



# ETHIOPIA 2050

## GRAND CHALLENGES & OPPORTUNITIES

**1**

**Access to  
Clean Water**

**2**

**Large-Scale  
Urbanization**

**3**

**Food Security**

**4**

**Sustainability  
&  
Environment**

**5**

**Energy  
Demand**

**6**

**Advanced  
Manufacturing**

**7**

**Transportation**

**8**

**ICT  
Infrastructure**

**9**

**Access to  
Health-Care**

**10**

**STEM  
Education**

December 19 – 20, 2019 | UN ECA | Addis Ababa, ETHIOPIA

**DRAFT**

**CONFERENCE PROGRAM**

# ETHIOPIA 2050 - SUMMARIZED CONFERENCE PROGRAM – DECEMBER 19-20, 2019

Time	Day 1 – December 19, 2019					Day 2 – December 20, 2019				
	Main Hall	Hall A	Hall B	Hall C	Hall D	Main Hall	Hall A	Hall B	Hall C	Hall D
8:15AM – 9:00AM	Registration (Main Hall)									
9:00AM – 10:45AM  (1 <sup>h</sup> 45 <sup>m</sup> )	Welcome & Opening Session (Main Hall) Welcome Statement by Executive Director of Ethiopian Academy of Sciences Opening Statement – Guest of Honor Plenary Talk – H.E. Minister A Keynote 1, Keynote 2, Keynote 3					Plenary Session (Main Hall) Welcome Statement by Host Organization Plenary Talk – H.E. Minister C Plenary Talk – Policy Maker B Keynote 1, Keynote 2, Speaker 1, Speaker 2				
10:45AM – 11:15AM	Morning Coffee Break									
11:15AM – 12:45PM  (1 <sup>h</sup> 30 <sup>m</sup> )	Plenary Session (Main Hall)  Plenary Talk – H.E. Minister B Keynote Speech – Policy Maker A Speaker 1 Speaker 2 Speaker 3 Speaker 4						Cross-Cutting Theme I (Infrast for 200 million people. Nexus of Water, Food, Health, Energy) Keynote Speech Speakers 8A-11A	Cross-Cutting Theme II Technology as Cross-Cutting Growth Driver [Fin/Agr/ HealthTech] Keynote Speech Speakers 8B-11B	Cross-Cutting Theme III Globally Competitive Workforce Development Joint with ESAN Keynote Speech Speakers 8C-11C	Cross-Cutting Theme IV Societal Opportunities & Threats in Bridging Ethiopia Today & Ethiopia 2050 Keynote Speech Speakers 8D-11D
12:00PM - 12:45PM							Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion
12:45PM – 1:45PM	Lunch									
1:45PM – 3:15PM  (1 <sup>h</sup> 30 <sup>m</sup> )		Theme I-A (Water, Food, Health, Energy)  Keynote Speech Speakers 1A-4A	Theme II-A (Infrastructure – Urbanization Sustainability, Transportation) Keynote Speech Speakers 1B-4B	Theme III-A (Economic Growth Drivers – Adv. Manfg, Workforce Dev., ICT) Keynote Speech Speakers 1C-4C	Theme IV-A (Human Capital with Diversity and Inclusion) Keynote Speech Speakers 1D-4D	Plenary Session – Towards Sustainability (Main Hall) Keynote 1, Keynote 2, Keynote 3, Keynote 4  1. Sustainability Program – 2 Pilot Projects 2. Panel Discussion on Sustainability (Policy Makers + Speakers)				
3:15PM – 4:00PM		Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion					
4:00PM - 4:15PM	Afternoon Coffee Break									
4:15PM – 5:15PM  (1 <sup>h</sup> 00 <sup>m</sup> )		Theme I-B (Water, Food, Health, Energy)  Keynote Speech Speakers 5A-7A	Theme II-B (Infrastructure – Urbanization Sustainability, Transportation) Keynote Speech Speakers 5B-7B	Theme III-B (Economic Growth Drivers – Adv. Manfg, Workforce Dev., ICT) Keynote Speech Speakers 5C-7C	Theme IV-B (Cross-Cutting Grand Challenge Topics) Keynote Speech Speakers 5D-7D	Plenary Closing Session – Grand Challenge Initiative  1. Ideas & Visions - Blue Ribbon Panel Summary by Scribes 2. Planning II <sup>nd</sup> ETHIOPIA 2050 Conference – 2022				
5:15PM – 6:00PM		Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion	Closing Remarks				
6:15PM – 7:30PM	Cocktail Reception					Cocktail Reception				

