



amsic 4



AMSIC-4 Congress Chairpersons

Prof-Dr (He): Shimelis KEBEDE KASSAHUN (Addis Ababa University) – Eastern Africa

Dr. Eng. (She): Abaynesh Y. GEBREYOHANNES, in US (AMSIC Gen. Sec.) - Eastern Africa

Prof-Dr: Raja BEN AMAR, in Tunisia (AMSIC President) – Northern Africa

Co-Chairs:

Prof Edward NXUMALO, in South Africa (AMSIC Vice President) – Southern Africa

Prof Sidy BA, in Mali (AMSIC Director of Science & Technology) – Western & Central Africa

Sustainable Innovation in Membrane Filtration Science

& Technologies for a Circular Economy



The African Membrane Society will be holding its 4th International Congress (**AMSIC-4**) in the vibrant city of **Addis Ababa**, Ethiopia, home of the Headquarters for the African Union and Economic Commission for Africa (ECA), **from 5th to 8th November 2024.**

Addis Ababa (Capital of Ethiopia / Home of the African Union Headquarters)



This gathering will be a great opportunity to learn and examine how scientific research and technology can influence the emergence of sustainable development practices in Africa and across the globe. Many world class experts from the public and private sectors will present their latest research findings and teaching materials on a wide range of topics – see below. Ethiopia is poised to lead the future development of Africa, while experiencing an unprecedented industrial transformation and economic growth. Thanks to its vibrant culture, diverse traditions, and rapidly advancing economy, Ethiopia provides an ideal setting for delegates to celebrate membrane science in Africa at AMSIC-4.

Meeting location : Inter Luxury Hotel <https://interluxuryhotel.com/>

The organizers will send a notification when hotel reservations can be made.

Motivations and purpose:

- Engage in cutting-edge discussions on membrane technology and filtration processes.
- Collaborate with African scientists and international experts to address global challenges.
- Promote the development of an entrepreneurial membrane filtration ecosystem in Africa
- Explore Ethiopia's rich cultural and religious heritage, stunning natural landscapes, and a thriving youth community.

CONFERENCE ACTIVITIES

SPECIAL SESSIONS

- Women's excellence in Membrane Technology (focus on Africa)
- Industrial session
 - Membrane preparation from bench scale to production
 - Shaping a vibrant entrepreneurial membrane sector in Africa
- Meet with the legends



SCIENTIFIC TOPICS (9 themes – See last pages for more details)

- 1- Materials Preparation, Composites, Surface Modification**
- 2- Innovative Fabrication Techniques (Advanced Manufacturing; Nanotech; Thin Films)**
- 3- Green Processes, Circularity, Indigenous Practices**
- 4- Artificial Intelligence, Modeling Tools, Filtration Mechanism**
- 5- Air Filtration, Gas /Vapor Transport Phenomena**
- 6- Water Treatment Technologies And Applications**
- 7- Membranes For: Chemicals/Life Sciences /Microelectronics/ Fuels, Oils, Hydraulics**
- 8- Fuel Cells, Batteries, Hydrogen Production, Power Generation**
- 9- Hybrid Processes, Sensors, Analytics, & Structural Characterization**

CONGRESS ACTIVITIES (6 main events):

AMSIC-4 program will include: 1-**Technical Conference**, 2-**Commercial Exhibition (AMSIC-4 EXPO)**, 3-**Training Modules**, 4-**Hands-on Tutorials** (technicians), 5-**Dinner Gala**, 6-**City Tour**.

IMPORTANT DATES

Online registration is opened: Not opened yet.

Deadline for abstract submission: May 31st, 2024 (started!)

Notification of abstract selection: June 14th, 2024

Notification of oral presentation or a poster selection: June 30th, 2024

Deadline for full paper submission (optional, 4 pages, max): July 31st, 2024.



