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2024　15)ISEE International School Support List

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＊所属・職名は2025年3月現在

＊Affiliation and Department displayed are current as of March 2025.

研究代表者 Principal Investigator	所属機関* Affiliation	所属部局* Department	職名* Job title	研究課題名 Project Title	頁 Page	備考 Remarks
Jorge L. Chau	Leibniz Institute of Atmospheric Physics, Germany	Radar Remote Sensing	Head of Department	School on technical and scientific aspects of iMST radar and lidar	363	
Babatunde Rabiu	Convener - ICELLI, National Space R & D Agency, Nigeria		Professor	International Colloquium on Equatorial and Low Latitude Ionosphere (ICELLI)	365	

iMST Radar and Lidar School

Jorge L. Chau
Leibniz Institute of Atmospheric Physics at the University of Rostock, Germany.

The 16th **International Workshop on Technical and Scientific Aspects of iMST Radar and Lidar (MST16/iMST3)** held in person on September 9-13 2024 in Rostock, Germany, was preceded by a three-day school. The school was held at the Leibniz Institute of Atmospheric Physics in Kühlungsborn on September 6-8, 2024.

The school brought together the world's experts in atmospheric soundings by radar and lidar. The school was attended by 35 students from 13 countries. The lectures were given by 15 experts on their respective topics. Group photos from participants and lecturers are in Figures 1 and 2, respectively.

The lectures included theoretical and hands-on sessions. These were:

1. Atmospheric Dynamics: Mesocales and less by Dr. David Fritts (USA).
2. Atmospheric Dynamics: Synoptic to Planetary scales by Prof. Huixin Liu (Japan).
3. Introduction to iMST Lidar by Prof. Alan Liu (USA)
4. Introduction to iMST Radar by Dr. David Hooper (UK)
5. Hands-on lidar lab by Michael Gerding (Germany)
6. Hands-on radar lab by Prof. Wayne Hocking (Canada) and MSc. Nico Pfeffer (Germany).
7. Data standards and networks by Dr. David Hooper (UK).
8. Phased Arrays and Radar Imaging by Prof. Jorge Chau (Germany)
9. Instrument applications for studies of the atmosphere: Pros and Cons by Prof. Gerd Baumgarten (Germany) and Prof. Jorge Chau (Germany)
10. Hands-on signal analysis 1 by Dr. Irina Strelnikova (Germany) and Dr. Robin Wing (Germany).
11. New advances in iMST radar by Prof. Juha Vierinen (Norway).
12. New advances iMST Lidar by Dr. Bernd Kaiffler (Germany).
13. Hands-on signal analysis 2 by Dr. J. Miguel Urco (Germany) and MSc. Matthias Clahsen (Germany).
14. Out of the Box Topics
    a. Using existing knowledge in profoundly new ways by Prof. Wayne Hocking
    b. Use of atmospheric lidar on non traditional topics by Dr. Bernd Kaiffler.
    c. Out of the box radar stuff by Prof. Juha Vierinen

Thanks to the support provided by the Scientific Committee On Solar-Terresrial Physics (**SCOSTEP**), the Institute for Space Earth Environmental Research (**ISEE**) Solar, and **IAP**, 13 students and 3 lecturers received support. The support consisted of one of the following forms: (a) partial transportation costs, (b) lodging in

Kühlungsborn, and (c) registration costs. Table 1 summarizes the support provided according to each category. The specific external funding received is summarized in Table 2. The difference was supported by IAP.

Table 1. Support provided to MST16/iMST3 participants.

Description	Quantity	Euros
Partial transportation	11	5,530.00
Lodging	14	2,850.00
Registration costs[1]	13	1,300.00

Table 2. Summary of external funding.

Institution	Amount	Currency	Approx. Euros
SCOSTEP	5,000.00	US Dollars	4,600.00
ISEE[2]	383,650.00	Yens	2,330.00

Figure 1. School group picture in front of the main venue, i.e., the Leibniz Institute of Atmospheric Physics.

Figure 2. Lecturers at radar and lidar school.

[1] School dinner costs are not included.
[2] ISEE funding was used to support the airline ticket of Prof. H. Liu, and paid directly.

