

DTMES 2022 Conference Report



The technical presentations on **Feb 7 and 8** at

For more detail about the conference: www.dtm.es.org



Attendance

- 83 registered for the conference. This include mostly graduate students and instructors from AAiT (Addis Ababa Institute of Technology) and few from local industries and companies abroad
- 65 attended on the first day
- 45 attended on the second day.
 - Some graduate students could not attend because of final exams
- ✓ The conference is held only two weeks after one of the most important festivals on the Ethiopian calendar
 - There were engineers from USA and Europe who attended the conference
- ✗ Conference coincided with final exam weeks (due to changes)

Sponsors

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Silicon Valley Area Chapter
(SCV, SF, OEB)

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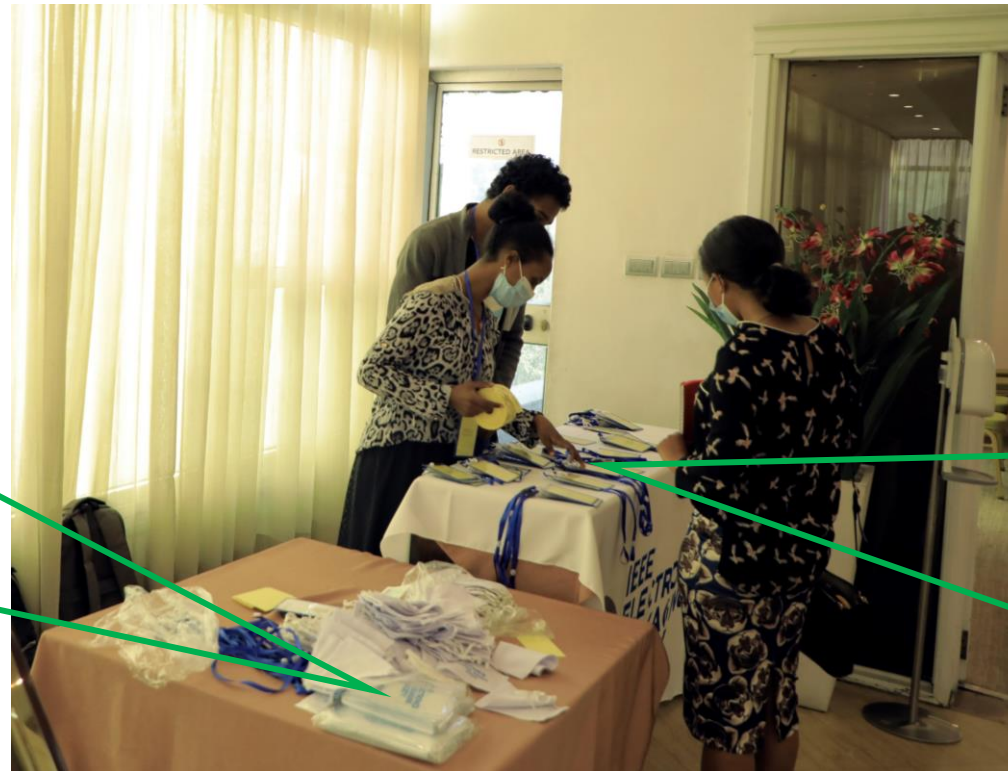


LOCAL SPONSORS



- Many of our local sponsors had to back off due to the current local situation but promised to support DTMES next year.

Registration



DTMES provided badges and COVID masks

Introducing the IEEE EPS Society

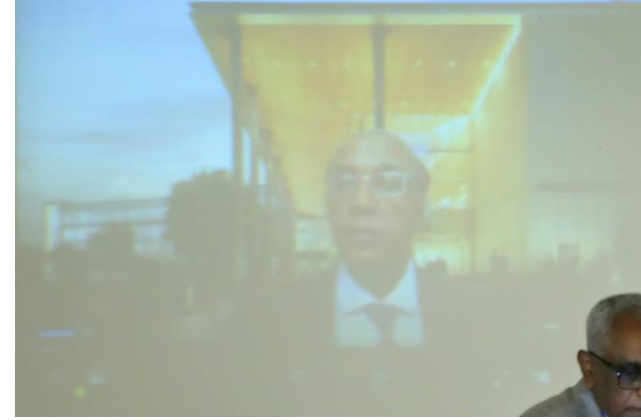


Thanks to *Denise Manning* for providing the IEEE EPS promotional material that is placed at attendants' desk



DTMES co-organizers with ECE department staff welcoming conference attendants

Conference Opening



- Dr. Kitty along with Dr. Annette and Dr. Agonafer gave their welcome remarks with audio recorded presentations. Thank you!
- Dr. Bisrat, dean of ECE school at AAiT, also gave welcome remarks