# CONFERENCE PROGRAM

## Day 1 – Thursday, December 19, 2019

Time	Theme Event Room	Program
8:15AM – 9:00AM	<b>MAIN HALL</b>  <b>Opening Session</b>  <div>Day 1</div>	<b>REGISTRATION</b>
9:00AM – 9:05AM		<b>Welcome Statement – Professor Masresha Fetene</b> (Executive Director, Ethiopian Academy of Sciences) on behalf of leadership of Co-Hosting Organizations
9:05AM - 9:35AM		<b>Opening Statement – Guest of Honor</b>
9:35AM - 10:45AM		<i>Session Chair: Professor Shifferaw Taye</i> <b>Plenary Talk – H.E. Dr. Ing Getahun Mekuria (MiNT)</b> <b>Keynote Speaker – Dr. Debrework Zewdie</b> (over-arching theme) <b>Keynote Speaker – Professor Meskerem Tadesse</b> (policy) <b>Keynote Speaker – Professor Yacob Mulugetta</b> (energy)
<b>10:45AM - 11:15AM</b>	<b>Morning Coffee Break</b>	
11:15AM - 12:45PM	<b>MAIN HALL</b>  <b>Plenary Session</b>	<i>Session Chair – Ato Demirew Getachew (Eth. Economic Assoc.)</i> <b>Plenary Talk – H.E. Dr. Seleshi Bekele (Min of Water, Irri &amp; Elec)</b> <b>Keynote Speaker – Professor Sossina Haile</b> Speaker 1 – Dr. Aynalem Adugna (Pop. Science) (CA, USA) Speaker 2 – Dr. Awegechew Teshome – Food Security (Canada) Speaker 3 – Ato Mesay Amerga – Commun.Technology (Apple, USA) Speaker 4 – Professor Ayenew Ijigou – Rural Devt. (AAU, ET)
<b>12:45PM – 1:45PM</b>	<b>Lunch</b>	
<b>Parallel Sessions A – Theme on Drivers of Grand Challenges</b>		
1:45PM – 3:15PM	<b>HALL A</b>  <b>Grand Challenge Theme I-A</b>  <i>(Water, Food, Health, Energy)</i>  <div>Day 1</div>	<b>Parallel Session IA</b> <i>Session Chair: Professor Desta Mebratu; BRP Scribe: TBD</i> <b>Keynote Speaker – Professor Desalegn Rahmato</b> Speaker 1A – Dr. Woubalem Fekade (Nile Basin, ET) Speaker 2A – Dr. Semu Moges – Water Resources (U Conn, USA) Speaker 3A – Ato Mersie Ijigou – Strategic Planning (USA/ET) Speaker 4A – Professor Tessema Astatkie (Canada)
3:15PM – 4:00PM		<b>Panel Discussion   Moderator: Dr. Dejene WoldeMariam</b> <b>Part I – Water Resources Management &amp; Planning</b> <b>Panel Members: Eng. Mersha Sahle, Eng. Mekuria Tafesse, Ato Imiru Tamrat, Dr. Woubalem Fekade, Dr. Semu Negus</b> <b>Topic:</b> How do current integrated water resources management masterplans foresee the grand challenges identified in this report (explosive population growth and climate change)? How can technologies in the horizon enable bolder technical solutions that were once considered impractical and too expensive?
1:45PM – 3:15PM	<b>HALL B</b>  <b>Grand Challenge Theme II-A</b>  <i>(Infrastructure – Urbanization Sustainability, Transportation)</i>	<b>Parallel Session IIA</b> <i>Session Chair: Ato Tesfaye Workineh; BRP Scribe: TBD</i> <b>Keynote Speaker – Professor Asfaw Beyene</b> Speaker 1B – Professor Girma Bitsuamlak (Canada) Speaker 2B – Professor Mulatu Wubneh (SC, US + Gondar, ET) Speaker 3B – Dr. Gulilat Kebede (New School, USA) Speaker 4B – Dr. Joseph Beyene – Healthcare (Canada)
3:15PM – 4:00PM		<b>Panel Discussion   Moderator:</b> <b>Panel Members: Speakers + Ato Asnake Kebede, Dr. Henok Fikre</b>