(Form15-2)

International Colloquium on Equatorial and Low Latitude Ionosphere (ICELLI 2024)

Babatunde Rabiu (Convener – ICELLI, National Space R & D Agency, Nigeria)

Preamble: The International Colloquium on Equatorial and Low Latitude Ionosphere (ICELLI 2024) is an annual capacity building workshop geared towards understanding of the Sun and its impact on space weather; the dynamics of the equatorial ionosphere, its complexities and high level of dynamics which results in phenomena such as spread F, ionospheric anomaly, equatorial electrojet, equatorial plasma fountain, etc; and how space weather impact on telecommunications, navigation, satellite operations, and other space-based technologies. The Colloquium metamorphosed from a summer school-like programme tagged International School on Equatorial and Low Latitude Ionosphere (ISELLI) which held in Abuja and Ota, Nigeria in 2015 and 2017 respectively. This 2024 edition of the colloquium was the 8th edition of this capacity building gathering in Nigeria.

Date: 29 July - 2 August 2024

Venue: Mountain Top University, Prayer City, Ibafo, Ogun State Nigeria, & Everywhere online

Achievements: The International Colloquium on Equatorial and Low-Latitude Ionosphere (ICELLI), was held at Mountain Top University, Prayer City, Ibafo, Ogun State Nigeria between 29th July and 2nd August 2024. At prime, 25 physical and 49 virtual participants from 19 countries participated in the Colloquium. The 8th edition like others, featured lectures, tutorials and hand on sessions on topics geared towards understanding of the Sun and its impact on space weather; the dynamics of the equatorial ionosphere, and how space weather impact on space-dependent technologies. Physical participants were taken on a tour to the proposed site for the installation of the SKiYMET radar expected to be deployed in collaboration with our partners from the Institute of Physics, Germany. We also had the privilege of being taken on a tour of the University's Music laboratory and we were treated to some fine music and rendition.

Opening Day to day activity of the workshop

The workshop was declared open by the Vice Chancellor, Mountain Top University, Prof. Elijah Ayolabi, on Monday 30th July 2024. Thereafter, an introductory speech was made by Professor Babatunde Rabiu FAS (National Space Research and Development Agency, Nigeria) and the convener of ICELLI. Goodwill messages were delivered by Prof. Kazuo Shiokawa President-SCOSTEP, ISEE, Nagoya University, Japan, Prof. Christine Amory Mazaudier, Sorbonne Universities, Paris, France; as well as Professor Sandro Radicella and Dr Bruno Nava of the Abdus Salam International Centre for Theoretical Physics, Trieste, Italy. Other speakers that delivered goodwill messages are Professor Wojciech J. Miloch, University of Oslo, Norway; Prof Olivier Obrou, President, African Geophysical Society; Dean, College of Basic and Applied Science, MTU; Dr Daniel Okoh – UN-ARCSSTE-E; Dr Gopi Seemala - Indian Institute of Geomagnetism (IIG), Mumbai,

India; Dr John Bosco Habarulema, South African National Space Agency (SANSA), Hermanus, South Africa; and Dr. Claudio Cesaroni - Istituto Nazionale Geofisica e Vulcanologia (INGV), Rome, Italy.

The day-to-day activity of the workshop followed a well-structured schedule attached as Appendix 1 to this report. The 2024 ICELLI workshop featured lectures and training by leading experts on the following topics: Space Weather, Irregularities, Machine Learning Applications for Ionospheric Studies, Ionospheric Modelling in Africa, Connections of the Upper and Lower Atmosphere, as well as Panel session focusing on Research trends & cooperation in ionospheric studies. This year's colloquium featured two special sessions will included: the International Meridian Circle Program (IMCP) session with a focus on Africa, Europe and the Pacific; as well as the AfriTEC model session. Prof Babatunde Rabiu delivered a lecture on the Status of Ground based instruments in Africa during the CONGA meeting which was incorporated into the colloquium; the zoom audience of CONGA was looped with the google meet audience of ICELLI. In all 29 papers were delivered by experts and the papers are available at https://arcsstee.org.ng/
international-colloquium/. Some participants also presented contributed papers. The workshop ended on Friday 2nd August 2024 with a technical tour.

Attendance: A total of 74 participants from 19 countries participated in the Colloquium with breakdown as follows:
Total of number of physical participants: 25
Total number of online participants: 49 (Including 15 Experts that gave lectures online)

Participants Countries: Italy, France, China, Algeria, Nigeria, Egypt, Uganda, India, Brazil, Ethiopia, Kenya, Ghana, Côte d'Ivoire, USA, Tunisia, Morocco, Japan, Pakistan, and Norway (19)

No of participants by Country:

Algeria- 1
Brazil - 3
China- 2
Côte d'Ivoire - 4
Egypt - 3
Ethiopia -1
France- 3
Ghana - 1
India - 3
Italy- 2
Japan - 1
Kenya - 2
Morocco – 1
Nigeria – 41
Norway- 1
Pakistan - 1
Tunisia -1
Uganda - 1
USA- 2