

School on Air Quality and Pollution Prevention in Ghana

Arrival of Guests: Sunday 22nd October 2023

Sunday 22nd October 2023

17:00 - 19:00: Registration and Icebreaker Reception

Week 1

Week One		
Day One: Introduction and Overview (Monday, 23rd October 2023)		
SESSION I		
Time	Activity	Facilitator
07:30 – 08:30 Arrival and Registration / Breakfast		
<i>Opening Ceremony</i>		
09:00 – 09:10	Welcome Address	Head, Department of Meteorology and Climate Science, KNUST
09:10 – 09:20	Opening Remarks	Provost CoS, KNUST / Chair, Local Organising Committee
09:20 – 09:30	Address by Representative of Clean Air Fund, Accra Ghana	Mr. Desmond Appiah, Country Lead, CAF
09:30 – 09:35	Address by Representative of the University of Leeds, UK	Dr. Carly Reddington, University of Leeds
09:35 – 09:50	Programme Orientation	Local Organising Committee
09:55 – 10:00	Photography	
10:00 – 10:30	Presentation: Introduction to air pollution and its global significance	Dr. Pallavi Pant, HEI, USA
10:30 - 11:00	Presentation: Sources and emissions (indoor/outdoor) of air pollution from industrial, transportation, and household sectors	Prof. Leonard K. Amekudzi, KNUST
11:00 – 11:15	Q&A	
11:15 – 11:20	Break	
 SESSION II		
11:20 – 11:50	Sensors.Africa	Gideon Maina, Code for Africa
11:50 – 12:05	Q&A	
12:05 – 12:35	Sensors.Africa	Gideon Maina
12:35 – 12:50	Q&A	
12:50 – 13:50	Lunch	All
13:55 – 14:25	Presentation: State of Global Air Quality	Dr. Pallavi Pant, HEI, USA
14:25 – 14:35	Q&A	
14:35 – 15:45	Presentation: Future Projections of Pollutant Concentrations	Dr. Carly Reddington, University of Leeds
15:50 – 16:00	Wrap Up and Closing	Rapporteur
17:00 – 18:00	Dinner	All

Day Two: Sources and Causes of Air Pollution (Tuesday, 24th October 2023)

SESSION I

07:30 – 08:30	Breakfast	All
09:00 – 09:05	Opening Remarks:	Representative Local Organising Committee
09:05 – 09:50	Presentation: Identification and characterization of major air pollutants	Mr. Cosmos Wemegah, UENR
09:50 – 10:05	Q&A	
10:05- 10:45	Presentation: Overview of the air pollution situation in Ghana	Dr. Raphael Arku, UMass, Amherst, USA
10:45 – 10:55	Q&A	
10:55 – 11:10	Break	
11:10 – 11:50	Presentation: Air pollution and Air Quality Monitoring in Ghana	Mr James Nimo, University of Ghana
11:50 – 12:00	Q&A	

SESSION II

12:00 – 12:40	Presentation: Forest Emissions and their Impact on Air Quality	Dr. Caleb Mensah, UENR
12:40 - 12:50	Q&A	
13:00 – 14:00	Lunch	All
14:00 – 14:40	Presentation: Regional air pollution and air quality monitoring in West Africa	Dr. Dan Westervelt, Columbia University
14:40 – 14:50	Q&A	
15:00 – 16:30	Presentation / practical computing session: Analysing air pollution data and calculating health-relevant metrics.	Dr. Carly Reddington , Leeds / Aisha Shittu, Leeds
16:30 – 16:40	Wrap Up and Closing	Rapporteur
17:00 – 18:00	Dinner	

Day Three: Health and Social Impacts of Air Pollution (Wednesday, 25th October 2023)