1:45PM – 3:15PM	<b>HALL C</b> <b>Grand Challenge</b> <b>Theme III-A</b> <i>(Economic Growth Drivers - Advanced Manufacturing, Workforce Development, ICT)</i>	<b>Parallel Session IIIA</b> <i>Session Chair: Ato Amare Mergia; BRP Scribe: TBD</i> <b>Keynote Speaker</b> – Ato Yodahe Zemichael (ET – PM Office) Speaker 1C – Dr. Solomon Assefa (IBM, South Africa) Speaker 2C – Ato Asseged Mamo (Addis) Speaker 3C – Dr. Ibrahim Yimer (Canada Research Council) Speaker 4C – Ato Seifu Chernet (ET) -Dr. Temesgen Kindo (Boston)
3:15PM – 4:00PM		<b>Panel Discussion   Moderator: Professor Mitiku Haile</b> <b>Panel Members: Speakers + Dr. Kommy Woldemariam, Ato Messay Mergia, Ato Mekonnen Kassa, Ato Yilkal Abate, Ato Abere Shiferaw</b>
1:45PM – 3:15PM	<b>HALL D</b> <b>Grand Challenge</b> <b>Theme IV-A</b> <i>(Human Capital with Diversity and Inclusion)</i>	<b>Parallel Session IIIB</b> <i>Session Chair: Ato Gabriel Seifu; BRP Scribe: TBD</i> <b>Keynote Speaker</b> – Professor Fetien Abay Speaker 1D – Ms. Mahlet Mesfin (USA) Speaker 2D - Professor Assefa Hailemariam (Pop Studies, ET) Speaker 3D – Ato Yilkal Abate – ICT (ET) Speaker 4D – Dr. Abebe Kebede (NCAT, USA)
3:15PM – 4:00PM		<b>Panel Discussion   Moderator: Ato Gabriel Seifu</b> <b>Panel Members: Speakers</b>
<b>4:00PM - 4:15PM</b>	<b>Coffee Break</b>	
<b>Parallel Sessions B – Theme on Grand Opportunities</b>		
4:15PM – 5:15PM	<b>HALL A</b> <b>Grand Challenge</b> <b>Theme I-B</b> <i>(Water, Food, Health, Energy)</i>	<b>Parallel Session IB</b> <i>Session Chair: Dr. Assefa Mesele; BRP Scribe: TBD</i> <b>Keynote Speaker</b> – Professor Mammo Muchie Speaker 5A – Dr. Abate Wolde-Kiros (USA) Speaker 6A – Eng. Eskinder Woudneh (ET) Speaker 7A – Ato Eyob Berhane (ET) Speaker 8A – Professor Damena Agonafer (WUSTL)
5:15PM – 6:00PM		<b>Panel Discussion   Moderator: Dr. Dejene WoldeMariam</b> <b>Part II – Water Resources Management &amp; Planning</b> <b>Panel Members: Eng. Mersha Sahle, Eng. Mekuria Tafesse, Ato Imiru Tamrat, Eng. Eskinder Woudneh</b> <b>Topic:</b> 1. In the Ethiopian context, what are some of the most promising energy storage technologies for power generated by renewable resources such as wind and photovoltaics? 2. What are the prospects for exporting power to the African market?
4:15PM – 5:15PM	<div>Day 1</div> <b>HALL B</b> <b>Grand Challenge</b> <b>Theme II-B</b> <i>(Infrastructure – Urbanization Sustainability, Transportation)</i>	<b>Parallel Session IIB</b> <i>Session Chair: Arch. Betelehem Demissie; BRP Scribe: TBD</i> <b>Keynote Speaker</b> – Professor Lemma WoldeSenbet Speaker 5B – Dr. Abrham Gebre (ET) Speaker 6B – Ato Alazar Tesfaye (CO, US) Speaker 7B – W/t MistreSelassie Y (ET) Speaker 8B – Ato Tekle Maru (Railways, ET)
5:15PM – 6:00PM		<b>Panel Discussion   Moderator: TBD</b> <b>Panel Members: Speakers</b> <b>Topic:</b> 1. What sort of visions can be formulated to enable provision of innovative community infrastructure financing and ownership models, for maximizing local options without resorting to large-scale publicly funded interventions?

