IEEE DTMES 2023 Conference Report

Technical presentations on **Feb 13 and 14** at HQ:

For more detail about the conference: www.dtmes.org

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Commercial Bank of Ethiopia

Sponsors

Platinum Sponsor

Meta

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IEEE ELECTRONICS PACKAGING SOCIETY

Silicon Valley Area Chapter

(SCV, SF, OEB)

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Local Sponsor

Addis Ababa University

Society Sponsor

IEEE ELECTRONICS PACKAGING SOCIETY

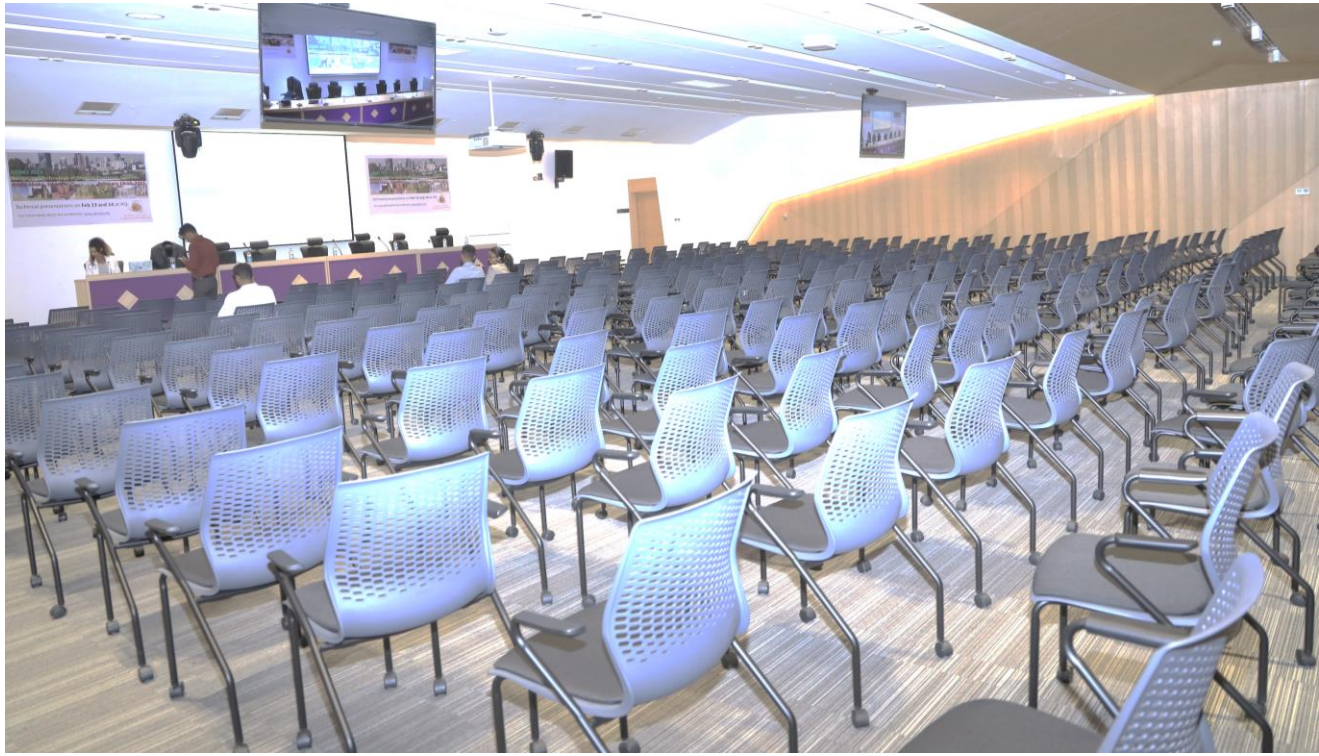
ELECTRON DEVICES SOCIETY

- Meta Platforms and Qualcomm are the Platinum and Gold Sponsors, respectively
- IEEE EPS Silicon Valley Area Chapter and Commercial Bank of Ethiopia are the Silver Sponsors
- IEEE EPS and IEEE EDS are the Society Sponsors
- Addis Ababa Institute of Technology is the Local Sponsor

Attendance

- 81 registered for the conference. This includes mostly graduate students and instructors from AAiT (Addis Ababa Institute of Technology) and engineers from local industries and companies abroad
- On average, about 75 attended each day
- There was no on-site registration, as prior registration is required to enter the conference premises, by the request of the venue provider

