

**REPORT OF THE INTERNATIONAL COLLOQUIUM ON EQUATORIAL AND LOW
LATITUDE IONOSPHERE, 9TH-13TH SEPTEMBER, 2019
UNIVERSITY OF LAGOS, AKOKA, LAGOS STATE, NIGERIA**

The International Colloquium on Equatorial and Low-Latitude Ionosphere (ICELLI) organized by the Centre for Atmospheric Research, 'CAR-NASRDA' and Network of Space-Earth Environmentalists 'NSEE' took place at the University of Lagos, Akoka, Nigeria on 9-13 September, 2019 with forty (40) participants in attendance. Six (6) lecturers including Prof. Babatunde Rabiou and Prof. Victor Chukwuma took the participants through rigorous sessions of learning.

Participants started arriving Lagos on 9th September 2019.

Day 2

The opening program commenced at 10:00 am with recognition of guests and introduction of participants. Thereafter speeches were delivered by the Dean, Faculty of Science, UNILAG; Head, Department of Physics, UNILAG; and Director, Centre for Atmospheric Research, NASRDA.

The lectures commenced officially with a tutorial by Prof. Babatunde Rabiou who took the participants through the Equatorial Ionosphere. It was followed by a lecture on Ionospheric Physics research and creative confidence delivered by Prof Victor Chukwuma. The last lecture titled Equatorial plasma bubble observations at the African region was delivered by Dr. Daniel Okoh. The afternoon session featured technical presentation by 4 participants which was followed with question and interaction time.

Day 3

Prof Babatunde Rabiou kicked off the lecture by sharing with participants on "Data and research resources available at the Centre for Atmospheric Research". This was followed by a lecture delivered by Dr. E. O Falayi on "Time derivatives of geomagnetic and geoelectric fields as a measure of geomagnetically induced currents".

Dr A. O Olawepo took his turn in teaching participants on "Ionospheric propagation of Radio waves". Thereafter, we had Dr Daniel Okoh take the participants on "AfriTEC: A neural network based ionospheric total electron content model over Africa". The afternoon session featured technical presentation by 5 participants which was followed with question and interaction time.

Day 4

The colloquium resumed with Dr A.O Olawepo's lecture on "Geomagnetic storms and the equatorial ionosphere". Participants equally had the privilege of listening to Prof. Renato Filjar from the University of Rijeka, Croatia who delivered a lecture on 'Self-adaptive GNSS position estimation process improves mitigation of GNSS ionospheric effects' via skype.

“Trends in geomagnetic fields linked to solar quiet and induction effects” delivered by Dr.E.O Falayi made it the last lecture to be delivered during this year’s ICELLI. This was followed by technical presentation by 4 participants which was closed with question and interaction time.

Thereafter, we had a wrap-up session where views of participants were aired even as they charted a way forward for the Colloquium. Participants enjoyed lively discussions with the lecturers and mutual communications during this three-day school. The Colloquium came to a close officially at 3:30pm. Participants went on to view the lagoon which was a walking distance away from the venue of the meeting.

Some weblinks:

Lecture Materials freely downloadable: <https://carnasrda.com/colloqdownload/>

Pictures:

https://web.facebook.com/noblestar.it/posts/2522852581108561?notif_id=1568700838796862¬if_t=feedback_reaction_generic_tagged&ref=notif

Montage Video:

<https://web.facebook.com/noblestar.it/videos/vb.100001515321168/2562449000482252/?type=2&theater>

Sponsors

This school was supported by Centre for Atmospheric Research (CAR) NASRDA; Centre for Satellite Technology Development, CSTD, NASRDA; Centre for Basic Space Science CBSS, NASRDA; Popularisation of Emerging Science and Technology Initiative; University of Lagos; American Geophysical Union AGU and Network of Space-Earth Environmentalists.