ABSTRACT SUBMISSION (EASYCHAIR)

Check **EasyChair** and submit your contribution by May 31st, 2024

<https://easychair.org/conferences/?conf=amsic4>

ONLINE REGISTRATION (EASYSIGNUP not available yet)

REGISTRATION DETAILS : Early bird registration : February 29th - August 30th, 2024

ONLINE PAYMENT : *available later*

CONGRESS PARTICIPATION (FULL ACCESS):

Rate 450 euros: Delegates (regular rate)

Rate 300 euros: Early Bird Registration – ending August 30th

Rate 300 euros: All students - AMSIC members * (preferential rate)

**AMSIC membership approved by the Board of Directors before July 31, 2024*

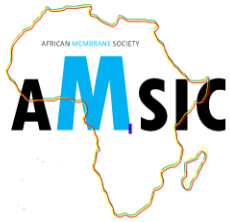
Delegate: any participant who is not a student or AMSIC member.



Conference fee includes registration fee, lunches, tea/coffee breaks plus Gala Dinner



Inter Luxury Hotel (Addis Ababa) - <https://interluxuryhotel.com/>



SCIENTIFIC TOPICS (9 research areas)

1- MATERIALS PREPARATION, COMPOSITES, SURFACE MODIFICATION

Membrane fabrication and modification (polymeric membranes)

Inorganic and metallic membrane preparation and their applications

Catalytic membranes and membrane bioreactors

Nonwoven filter media for air filtration and the treatment of liquids

Membrane synthesis and scale-up in academic settings.

2- INNOVATIVE FABRICATION METHODS (advanced manufacturing; nanotech; thin films)

INNOVATION: Advanced Manufacturing Techniques and New Membrane Formation

- Bio-sourced raw materials and bio-inspired membrane design
- Additive manufacturing methods (3D printing)
- Nanofiber technologies & nano-inspired membrane design

3-GREEN PROCESSES, CIRCULARITY, INDIGENOUS PRACTICES

Materials recycling, reuse and circularity (membranes, renewable energy parts, etc.)

Green processes and membrane development, testing, and end-use applications

Materials for carbon capture/sequestration

Indigenous practices for specialty applications and sustainability



4-ARTIFICIAL INTELLIGENCE, MODELING TOOLS, FILTRATION MECHANISM

Modeling and Artificial Intelligence tools in filtration processes

Fouling studies - Solute/Solvent transport - filtration through porous media

Analytical techniques for media characterization & Membrane process monitoring

5-AIR FILTRATION – GAS /VAPOR TRANSPORT PHENOMENA

Membranes and filter products for (green) hydrogen production

Porous media in gas separation (membranes) and air filtration (nonwovens)

Semipermeable membranes for pervaporation and contactor applications

Membranes for water harvesting

6-WATER TREATMENT TECHNOLOGIES AND APPLICATIONS

RO desalination membranes vs. freshwater supply and vs. industrial processes

Membranes for wastewater reuse/recycling - (MF/UF, NF/RO, Membrane Bioreactors)

Membrane technologies for decentralized/autonomous water treatment systems

Emergency events and filtration processes (humanitarian sciences)

7-MEMBRANES FOR : Chemicals/Life Sciences /Microelectronics/ Fuels, oils, hydraulics

Filter media for biomedical (blood/hospital), biopharmaceutical and biotechnology sectors.

Filter media for Microelectronics (semiconductors) and Chemical Industry



Filter media for food and beverages

Filter media for fuel, oil, and hydraulic fluid applications

8-FUEL CELLS, BATTERIES, HYDROGEN PRODUCTION, POWER GENERATION

Membranes and their components for fuel cells (H₂, methanol, etc.)

Membranes and fibrous media as battery separators

Green hydrogen production

9-HYBRID PROCESSES, SENSORS, ANALYTICS & STRUCTURAL CHARACTERIZATION

Membrane process intensification and hybrid systems

Porous media for sensors and applications

Bioremediation and Analysis