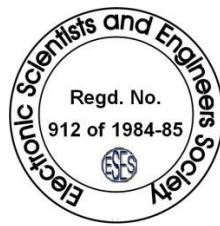


# **ELECTRONIC SCIENTISTS & ENGINEERS SOCIETY (ESES)**



*Report and activities of the Electronic Scientists and Engineers Society (ESES)*

*-2020*

## ***Welcome to New Year meet: 2020***

The ESES members with the great expectation for a Happy Year ahead, met on January 1<sup>st</sup>2020 , to Welcome the Year , the first event celebrated by the Society in 2020 ( See pictures 1 and2).

Thus ESES begins the New Year 2020 with a learned deliberation from Prof. A. K. Barbara on “method on looking in to things and scientific discovery”. The topic started with the simple example as how a small event of falling of an Apple from the tree resulted to the theory of gravitationby Sir I. Newton. Prof Barbara went deeper and deeper into an element (be an apple, a human being or anything) to show how the positive and negative charges constitute its core component. He ended by associating Physics with religion.

The session was opened with good wishes for the 2020 by traditional offering of New Year cakes and sweets.

The session came to a close with the National anthem “*Oh MorApunarDesh....*”



“Let the year 2020 bring sweetness and enjoyment “: with that wish the members of ESES received a delicious piece of cherry cake from the President ESES on the eve of the year 2020 ( Picture 1)



(a)



(b)

Picture 2 (a,b) ;Members at the “ Welcome to 2020 ” , meet

## **Now Looking Back to the year 2020:**

**But**, we have passed the year in pandemic environment with depression in all fronts, fear and with a blink future of crushed economy. Regret, that such words and descriptions may bring more depressions, sadness and mental turmoil, but, perhaps, we may rejoice now. The Advancements of Science & Technology have gifted us with the COVID-19 Vaccines, bringing hopes and expectations for a safe 2021. We, the ESES members of Scientists, Engineers and Technocrats, thank & congratulate those whose untiring efforts have produced within such a short time the killer Vaccine to the deadly Virus that has already taken more than millions of lives.

The **ESES** under this background had to endure the losses and setbacks and could do little to keep the aims and objectives of the Society, even though the members maintained their spirit up with the following activities strictly maintaining the COVID-19 protocols. Thus, most of the events are Virtual, conducted through webinar, Team Viewer and digital mode of interactions keeping physical presence very limited to a few Society members.

### **(A) Research :**

#### *1. Organization of Seminar*

##### *(a) National Seminar*

##### *(b) Special Lectures*

#### *2. Publication*

#### *3. Sponsored visits of college students to research centers/institutes*

### **.1. Organization of Seminar :**

#### *(a) National Annual Seminars Webinar: RW-NaSAEAST - 2020:*

The ESES holds every year a research level National Seminar on Advances in Electronics & Applied Science & Technology NaSAEAST, with specific aims to generate research environment in the field of *Electronic and Allied subjects*, encouraging young researchers, scientists and engineers of the North East Region of India, in particular for participations.

This year is an exception, because of pandemic outbreak. The ESES had no other option but to arrange the meet in Webinar mode under the NaSAEAST platform. The **Webinar: RW-NaSAEAST-2020** (Picture 3 and 4) was arranged for December 10, 2020, but continued to December 11 with the following topics and invited speakers:

## Speakers & Topics:

**Prof. Koichiro Oyama**, of Japan visiting professor of Institute of Space Plasma and Sciences, National Cheng Kung University, Taiwan :

- (i) Study of ionosphere-modification prior to large earthquake (EQ).
- (ii) Need of small satellite Constellation in EQ study.

**Dr. Dhritikesh Chakrabarty** Handique Girls' college , Guwahati

Computational methods in Analysis of Data

**Research Webinar**

**NaSAEAST- 2020**  
**[RW-NaSAEAST - 2020]**  
**December 10, 2020**  
**Gauhati University**

In the background of the current pandemic status of the Country and the State, the Electronic Scientists and Engineers Society (ESES), Assam, has arranged its Annual Convention as a Research Webinar (RW) during December 10, 2020, under the platform NaSAEAST-2020, with the following topics:

Speaker : Prof. Koichiro Oyama

- I. Study of ionosphere-modification prior to large earthquake (EQ).
- II. Need of small satellite Constellation in EQ study.

Speaker : Dr. Dhritikesh Chakrabarty

- I. Computational methods in analysis of data.

**Resource Person**

**PROF. KOICHIRO OYAMA**  
Dr. Koichiro Oyama devoted his entire life for Ionosphere study at the space Research organizations (the Institute of Space and Astronautical Science, (ISAS), the University of Tokyo (UTK), the National Central University, Taiwan, and then in National Cheng Kung University. His work involves in the measurement of electron temperature in the ionosphere by using sounding rockets and the designed Probe was accommodated in number of the earth-orbiting satellites . His final task was to propose Venus orbiter (named AKATSUKI after the launch) mission as Working Group Chair. Since 2019 he is a president of Satellite Design Contest in Japan organized by 5 academic societies. Currently he is a visiting Professor, Institute of Space Plasma and Sciences, National Cheng Kung University, Taiwan. He is doing research on the abnormal behavior of Ionosphere before large earthquake.