Conference Room



DTMES provided badges and printed program guides

Conference Opening

Dr. Kitty Pearsall, IEEE EPS President

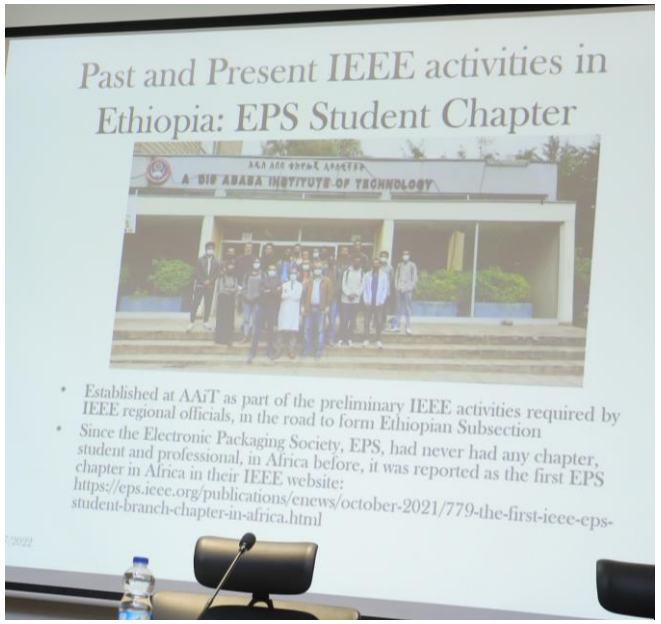
Prof. Arokia Nathan, J-EDS Editor

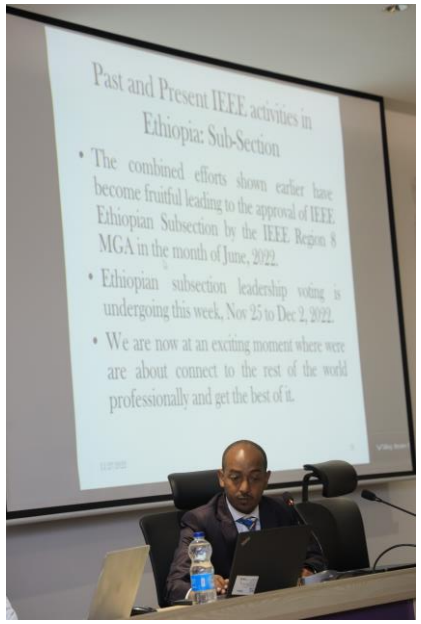
Dr. Bikilla Tekilu, AAiT Executive Director

Bisrat Derebssa, Dean of School ECE

- Dr. Kitty Pearsall, IEEE EPS president along side with Prof. Arokia Nathan (J-EDS editor), University of Cambridge (virtually)
- Dr. Bikilla Tekilu, AAiT Executive Director and Dr. Bisrat Derebssa, Dean of School Electrical and Computer Engineering (live)
- DTMES organizers welcomed conference attendants

IEEE Activities Following IEEE DTMES 2022





- Dr Fetene Mulugeta summarized the annual IEEE activities in Addis Ababa, Ethiopia
  - Second IEEE DTMES
  - IEEE EPS Student chapter
  - Mini colloquium with IEEE EDS was held in Addis Ababa in Nov. 11 2022
  - Formation of IEEE Ethiopia subsection under Region 8 (Europe, Middle East and Africa) approved in June 2022
  - Dr. Fetene Mulugeta, IEEE Ethiopian Subsection Chair, attended the 120th IEEE Region 8 committee meeting in March 8, 2023 in Bucharest, Romania