SESSION I

07:30 – 08:30	Breakfast	All
09:00 – 09:05	Opening Remarks	Representative Local Organising Committee
09:05 – 10:05	Presentation: Health effects of exposure to air pollutants	Dr. Reginald Quansah, University of Ghana
10:05 – 10:15	Q&A	
10:15 – 10:50	Discussion on Social Perceptions of Air Pollution	Dr. Reginald Quansah, University of Ghana
10:50 – 11:00	Q&A	
11:00 – 11:20	Break	
11:20 – 12:20	Presentation: Vulnerable populations and the social dimensions of air pollution	Dr. Raphael Arku, UMass, Amherst, USA
12:20 – 12:40	Q&A	
12:50 – 13:50	Lunch	All

SESSION II

13:50 – 14:40	Practical Session on Air Quality Questionnaire Sampling & Focus Group Engagements (Co-Production)	Dr. Raphael Arku, UMass, Amherst, USA
14:40 – 15:00	Q&A	
15:00 – 16:30	Practical computing session: Health impact assessment of long-term PM2.5 exposure.	Dr. Carly Reddington, Leeds / Aisha Shittu, Leeds
16:30 – 16:40	Wrap Up & Closing	Rapporteur
17:00 – 18:00	Dinner	

Day Four: Air Quality Monitoring and Measurement Techniques (Thursday, 26th October 2023)

SESSION I

07:30 – 08:30	Breakfast	All
09:00 – 09:05	Opening Remarks	Representative Local Organising Committee
09:05 – 09:55	Presentation: Air pollution modelling case studies	Dr. Carly Reddington
09:55 – 10:05	Q&A	
10:05 – 10:55	Presentation: Air quality monitoring / techniques and instrumentation	Dr. Jim McQuaid, University of Leeds
10:55 – 11:05	Q&A	
11:05 – 11:20	Break	
11:20 – 11:50	Presentation: Introduction to low-cost sensor (Demonstrations)	Mr. James Nimo
11:50 – 12:00	Q&A	
12:00 - 12:40	Presentation: Challenges related to AQ monitoring using LCS	Mrs Aishah Shittu, University of Leeds
12:40 - 12:50	Q&A	
12:50 – 13:50	Lunch	All

SESSION II

13:50 – 14:50	Demonstration: Low-cost sensors for particulate matter measurement	Mr. James Nimo, University of Ghana
14:50 – 15:30	Demonstration: Low-cost sensors for gaseous measurement	Mr. James Nimo, University of Ghana
15:30 – 15:35	Break	All
15:35 – 16:30	Interactive Session / Networking	LOC
16:30 – 16:40	Wrap Up and Closing	Rapporteur
17:00 – 18:00	Dinner	

Day Five: Data Analysis and Interpretation (Friday, 27th October 2023)

Session I

07:30 – 08:30	Breakfast	All
09:00 – 09:05	Opening Remarks	Representative Local Organising Committee

09:05 – 09:55	Presentation: Remote sensing of air pollution from space and the application of these for monitoring air quality.	Dr Richard Pope, University of Leeds
09:55 – 10:10	Q&A	
10:10 – 11:10	Presentation / Practical: Data Retrieval from Alternative Sources (eg. satellite)	Mr. James Nimo / Mr. Cosmos Wemegah
11:10 – 11:20	Break	

SESSION II

11:20 – 12:50	Practical computing session: Data Analysis and Visualization	Mr. Cosmos Wemegah, UENR / Dr. JNA Aryee / Dr. E. I. Yamba, KNUST
12:50 – 13:00	Q&A / Discussion	
13:00 – 13:50	Lunch	All
13:50 – 14:20	Presentation: Interpretation of air quality indices and reporting	Mr. Cosmos Wemegah, UENR / Ms. Victoria Owusu Tawiah, CAF, Ghana
14:20 – 14:30	Q&A	
14:30 – 15:30	Practical computing session: Tutorial on air pollutant data retrieval from satellite.	Mr James Nimo / Mr. Cosmos Wemegah
15:30 – 15:45	Q&A / Discussions	
15:50 – 16:00	Wrap Up & Closing	Rapporteur
17:00 – 18:00	Dinner	