**DR DHRITIKESH CHAKRABORTY**  
Dr. Dhritikesh Chakrabarty possesses brilliant academic career with 1<sup>st</sup> position both in BSc (1981) and M.Sc (1983) in statistics from Gauhati University along with a first class postgraduate degree Mathematics (1987) from same university. He is a recipient of prestigious Jawaharlal Nehru Award, Academic Gold Medal of Gauhati University, Prof. V. D. Thawani Academic Award and Post Doctoral Research Award by the University Grants Commission. Dr. Dhritikesh Chakrabarty joined the Department of Statistics of Handique Girls' College, Gauhati University, as a Lecturer in 1987 and has been serving the institution since then. And currently he is in the position of Associate Professor (& Ex Head) of the same Department of the same College. He has been working as an independent researcher for more than thirty years with 231 published research items in his credit, along with presentation at innumerable symposia and conferences in India and abroad.

**Committee Members :**

**President:**  
Prof. Ananda Kumar Barbara  
Former Dean of Science, GU

**Secretary:**  
Prof. Minakshi Devi  
Ex-Head, Dept of Physics, GU

**Joint Secretary:**  
Dr. Kashyap Prakash  
Executive Member, ESES

**Convener:**  
Dr. Alaka Medhi  
ST Radar Centre , GU

**Executive members :**  
Dr. Abhinav Sarma  
HOD, Computer science, GU  
Dr. Dhritikesh Chakrabarty  
Handique Girls' College,

**Platform: Google Meet**  
**Meeting Code:**

**Dr. Manoj Saikia**  
ST Radar Centre, GU

**Dr. Subrat Das**  
ST Radar Centre, GU

**Mr. Samiran Palgiri**  
ST Radar Centre, GU

**Mr. Prafulla Chandra Kalita**  
Dept. of Physics, GU

**Others:**  
**Mr. Abhay Mali**  
ST Radar Centre , GU

**Mr. Rakesh Ali**  
ST Radar Centre, GU

**Mr. Bireswar Bank**  
Dept. of Comp Science, GU

Visit [www.eses.net.in](http://www.eses.net.in) for details

Picture3 : Brochure on Research Webinar [RW-NaSAEAST-2020]



**Picture 4 : Webinar 2020 : During ongoing presentation**

**Success of the meet:**

The webinar though designated as a National one, we were delighted to receive international viewers and participants. The Russian scientists have offered their feedback appreciating the presentation of Prof. Oyama and request the ESES for organization of such webinar more often in future. Prof.Oyama also offered positive responses to the future plan of participating in such meets. There were 30 participants in the meet from different institutes and the responses from the viewers appreciating the organizer and the speakers are of great incentive to the ESES for arranging more such international meets in near future.

**(b) Special talks**

A short note on the Virus COVID -19 and the process of mutation:

Prof A.K. Barbara, President ESES.

## ***2.Publications***

**JOURNAL** :International Journal of Electronics and applied Research (IJEAR ) Vol. 7 issue 1 was published as detailed :

### **Launching of journal**

The Vol. 7 issue1 of the IJEARwas brought to the final stage even during the COVID pandemic lock down period with special contributionsfrom Dr. Subrat Das and the journal was launched in presence of a few members to keep the COVIOD-19 protocol (picture 5).The editor and board members regret the delay in publishing this issue due to unavoidable situation arises out of pandemic outbreak .

The Journalwasofficiallylaunchedremotely by Prof A.K.Barbara,the president of Society. This issue contains four papers covering:

*(i)A theoretical study on the impact of nearby earthquakes (EQs) on the power spectra of global Schumann Resonance (SR);*

*(ii)Arithmetic –Harmonic mean:statisticalparameter evaluation and random error;*

*(iii) Polymer curve and Representation of Experimental Data and*

*(iv) Electromagnetic approaches on Earthquakeinduced precursive parameters: A review related to massive Tohokoevent.*



Picture 5 :A few members during the launching of the journal IJEAR Vol.7 issue 1, by maintaining the COVID-19 protocol.

## **(B) Training and Interactive sessions between unemployed youths and entrepreneurs to guide opening up one's own business of self sustenance**

Under the above platform following are the schemes conducted/ proposed by the ESES:

### **(i) To offer facilities to young members of the society for learning a profession and to equip them for self employment.**

To offer necessary training to academically weak persons so that they are equipped with a particular skill suitable for employments, interactions between scientists and members of the ESES were primarily conducted through digital communication modes, during the COVID-19 period, covering March 2020 to December 2020.

### **(ii) Interactions with the Entrepreneurs :**

With the objective to offer necessary training to educated youths so that they are equipped with a particular skill suitable for employments in industrial and productive organizations, ESES members had a fruitful & prolonged interactions with young entrepreneur Mr. **Diganta Kakati** on December 23, 2020 on the topic of “ net marketing “. Based on the discussions and realizing potentialities for self employment of this Scheme , a training programme to the interested persons in “Net Marketing “ is arranged possibly to be held in March 2021. The mode of training and date will be announced shortly, depending on the status of the environment..