The technical sessions were well attended



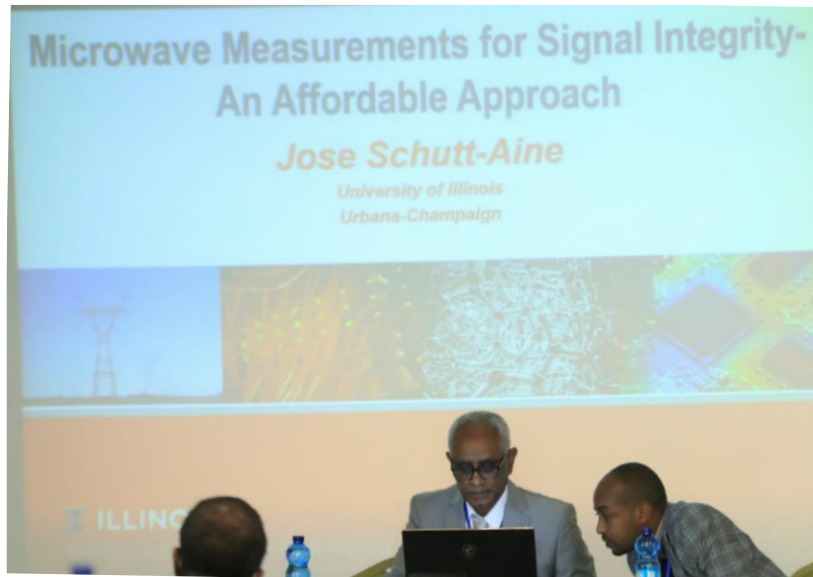
Day 1



Day 2

- There were 22 technical sessions
- The technical presentations were very interactive

There were 14 virtual (recorded) presentations



- These include Keynote speech by Dr. Ron Ho, Meta and plenary talks by *Paul Wesling* and *Dr. Bel Haba, Xperi*, who all were available for Q&A
- Technical presentations were also given by world experts from universities and companies: Profs. Swaminathan, Chew, Schutt-Aine, Agonafer, Malshe, Drs. Becker, Hailu, Enquobahire, Murugan, (USA), Prof. Nicolau (Spain), and Prof. Nathan (UK). Thank you to all !
- *Note: Organizers were not able to schedule all the talks at convenient time to allow speakers to be available for Q&A due to the significant time difference. We are sorry for that!*

There were 8 live technical presentations



Associate Prof. Getachew, AAiT, discussing the challenges of teaching electronic engineering in Ethiopia



Assistant Prof. Fetene Mulugeta, AAiT, presenting on compact modeling

- Two professors from AAiT also gave technical presentations on Day 1

There were 8 live technical presentations cont'd



Daniel, a PhD candidate at both Addis Ababa University and KU Leuven of Belgium, , discussing his research work



Nebyu, a PhD candidate at the School of Electrical and Computer Engineering ,Addis Ababa University presenting



Mikias, a PhD candidate at the School of Electrical and Computer Engineering ,Addis Ababa University presenting

- Several graduate students from AAiT also made excellent technical presentations on Day 2

Coffee and Lunch Breaks



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



Day 1: Some of the conference attendants

Day 2: Speaker Gifts and Lottery Winners



Roza, a PhD candidate at both Addis Ababa University, Ethiopia and Ku Leuven University, Belgium, receiving speaker appreciation gift

Two of the lottery winners with co-organizers

- DTMES showed appreciation to speakers with small gifts (yet to be mailed to virtual speakers)
- Three members of the audience who won lottery also received small gifts

Summary

- Significant interest to attend the conference by many graduate students at local universities, despite the conference dates coincided with the final exam weeks (due to recent changes)
- Over 83 registered and over 65 attended
- The DTMES was attended by significant number of female graduate students and instructors (>30%)
- The AAiT ECE department wants to strengthen the ties with EPS society.
- Many participants looking forward to host the second DTMES conference
- The school is also motivated by the success of the DTMES and considering applying to host *IEEE PES & IAS Power Africa Conference* in 2023-2024