WEEKEND BREAK: (28th and 29th of October 2023) *Recreational Activity*

Week Two

Day Six: Air Quality Framework and Policies / Fieldwork (Monday, 30th October 2023)

07:30 – 08:30	Breakfast	All
09:00 – 09:05	Opening Remarks:	Local Organising Committee
09:05- 10:00	Presentation: Air Pollution Emission Standards	Mr. Emmanuel Appoh
10:00 – 10:10	Q&A	
10:10 – 10:25	Grouping of Participants for Practical Sessions	Local Organising Committee
10:25 – 10:40	Overview on Fieldwork	Local Organising Committee
11:20 – 17:00	Fieldwork / Lunch	Participants
17:00 - 17:10	Wrap Up and Closing	Rapporteur
17:10 –18:00	Dinner	

Day Seven: Mitigation Strategies and Fieldwork (Tuesday, 31st October 2023)

07:30 – 08:30	Breakfast	All
09:00 – 09:05	Opening Remarks:	Local Organising Committee
09:05 – 09:45	Presentation: Clean energy alternatives and renewable technologies	Dr. M. K. E. Donkor, KNUST
09:45 – 09:55	Q&A	
09:55 – 10:40	Presentation: Transportation and urban planning methods for reducing air pollution	Prof. Michael Poku-Boansi , KNUST
10:40 – 10:50	Q&A	
10:50 – 11:20	Break	
11:20 – 17:00	Fieldwork / Lunch	Participants
17:00 - 17:10	Wrap Up and Closing	Rapporteur
17:10 –18:00	Dinner	

Day Eight: Field Visit (Wednesday, 1st November 2023)

07:30 – 08:30	Breakfast	All
09:00 – 09:10	Opening Remarks:	Local Organising Committee
09:10 - 09:50	Presentation: Communication Strategies	Kwasi Debrah, LUV FM
09:50 - 10:00	Q&A	
10:00 – 16:00	Visit to a landfill site and Community Engagement / Lunch	Local Organising Committee
16:00 - 16:10	Wrap Up and Closing	Rapporteur
17:00 –18:00	Dinner	

Day Nine: Community Engagement and Public Awareness (Thursday, 2nd November 2023)

SESSION I

07:30 – 08:30	Breakfast	All
09:00 – 09:05	Opening Remarks:	Local Organising Committee
09:05 – 10:00	Presentation: Regulatory framework and policies in Ghana	Mr. Emmanuel Appoh
10:00 – 10:30	Presentation: Improving quantitative evidence base in a data scarce region: Examples from South Africa	Prof. Rebecca Garland, South Africa (virtual)
10:30 - 10:40	Q&A	
10:40 – 11:20	Panel Discussion: Importance of community involvement in air pollution reduction Chair / moderator: Dr. Emmanuel Quansah	Mr. Desmond Appiah, CAF, Mr. Emmanuel Appoh (formerly at EPA), Prof. Rebecca Garland (South Africa) GMet (Mr. Raphael Boakye), Public Health/Academia (Dr. Sandra Kwarteng), Media (Kwasi Debrah, LUV FM),
11:20 –11:30	Break	

SESSION II

11:30 – 16:00	Outreach to Local Schools / Lunch	Local Organising Committee
16:00 - 16:10	Wrap Up and Closing	Rapporteur
17:00 –18:00	Dinner	

Day Ten: Group Projects and Presentations / Evaluation and Wrap-up (Friday, 3rd November 2023)

07:30 – 08:30	Breakfast	All
09:00 – 09:05	Opening Remarks	Local Organising Committee
09:05 – 11:30	Group Presentations (Fieldwork, Community and School Engagement)	All Participants
11:30 – 11:45	Break	
11:45 – 12:50	Recap of key learnings from the summer school and evaluation	Rapporteur
12:50 – 13:50	Lunch	All
13:50 – 14:50	Closing ceremony and distribution of certificates	
14:50 – 15:30	Wrap Up	
17:00– 20:00	Network Dinner	

Departure (Saturday, 4th November 2023)