## **(C) . Recreation programme**

### **Get together philosophy of ESES; Blending of heritage, culture and rituals;**

#### **a) Saraswati Puja the Goddess of learning: Celebration towards the achievements of ESES Philosophy**

The ESES has made it a tradition to seek blessings every year, from Devi Saraswati, the Goddess of Wisdom and Learning. This year too, on January 30 , the day of Basanta Pansami, the members of ESES and well wishers performed the religious rituals by blending cultural heritage of the region with broad outlook of ESES to offer their devotion to the Devi (Picture 6 ) . The serenity of the event is glorified with the prayer to the Devi seeking blessings “Oh the



Goddess of Wisdom please show us the path of light (wisdom) from darkness “(ignorance) (i.eTomoso ma jyotirgomi).

As a further pursuit to bestow to the young devotees the concept of such religious and cultural blending, an academic discourse was also conducted under the chair person Prof. A.K. Barbara, the President ESES.



Pictur 6 .Saraswti the Godess of learning : the alter and the devotees at the ESES assmbly.

**ii)ToOffer respect and devotion to Vishakarmathe divine architect: September 15, 2020:**

The ESES being worked onthe scientific and technical platform, the Society members consider thatit is their moral duty to offer devotion and respect to Vishakarma, the divine architect of immense skill.Thus,every year ESES organizes, a ritual offering prayer to the Lord by blending Hindu philosophy&cultural heritage of this region.This year is no exception but the occasion had to be performed in COVID -19 Pandemic environment in a veryAustere mode. Even under the strict protocol, the ESES members could keep the serenity and depth of the ritual and sought blessings from the divine architect for enriching their Technical and Engineeringskills:hope the wishescome true.

**( D ) Membership drive and expansion of the ESES platform:**

The ESES keeps an opening to attract bright young talents to the Society and subsequently to expand its platform to academic and research institutes spread all overthe NE. Even during the COVID pandemic environments, the Society could enroll a few student members and **Mr. Nilam Dutta** Assistant professors of B.N. college Dhubri had taken as life time membership of

the Society. The Society appreciated the interest he has shown to expand the activities of ESES to his college and neighboring institutes.

**(E) The Saddest occasion:**

***On the loss of Dr. Ya .Yu Ruzhin of IZMIRAN, Russia:***

The extreme sorrow to the ESES of the year was brought by the news of the sad demise of DrYa Yu Ruzhin of Izmiran Russia. Dr. Ruzhin was associated with the Society for the last two decades. His contributions in all round developments of the Society cannot be valued by any physical measure. We all the members are heartfelt at this sad news.

Our offer of Condolence to the great Scientist:

The research community of the Electronics & Atmospheric Physics of Gauhati University (GU), and the members of the Electronic Scientists & Engineers Society (ESES), assembled at the University premises, to offer their deepest condolence to the bereaved family of Dr. Ya. Yu. Ruzhin of IZMIRAN Russia, who breathed his last on September 23, 2020.

The assembly offered their heartfelt sorrow and anguishes at the sudden demise of Dr. Ruzhin the distinguished scientist who has been with this research community for the last two decades, as a very supportive well-wisher. Prof Minakshi Devi highlighted the academic and technical contributions of Dr. Ruzhin to this group and as how through his brilliant scientific thoughts and active guidance, the two Indo –Russian projects, achieved the goal of success.

The members of ESES has recalled the supports, encouragements and guidance received from Dr. Ruzhin in all-round activities of the Electronic Scientists' and Engineers Society along with his valued academic contributions to their International Journal of Electronics and Applied Research, the IJEAR, which have paved the way to the progress of the Society.

The Congregation observed one-minute silence with a prayer for eternal peace of the departed Soul.

**Homage to former chief Minister of Assam, Tarun Gogol:**

The members of the ESES gathered at their institute premises, to pay their homage to the former Chief minister of Assam, TarunGogoi who passed away on November 23 ,.2020. Prof .Minakshi Devi, the Secretary ESES had recalled as how his active supportsto the cause of generation of state of art research facilities, had contributed immensely to build up scientific

career of many ESES members, which will remain as ever lasting memories to the ESES family. The assembly mourned his loss by observing one minute silence with prayer for peace of the departed soul.

### **Good bye -2020 :**

Finally on the last day of December 2020 ,we bade farewell to 2020 with the hope that the New Year will deliver back to the Global Community, the good old Safe days.

So, now to all our dear friends across the world :

*We will meet you all in 2021 ;*

*Встретимся всех в 2021 году Vstretimsyavsekh v 2021 godu*

*2021年にお会いしましょ う2021-Nen ni o aishimashou*

*2021 년에 모두 만나겠습니다 2021 nyeon-e modumannagessseubnida*

*Ciincontreremotuttinel 2021*

*Ще се срещнем с всички вас през 2021 година Shte se sreshtnem s vsichki vas prez 2021 godina*

See you then.

Thanks being with us