		2. What are some of the thoughts regarding availability of innovative finance, ownership models, and community participation for urban housing?
4:15PM – 5:15PM	<b>HALL C</b> <b>Grand Challenge</b> <b>Theme III-B</b> <i>(Economic Growth Drivers - Advanced Manufacturing, Workforce Development, ICT)</i>	<b>Parallel Session IIIB</b> <i>Session Chair: Ato Yilkal Abate; BRP Scribe: TBD</i> <b>Keynote Speaker – Dr. Fisseha Mekuria (South Africa)</b> Speaker 5C – Professor Atsede Woldie (UK) Speaker 6C – Ato Asres Shiferaw (Boeing, USA) Speaker 7C – Dr. Abiyot Bayou (ET) Speaker 8C – Professor Asmamaw Tadege Shiferaw (Norway)
5:15PM – 6:00PM		<b>Panel Discussion   Moderator:</b> <b>Panel Members: Speakers + 2 Panelists</b> <b>Topic:</b> How do we prepare Ethiopia for Industry 4.0 with advances in intelligent manufacturing, additive manufacturing, and related manufacturing technologies?
4:15PM – 5:15PM	<b>HALL D</b> <b>Grand Challenge</b> <b>Theme IV-B</b> <i>(Cross-Cutting Grand Challenge Topics)</i>	<b>Parallel Session IVB</b> <i>Session Chair: Professor Asrat Worku; BRP Scribe: TBD</i> <b>Keynote Speaker – Professor Desta Mebratu (South Africa)</b> Speaker 5D – Dr. Henok Fikre - Sustainability (ET) Speaker 6D – Ato Deres Tesfaye - ICT (US) Speaker 7D – Ato Hailu Seifu – Manufacturing (ET) Speaker 8D – Professor Getachew Assefa – Sustainability/Mfg (Canada)
5:15PM – 6:00PM		<b>Panel Discussion   Moderator:</b> <b>Panel Members: Speakers + 2 Panelists</b> <b>Topic:</b> How do we prepare Ethiopia for Industry 4.0 with advances in intelligent manufacturing, additive manufacturing, and related manufacturing technologies?
<b>6:15PM – 7:30PM</b>	<b>Cocktail Reception</b>	

## Day 2 – Friday, December 20, 2019

Time	Event Room	Program
8:15AM – 9:00AM	MAIN HALL <i>Plenary Session</i> <div>Day 2</div>	REGISTRATION & NETWORKING
9:00AM – 9:05AM		Welcome Statement – Leadership – Co-Hosting Organizations (EAS, EEA, CEEPA) EEA/CEEPA Leadership Session Chair: Ato Demirew Getachew
9:05AM – 10:45AM		Plenary Talk – Her Excellency W/o Dagmawit Moges (MoT) Plenary Talk – Dr. Eyob Tekalign (PM Office)  Keynote Speaker – Dr. Yayehyirad Kitaw – Health Care (ET) Keynote Speaker – Professor Teshome Abebe – Workforce (USA) Speaker – Engineer Mekuria Tafesse – Water Policy (ET) Speaker – Dr. Ayele Gelan – Economic Policy (KISR, Kuwait)
10:45AM - 11:15AM	Coffee Break	
Cross-Cutting Parallel Sessions C – Theme on Interdisciplinary Approach		
11:15AM – 12:15PM	HALL A Cross-Cutting Theme I	Parallel Session IC Session Chair: Ato Deres Tesfaye; BRP Scribe: TBD Keynote Speaker – Professor Brhane Gebre Kidan (ET) Speaker 8A – Dr. Endashaw Bekele – Genetics+ Food Security (ET) Speaker 9A – Dr. Kassahun Admassu (AAiT, ET) Speaker 10A – Ato Aseged Mammo (ET) Speaker 11A – Ato Tamrat Seyoum (CA, USA)
12:15PM – 1:00PM	(Infrastructure for 200 million people. Nexus of Water, Food, Health, Energy)	Panel Discussion   Moderator: Professor Shifferaw Taye Panel Members: Speakers + 2 Panelists 1. What sort of “out-of-the-box” infrastructural progresses are needed to drive food production capabilities consistent with population growth? 2. What sort of technological progress in the horizon are specifically relevant to the two classes of food producers in the country, (a) smallholder farms and (b) large mechanized farms? 3. How do we increase the efficiency of water usage, both for the growing of food and its subsequent processing? 4. What is the prospect of mechanization, automation and robotics in food security? How do we balance that with need for safeguarding jobs?
11:15AM – 12:15PM	HALL B Cross-Cutting Theme II	Parallel Session IIC Session Chair: Professor Hundessa Demsash; BRP Scribe: TBD: Keynote Speaker – Dr. Tessema Guebre (NSF, US) Speaker 8B – Ato Mekonnen Kassa (Microsoft, US) Speaker 9B – Ato Bernard Laurendeau (ET) Speaker 10B – Dr. Mesfin Belachew (ET) Speaker 11B – Ato Kommy W/Mariam (IBM, South Africa)
12:15PM – 1:00PM	Technology as Cross-Cutting Growth Driver [FinTech, AgriTech, HealthTech]	Panel Discussion   Moderator: TBD Panel Members: Speakers + Dr. Fisseha Mekuria and Ato Yilkal Abate 1. What product lines (machine components, medical devices, automotive parts, agricultural machinery components, etc.) could offer compelling competitive edge for Ethiopia? 2. How do we integrate advanced manufacturing clusters with the current industry parks model? 3. What are the prospects for “green manufacturing” in Ethiopia? 4. How do we encourage the expansion of the so-called “gig economy” in advanced manufacturing?