Feed Back from Some Participants

This colloquium has really opened my eye to many things on the Equatorial and Low-latitude ionosphere. I was greatly inspired by Prof. Victor Chukwuma’s lecture on Ionospheric research and creative confidence. God bless the organizers of this colloquium especially Prof. Rabiú
..... Anonymous

I would love to thank the organizers and the leader of the team Prof Rabiú. This workshop has helped in solidifying my foundation in ionosphere / space physics. For this I will be

ever grateful and I will choose to remember this event as the official delivery of my career in space physics. I pray all the aims and aspirations of the organizers will be achieved.

..... Adeola Solomon, Bowen University

The colloquium was a nice and rewarding venture with quality presentation and talks that had a good impact on the listeners/ participants. The program has surely come to stay and I look for it to go from greater heights to greater heights. I thank the organizers.

..... Dr. Amaechi Paul

S/N	NAME	AFFILIATION
1	ODEYEMI OLUWAKEMI MARY	LANDMARK UNIVERSITY, OMU-ARAN
2	OGUNLESI OLUWAGBENGA OLAOLUWA	LANDMARK UNIVERSITY, OMU-ARAN
3	SIMON OLATUNJI IGE	UNIVERSITY OF ILORIN
4	ALOMAJA ADEGOKE JUDE	TAI SOLARIN UNIVERSITY OF EDUCATION, IJEBU-ODE
5	BELLO SAEED ABIOYE	UNIVERSITY OF ILORIN
6	YUSUF KAMALDEEN ADUAGBA	UNIVERSITY OF ILORIN
7	ADENIYI NATHANIEL OLUWATIMILEYIN	BOWEN UNIVERSITY, IWWO
8	JOSIAH DONALD DAVID	THE POLYTECHNIC, IBADAN
9	KAZEEM ABDULLAHI KIKELOMO	FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE
10	DR. JOSHUA BENJAMIN WISDOM	KEBBI STATE UNI OF SCI. & TECH, ALIERO
11	DR. AGUNBIADE GBOYEGA	UNIVERSITY OF ILORIN
12	ADEOLA SOLOMON OLUWADARA	BOWEN UNIVERSITY, IWO
13	AKINYEMI GBENGA AKINPELUMI	REDEEMER'S UNIVERSITY, EDE
14	SULEIMAN ABDULRAHMAN	CAR NASRDA
15	OKWONKWO CHIDERA	UNILAG
16	UGWUANYI WALTER OKECHUKWU	CAR NASRDA
17	OWOLABI OLUWAFISAYO PAUL	CAR NASRDA
18	OLUWAYOMI AWE	CAR NASRDA
19	ADERONKE OBAFAYE	CAR NASRDA
20	ADEWOYIN IMOLEAYO DEBORAH	UNIVERSITY OF LAGOS
21	ROSE ANOKE	UNILAG
22	IDOLOR OMENA	UNILAG
23	FASHAE JOSHUA BANKOLE	BOWEN UNIVERSITY, IWO
24	AYOMIDE OLUYEMI OLABODE	OAU ILE-IFE
25	AJANI ODUNOLA VICTORIA	UNIVERSITY OF ILORIN
26	AKINWALE ABRAHAM	SGAC
27	DR AMACHI PAUL OBIAKARE	CHRISLAND UNIVERSITY
28	OLAGUNJU EMMANUEL	UNIVERSITY OF ILORIN
29	KAYODE FOLAKEMI	CAR NASRDA
30	IKANI OJOCHENEMI	CAR NASRDA
31	DR AYOKUNNU O.D	THE POLYTECHNIC, IBADAN
32	IJILA ITUNU D	UI
33	OTUGO VIVIAN	RIVERS STATE UNIVERSITY OF SCIENCE & TECH
34	DR. HELEN LAWAL AKINLAMI	BOWEN UNIVERSITY
35	DR. ODEYEMI O.O	UNILAG
36	OLUMIDE AKINRINADE	UNILAG
37	AFUWAPE FIDELIA N.	UNILAG
38	DR. OLUGBON OLUBUSOLA	UNILAG
39	PROF. ADEKUNLE ADEDOTUN. A	UNIVERSITY OF LAGOS
40	DR ADEWALE ADEKOLA	UNIVERSITY OF LAGOS