IEEE Ethiopian Subsection at the IEEE R8 Meeting

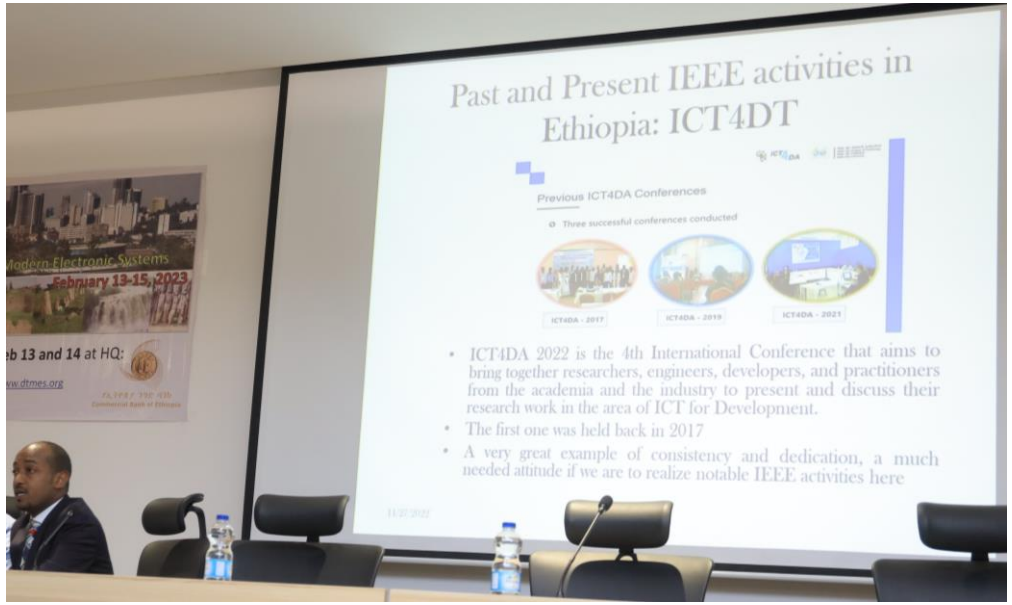
Current serving members from Europe, Middle East and Africa at the Meeting

Former and current region 8 directors, Ethiopia subsection chair and IEEE vice president

Meet the IEEE African Counsel members: Ethiopian is the new African counsel member now.

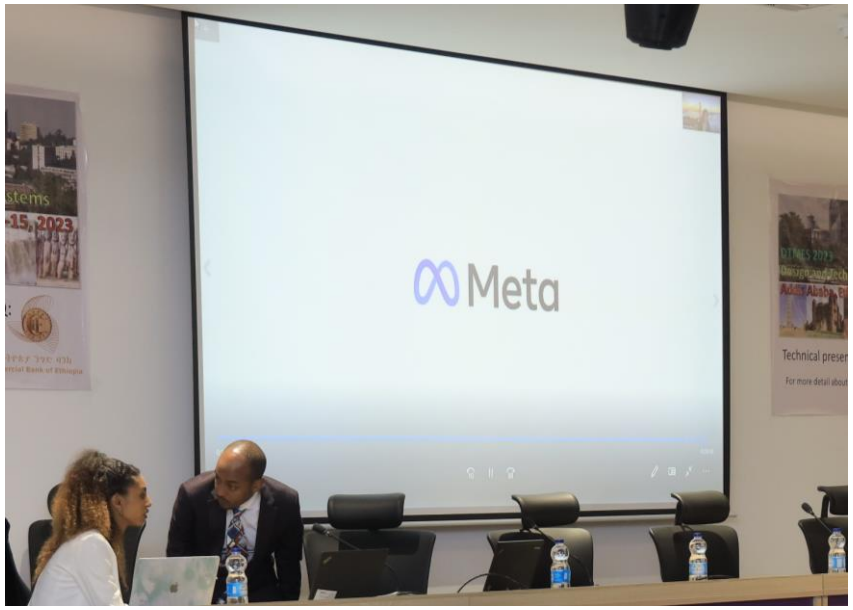
- Dr. Fetene Mulugeta, IEEE Ethiopian Subsection Chair, attended the 120th IEEE Region 8 meeting in March 2023 in Bucharest, Romania
- Dr. Fetene Mulugeta also met the IEEE African council members and now Ethiopia is part of

Other Activities



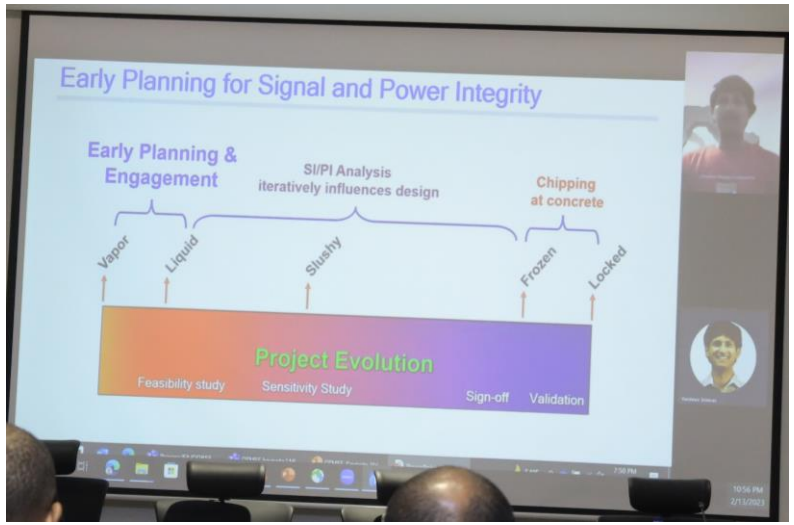
- IEEE AFRICON 2015 organized in Addis Ababa in September 2015
- ICT4DA *(Information and Communication Technology for Development for Africa)* 2022, an IEEE sponsored conference was held in Bahir Dar, Ethiopia in Nov. 2022