DTMES Program

Addis Ababa Local Time	Day 1 (Feb. 7)
9:00 – 9:40 AM	(30') IEEE DTMES 2022 Welcome Remarks by: Conference Co-Chairs (Dr. Wendem Tsegaye & Dr. Fetene Mulugeta) Dean of School of Electrical and Computer Engineering, Dr. Bisrat Derebssa Executive Director of AAiT, Dr Bikila Teklu IEEE EPS President, Dr. Kitty Pearsall IEEE EPS Santa Clara Society Chairperson, Dr. Annette Teng USA National Academy of Engineering Member, UTA, Prof. Dereje Agonafer
9:40 - 10:00 AM	(20') Keynote Speech - Silicon systems for AR/VR: building bridges to tomorrow's connected society; Dr. Ron Ho Director, Silicon Engineering at Meta
10:00-10:25 AM	(25') Thermal and Energy Management Challenges in Large-Scale, Sustainable Computing Systems , Prof. Dereje Agonafer, UTA
10:25-10:50 AM	(25') Resilient Innovations for Social Equity (RISE): Frugal Engineering for Technological Democratization and Competitiveness; Prof. Ajay P. Malshe; USA National Academy of Engineering Member, Purdue University
10:50-11:05 AM	(15') Coffee Break
11:05 -11:30 AM	(25') Knowledge Dissemination, Wealth Sharing, and Ways to Promote Equality Prof. Weng Chew, USA National Academy of Engineering Member, Purdue University Dr. Ajay Poddar, and Dr. Anisha Apte, Synergy Microwave Corporation, Paterson, NJ, USA
11:30- 12:00 AM	(30') Challenges and Possibilities observed in Teaching Electronics Engineering in Ethiopian Universities (Case study: AAU-AAiT and BDU-BIT), Dr. Getachew Alemu, AAiT
12:00-12:30 PM	(30') Microwave Measurements for Signal Integrity- An Affordable Approach, Prof. Jose Schutt-aïne, UIUC
12:30 - 1:30 PM	(60') Lunch
1:30-1:55 PM	(25') Challenges in Compact Modelling and Characterization of Organic Material Transistors, Dr. Fetene Mulugeta, AAiT
1:55 -2:45 PM	(50') Physics and modeling of Thin Film Transistors; Prof. Benjamin Iñiguez Nicolau
2:45-3:25 PM	(40')Ultralow Power Transistors for Flexible Electronics; Prof. Arokia Nathan, University of Cambridge, UK
3:25-3:40 PM	(15') Coffee Break
3:40 -4:20 PM	(40') Electrical Design of Advanced Packaging in Computing Systems; Dale Becker, IBM Corp.
4:20 -5:00 PM	(40') Applications of AI and Machine Learning in Electrical & Computer Engineering; Andinet Enquobahire, Kiware
5:00 - 5:40 PM	(40') Application of Machine Learning for the Design of Semiconductor Systems; Prof. Madhavan Swaminahtan, GIT

Addis Ababa Local Time	Day 2 (Feb. 8)
9:00 - 9:20 AM	(20') IEEE DTMES 2022 Welcome Remarks by : Conference Co-Chairs (Dr. Wendem Tsegaye & Dr. Fetene Mulugeta)
9:20 - 10:05 AM	(45') Plenary Talk-Origin of Silicon Valley: How it happened and Lesson Learned by Paul Wesling, USA
10:05-10:30 AM	(25') Plenary Talk- The Role of Packaging in Microprocessor Evolution Bel Haba, Xperi Senior Fellow
10:30-10:45 AM	(15') Coffee Break
10:45 -11:10 AM	(25') VCO based sensor to digital converter with locally synthesized sampling clock, Mikias Belhu Akaki, AAiT, Ethiopia
11:10- 11:35 AM	(25') Design and analysis of highly efficient integrated radiation hard power converters, Daniel Delibie, AAiT
11:35-12:00 PM	(25') Sub picosecond resolution time to digital converter implementation using routing resources on FPGA, Roza Teklehaimanot Siecha, AAiT, Ethiopia
12:00 - 1:00 PM	(60') Lunch
1:00-1:40 PM	(40') Design and Analysis of High-Performance Memory Systems Wendem Beyene, Facebook
1:40 -2:05 PM	(25') Raspberry Pi Camera based Smart Personalized Constant Luminaire System, Nebyu Yonas, AAiT
2:05-2:30 PM	(25') "Improved Spice Model for Organic JFETs Based on modified charge transport model" ; Chala Tsefaye, AAiT, Ethiopia
2:30-2:45 PM	(15') Coffee Break
2:45 -3:15 PM	(30') Historical Perspective and Current Trends in High-Speed Serial Interfaces; Eskinder Hailu, Intel Corp.
3:15 -3:45 PM	(30') Multiphysics and System Co-Design of Integrated Current IC Sensors: Simulation and Measurement Correlation; Rajen Murugan, Texas Instrument
3:45 - 5:00 PM	Lottery Drawing and Closing Remarks

IEEE AAiT Student Branch Activity

Design and Analysis of Chiplet Interfaces for Heterogenous Systems

Wendem Tsegaye Beyene
IEEE EPS Distinguished Lecturer

EPS Technical Talk
Jan. 25, 2022



- Delivered distinguished lecture on Jan. 25, 2022 at AAiT, Addis Ababa
- About 40 IEEE student members and 4 regular IEEE members attended the presentation