LECTURERS

1	PROF. A.B RABIU	<i>Centre for Atmospheric Research CAR NASRDA</i>
2	PROF. VICTOR CHUKWUMA	<i>Olabisi Onabanjo University, Ago-Iwoye</i>
3	PROF. RENATO FILJAR	<i>University of Rijeka, Croatia</i>
4	DR FALAYI E.O	<i>Tai Solarin University, Ijebu Ode</i>
5	DR OLAWEPO ADENIJI	<i>University Of Ilorin</i>
6	DR. OKOH DANIEL. I	<i>CAR NASRDA</i>



CERTIFICATE OF PARTICIPATION (SAMPLE)









Group Photograph (after the opening session on 10th September 2019)

**International Colloquium
on Equatorial and
Low-Latitude Ionosphere**

9-13 September, 2019 | University of Lagos, Akoka, Lagos, Nigeria.

Co-organised by
Center for Atmospheric Research and Network of Space- Earth Environmentalists

SPONSORS

Banner for the event

**INTERNATIONAL COLLOQUIUM ON EQUATORIAL AND LOW LATITUDE
IONOSPHERE 9TH-13TH SEPTEMBER, 2019**

UNIVERSITY OF LAGOS, AKOKA, LAGOS STATE, NIGERIA.

FINAL PROGRAMME

Day 1: Monday 9th September 2019

Arrivals, Registration

Day 2: Tuesday 10th September 2019

9:30 am: Opening 2 hrs

Recognition of Guest

Introduction of participants

Speeches:

Dean, Faculty of Science, UNILAG

Head, Department of Physics, UNILAG

Director, Centre for Atmospheric Research, NASRDA

Group photograph

11:00 – 12:00 Equatorial Ionosphere – A Tutorial, *Prof. A. B. Rabi, Centre for Atmospheric Research, National Space Research and Development Agency, Anyigba*

12:00 Tea break 30 mins

12:30 – 13:30 Equatorial Plasma bubble observations at the African region, Dr. D. I. Okoh, Centre for Atmospheric Research, National Space Research and Development Agency, Anyigba

13:30 Lunch 1 hr

14:30 – 16:30 Technical Presentation by the Participants. 20 minutes each

16:30 Closing

Day 3: Wednesday 11th September 2019

9:00 Data and research resources at the *Centre for Atmospheric Research, Prof. A. B. Rabi, CAR-NASRDA*

9:45 – 10:45 Ionospheric Physics Research and Creative Confidence, *Prof Victor Chukwuma Olabisi Onabanjo University, Ago-Iwoye, Nigeria*

10:45 – 11: 30 Time derivatives of geomagnetic and geoelectric fields as a measure of geomagnetically induced currents *Dr. E. O. Falayi, Tai Solarin University of Education, Ijagun, Nigeria*

11:30 – 12:15 Ionospheric Propagation of Radio Waves – *Dr A. O. Olawepo, University of Ilorin, Nigeria*

12:15 : Tea break 30 mins

12:45 – 1:30 pm AfriTEC: A neural network based ionospheric total electron content model over Africa, Dr. D. I. Okoh, CAR-NASRDA

1:30 Lunch 1 hr

14:30 – 16:30 Technical Presentation by the Participants. 20 minutes each

16:30 Closing

Day 4: Thursday 12th September 2019

9:00 – 10:00 Geomagnetic storms and the equatorial Ionosphere. – *Dr A. O. Olawepo, University of Ilorin, Nigeria*

10:00 – 11:00: Self-adaptive GNSS position estimation process improves mitigation of GNSS ionospheric effects - *Prof. Renato Filjar, University of Rijeka, Croatia.*

11:00 – 12:00 Trends in geomagnetic fields linked to solar quiet and induction effects *Dr. E. O. Falayi, Tai Solarin University of Education, Ijagun. Nigeria*

12:00 : Group Photograph, Tea break 30 mins

12:30 -14:30 - Technical Presentation by the Participants. 20 minutes each

14:30 – 15:30 Wrap-up Session/Way forward; Closing.

15:30 Lunch

Sight-seeing @ Lagoon

Day 5: Friday 13th September 2019

Departure