive experience in the area of Space Weather and Upper Atmosphere in Nepal”



One of the participants during Group Projects Presentations.

The participants responded very well to the activities proposed, with enthusiasm and willingness.

The workshop was also an opportunity to give and gain mentorship. A number of students expressed their interest in continue their studies in Space Weather and Upper Atmosphere and also study the link between Lower and Upper Atmospheres.

This kind of activities are organized in the framework of ICTP's mission and ISWI (International Space Weather Initiative) Education and Training Objective. Christine Amory is member of the ISWI Steering Committee and Yenca Migoya-Orué is currently ISWI National Co- Coordinator for Italy.

Y. Migoya-Orué
Trieste, October 2019.