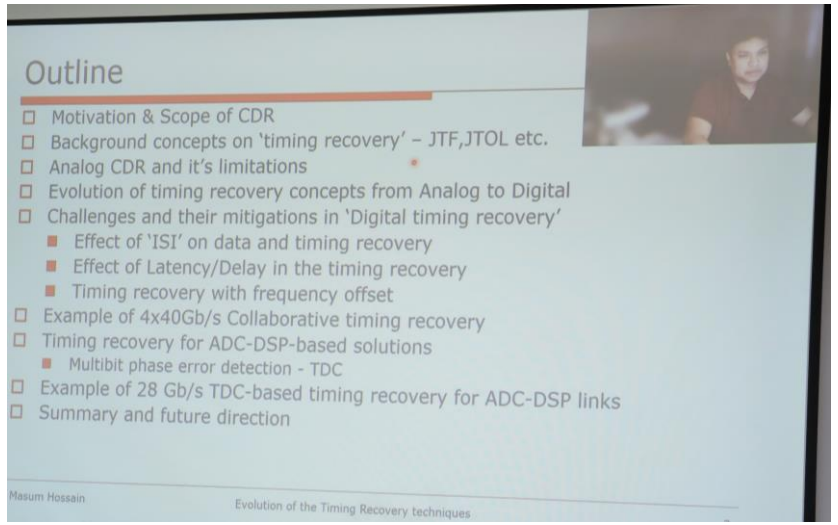
Two Keynote Speeches



- As Platinum and Gold Sponsors, Meta Platforms and Qualcomm gave the keynote speeches on Day 1 and 2, respectively

Five Plenary Talks Given by Experts





•Prof. Benjamin Iñiguez, Editor of IEEE Trans. Of Electron Devices Society, talked about EDS role in DTMES

• Five plenary talks (~ 40 min. long each) were given during the two days of DTMES 2023 by
  - Prof. Masum Hossain, Carlton University, Canada, **on High-Speed Links**
  - Dr. Yuriy, Shlepnev, Simberian Inc., USA , **on Computational Electromagnetics**
  - Prof. Benjamin Iñiguez, URV, Spain, **on Semiconductor Device Compact Modeling**
  - Dr. Vaishnav Srinivas, Qualcomm, USA, **on Signal and Power Integrity**
  - Dr. Dongkai Shangguan, USA, **on Interconnect Reliability**

Several Graduate Students Made Excellent Presentations

The Technical Sessions were well attended

- The keynote speeches and the plenary talks were well attended
- The technical presentations were very interactive

Lunch and Coffee Breaks

- DTMES provided lunch, morning and afternoon coffee breaks
  - These breaks provided very good opportunities for attendants from various local institutions and few international participants to interact and network

Conference Attendants

- Some of the conference attendants on day 1 and day 2

Speaker Appreciate Gifts and Lottery Winners

- Dean Dr. Bisrat Derebssa handed the thank you gifts to speakers
- Three lucky members of the audience also received raffle gifts