11:15AM – 12:15PM	<b>HALL C</b> <b>Cross-Cutting Theme III</b> <i>Globally Competitive Workforce Development</i> (Eth. Scientific & Academy Network)	<b>Parallel Session IIIC</b> <i>Session Chair:</i> Professor Lemma WoldeSenbet; <i>BRP Scribe:</i> <b>Keynote Speaker – Professor Mitku Haile (ET)</b> Speaker 8C – Professor Ghebrebrhan Ogubazghi (Asmara, ER) Speaker 9C – Prof. Alemayehu Teferra (ET) Speaker 10C – Professor Zewede Asfaw (AAU, ET) Speaker 11C – Professor Yemane Berhane (ET)
12:15PM – 1:00PM		<b>Panel Discussion   Moderator: Ms. Mahder Tadesse</b> <b>Panel Members: Speakers + Dr. Abebe Kebede, ESAN Person</b> <b>Topic: World-class training of Ethiopian undergraduate and graduate students for global competitiveness</b>
11:15AM – 12:15PM	<b>HALL D</b> <b>Cross-Cutting Theme IV</b> <i>(Opportunities &amp; Threats in Bridging Ethiopia Today &amp; Ethiopia 2050)</i>	<b>Parallel Session IIID</b> <i>Session Chair: BRP Scribe: TBD</i> <b>Keynote Speaker Professor Sisay Asefa (E Michigan)</b> Speaker 8D – Prof. Berhanu Mengistu (ODU, USA) Speaker 9D – Dr. Seifu Bekele (Australia) Speaker 10D – Ato Yilma Mengistu (ET) Speaker 11D – Architect Birke Yami (ET)
12:15PM – 1:00PM		<b>Panel Discussion   Moderator: TBD</b> <b>Panel Members: Speakers</b>
<b>1:00PM - 2:00PM</b>	<b>LUNCH</b>	
<b>Plenary Session – Towards Sustainability</b>		
2:00PM – 3:15PM	<b>MAIN HALL</b> <i>Joint Session</i> <div>Day 2</div>	<b>Joint Session</b> <i>Session Chair:</i> Professor Debrework Zewdie; <i>BRP Scribe:</i> <b>Keynote Speaker – Poet LS or Ms. MM (Novelist) (To be Confirmed)</b> <b>Keynote Speaker – Professor Shifferaw Taye</b> <b>Keynote Speaker – Dr. Tewabech Bishaw (ET)</b>  <b>Presentation on Sustainability Program – 2 Pilot Projects (TBA)</b> <b>Discussion - Sustainability Program (Selection of 2 Pilot Projects)</b> i. Consortium in renewable energy consisting of Ethiopian energy professionals inside the country and in the Diaspora with a task of leading a demonstration project that will provide evidence that some of the novel ideas presented in this area could actually deliver the promised results. This could be done, for example, through sponsored university project or a project in collaboration with the relevant professional organizations such as ESME (Ethiopian Society of Mechanical Engineers). ii. Consortium on work force development where we will form a loose association of Ethiopian Diaspora educators, Ethiopian based educators, and government policy makers with a task of formulating curriculum for training new generation of young Ethiopians in technology and non-technology background with specific areas of concentration in the main thematic areas of water, food security, sustainability, and infrastructure. These young scholars will be “ <b>Grand Challenge Scholars</b> ”, a group of young men and women who had been trained - through courses, projects, and MS thesis - as problem solvers.
3:15PM – 4:00PM		<b>Panel Discussion   Moderator:</b> <b>Panel Discussion on Sustainability (Policy Makers + Speakers)</b>

<b>4:00PM</b>	<b>4:15PM</b>	<b>Coffee Break &amp; Posters Session</b>
<b>Plenary Session – Grand Challenge Initiative Sustainability</b>		
4:15PM – 4:25PM	<b>MAIN HALL</b>	<b>Invited Guest – National Academy of Engineering &amp; Ethiopian Academy of Science</b>
4:25PM – 5:25PM		<b>Session Chair:</b> Professor Meskerem Tadesse 1. Ideas & Visions - Blue Ribbon Panel Summary by Scribes 2. Planning II <sup>nd</sup> ETHIOPIA 2050 Conference – 2022
5:25PM – 5:40PM		<b>Closing Remarks</b>
<b>6:00PM – 7:30PM</b>	<b>Cocktail Reception</b>	