DTMES 2023

DAY 1: MONDAY, FEB. 13, 2013

9:00 - 9:40am	**IEEE DTMES 2023 Welcome Remarks** Co-Chairs **Dr. Wendem Beyene** and **Prof. Anokia Nathan, UK** Local Chair **Dr. Fetene Mulugeta** AAit Executive Director, **Dr. Bikiila Teklu** Dean of School of Electrical and Computer Engineering, **Dr. Bisrat**, AAiT CBE Representative Welcome by IEEE EPS President **Dr. Kitty Pearsall** And IEEE EDS Representative **Prof. Benjamin** Annoucing IEEE Ethiopian Subsection Formation
9:40 - 10:00am	Keynote Speech – *"The Metaverse, AR, XR, and Silicon: Power Electronics Challenges,"* **Dr. Jihong Ren, Meta Platforms, USA**
10:00 - 10:40am	Plenary Talk I: *"Evolution of the Timing Recovery techniques in High-speed Links,"* ***Prof. Masum Hossain, Carlton University***
10:40 - 10:55am	**COFFEE BREAK**
10:55 - 11:45am	Plenary Talk II:*"Computational Electromagnetics of Digital Applications,"* ***Dr. Yuriy, Shlepnev, Simberian Inc., USA***
11:45 - 12:30pm	Plenary Talk III: *"Semiconductor Device Compact Modeling: Concepts and Challenges,"* **Prof. Benjamin Iñiguez, URV, Spain**
12:30 - 1:30pm	**LUNCH BREAK**
1:30 - 2:00pm	*"Mitigation of Memory Errors on Commodity Workstations at High Altitude,"* ***Yafet Philipos****, Hawassa University, Ethiopia*
2:00 - 2:30pm	*"Acceleration of Deep Neural Network Training Using Field Programmable Gate Arrays,"* ***Guta Tesema Tufa****, Arba Minch Univetsity*
2:30 - 3:00pm	*"Application layer DDoS Attack Classification using Deep Learning,"* ***Beckham Berhanu****, AAit, Ethiopia*
3:00 - 3:30pm	**COFFEE BREAK**
3:30 - 4:00pm	*"Amharic SMS spam detection using Deep Learning,"* ***Woineshet Fentahun,*** *AAIt, Ethiopia*
4:00 - 4:30pm	*"Unmanned Ground Vehicle (UGV),"* ***Yosef Jemal****, Bahir Dar Institute of Technology, Ethiopia*

DTMES 2023

DAY 2: TUESDAY, FEB. 14, 2013

9:00 - 9:20am	**IEEE DTMES 2022 Welcome Remarks** Local Chair **Dr. Fetene Mulugeta**, AAit
9:15 - 9:25am	**Qualcomm products in XR/AR space**
9:25 - 10:00am	Plenary Talk IV: *"Early Planning for Robust Signal and Power Integrity," Qualcomm"* ***Dr. Vaishnav Srinivas, Qualcomm, USA***
10:00 - 10:40am	Plenary Talk V: *"Interconnect Reliability in Electronic Systems: An Overview,"* ***Dr. Dongkai Shangguan, USA***
10:40 - 10:55am	**COFFEE BREAK**
10:55 -11:25am	*"Domain-Specific Architecture for UAV Path Planning"* ***Kidist Andarge****, AAit, Ethiopia*
11:25 - 12:00pm	*"Classification Of Invasive And In Situ Lobular Carcinoma In Breast Cancer Using Deep Learning,"* ***Kalkidan Kebede****, AAit, Ethiopia*
12:00 - 1:30pm	**LUNCH BREAK**
1:30 - 2:00pm	*"A Domain-Specific Architecture for Computer Vision Application in Autonomous UAVs,"* ***Tinbilina Gashaw****, AAit, Ethiopia*
2:00 - 2:30pm	*"Remotely operated military weapon and its applications,"* ***Yosef Jemal****, Bahir Dar Institute of Technology, Ethiopia*
2:30 - 3:00pm	*"Explainable Rhythm Based Heart Disease Detection From ECG Signals,"* ***Derege Degefa****, AAit, Ethiopia*
3:00 - 3:30pm	**COFFEE BREAK**
3:30 - 5:00pm	**Closing Remarks and Lottery Drawing**

IEEE AAiT Student Branch Activity in 2023

- IEEE EPS sponsored distinguished lecture was held on Feb. 28, 2023 at AAiT, Addis Ababa University
- About 60 students attended the presentation
- The presentation was followed by a pizza and coffee break

Applications of Machine Learning to Signal and Power Integrity Problems

Wendem Tsegaye Beyene

Analog & Mixed Signal Architect, Meta Platforms, USA

IEEE EPS Distinguished Lecturer

Addis Ababa, Ethiopia, Feb 28, 2023

IEEE

Summary

- Significant interest to attend the conference by many graduate students at from universities across the country
- Over 81 registered and over 75 attended each day
- The AAiT ECE department continues to provide strong support to DTMES
- Check the DTMES webpage for any updates : www.dtmes.org (Thanks to Prof. Jose Schutt-Aine's support)