

Next Generation scientists for Africa's Transformation (NEGAT) Summer Camp
 Center for Innovative Drug Development and Therapeutic Trials for Africa (CDT-Africa)
 Addis Ababa University Sefere Selam Campus
 August 14 - 18, 2023



Day 1 (August 14, 2023)

Time	Activities	Activity leader (s)	Objective	Location
9:00 – 9:45 am	Orientation	Dr. Tsion Zewdu Hana Mekonnen	<ul style="list-style-type: none"> ○ Students take pre-questionnaire ○ Student introduce themselves ○ Go over general rules & safety rules ○ Introduce the NEGAT & the schedule ○ NEGAT Notebook distribute and explain 	Conference room
9:45 – 10:15 am	Meet and Greet	Prof. Abebaw Fekadu	<ul style="list-style-type: none"> ○ To introduce students about AAU, CDT-Africa, and the exciting path of medical discovery and research 	Conference room
10:15 – 10:45 am	Tea break			
10:45 – 12:30 pm	The road to drug discovery	Dr. Belete Legesse Aliyi Hassen Solomon Enquahone Dr. Fozia Ali	<ul style="list-style-type: none"> ○ Students get introduced to different drug discovery paths at CDT-Africa through their visit to the various laboratories ○ Natural Medicinal plants path (Dr. Fozia) ○ Synthesis path (Dr. Belete) ○ Microbial products path (Aliyi and Solomon) 	Natural products Lab Microbial products Lab Synthesis Labs
12:30 – 2:00 pm	Lunch			
2:00– 3:00 pm	Nature as a drug source (part 1)	Dr. Fozia Ali	<ul style="list-style-type: none"> ○ Students visit medicinal plant garden and discuss about various plants and their medicinal use ○ Each group harvests, washes, and takes their assigned medicinal plant to natural products laboratory 	Medicinal plant garden
3:00-4:00 pm	Nature as a drug source (part 2)	Dr. Fozia Ali Dr. Bulti Abdisa Hana Mekonnen	<ul style="list-style-type: none"> ○ Students learn how to blend harvested plants (Tena Adam, Damakese, Rosemary) in order to extract essential oils on Day 2 of NEGAT summer science camp 	Natural products laboratory

Day 2 (August 15, 2023)



Time	Activities	Activity leader (s)	Objective	Location
9:00 – 9:30am	Reflection & orientation	Dr. Tsion Zewdu Hana Mekonnen	<ul style="list-style-type: none"> ○ Collect feedback regarding Day 1 of the science camp ○ Students are oriented on activities planned for Day 2 	Conference room
9:30 – 12:30pm	Nature as a drug source (part 3)	<u>Hydrodistillation</u> Dr. Fozia Ali Dr. Bulti Abdisa <u>Agar plate preparation</u> Aliyi Hassen Solomon Enquahone	<ul style="list-style-type: none"> ○ Students extract essential oils using hydrodistillation from the plants they blended the day before ○ Students learn about how to extract essential oils from plants in order to test their medicinal activities ○ Students learn how to make Agar plates to culture bacteria 	Natural products laboratory
10:00 – 10:30 am	Tea break (Students leave during hydrodistillation)			
12:30 – 2:00 pm	Lunch break			
1:30 – 4:00pm	Meet your microbiome (Part 1)	Dr. Alemu Tekewe: G1 Aliyi Hassen: G2 Solomon Enquahone: G3	<ul style="list-style-type: none"> ○ Students learn about the various microorganisms that live with us ○ Students learn the impact of the microbiome on human health ○ Students learn how to culture bacteria in a safe and sterile manner. 	Microbiology Lab

Day 3 (August 16, 2023)



Time	Activities	Activity leader (s)	Objective	Location
9:00 – 9:20am	Reflection & orientation	Dr. Tsion Zewdu Hana Mekonnen	<ul style="list-style-type: none"> ○ Collect feedback regarding Day 2 of the science camp ○ Students are oriented on activities planned for Day 3 	Conference room
9:20 – 10:50am	Meet the scientists/ Speed mentoring	Dr. Agumasie Semahegn Dr. Alemu Tekewe Dr. Belete Legesse Dr. Fozia Ali Dr. Mekedes Demissie Dr. Geremew Tsegaye Dr. Tsion Zewdu Dr. Merga Belina Wondwossen Tensou	<ul style="list-style-type: none"> ○ Students learn about scientists journey to becoming a scientist and they get introduced to different scientific fields ○ Most importantly, the goal of this activity is to inspire the students so they can believe that they too can become scientists. ○ Students will be provided with pool of questions they can ask from if they need guidance 	Lounge
10:50 – 11:10 am	Tea break			
11:10 -12:30 pm	Meet your microbiome (Part 2)	Dr. Alemu Tekewe: G1 Aliyi Hassen: G2 Solomon Enquahone: G3	<ul style="list-style-type: none"> ○ Students learn about the importance of note keeping, careful observation of data, quality control (i.e. positive and negative control), etc ○ Students observe their own microbiome (i.e. bacterial colony from their mouth) and note how it compares with their peers after 24hr ○ Students test antibacterial properties of the essential oils that they extracted from their assigned medicinal plants 	Microbiology Lab
12:30 – 1:30 pm	Lunch break			
1:30 – 2:30pm	Tap the world's knowledge	Dr. Alemu Tekewe: G1 Dr. Tsion Zewdu: G2 Dr. Belete Legesse: G3	<ul style="list-style-type: none"> ○ Students learn about the online literature databases where scientists' published work on various topics are deposited (i.e. google scholar, etc) ○ Students learn how to search the database to learn about existing knowledge on the topic of interest 	Computer Lab
2:30 – 2:50pm	Tea Break			
2:50- 4:00pm	Share your exciting findings (part 1)	Dr. Alemu Tekewe: G1 Dr. Fozia Ali: G2 Dr. Belete Legesse: G3	<ul style="list-style-type: none"> ○ Students learn how to make PowerPoint Slides ○ Students learn about preparing concise and effective presentation ○ Students enter picture of their plates and literature search result on to their PowerPoint template 	Computer Lab

Day 4 (August 17, 2023)



Time	Activities	Activity leader (s)	Objective	Location
9:00 – 9:20am	Reflection & orientation	Dr. Tsion Zewdu Hana Mekonnen	<ul style="list-style-type: none"> ○ Collect feedback regarding Day 3 of the science camp ○ Students are oriented on activities planned for Day 4 	Conference room
9:20 – 10:20am	Meet your microbiome (Part 3)	Dr. Alemu Tekewe: G1 Aliyi Hassen: G2 Solomon Enquahone: G3	<ul style="list-style-type: none"> ○ Students observe their own microbiome (i.e. bacterial colony from their mouth) and note how it compares with their peers after 48hr ○ Students observe the effects of traditional medicinal plants on the growth of bacteria and document effect measurements 24hr after treatment 	Microbiology Lab
10:20 – 10:40am	Tea break			
10:40-11:10 am	Live your best life	Prof. Abebaw Fekadu Dr. Geremew Tsegaye	<ul style="list-style-type: none"> ○ introduce kids to the concept of personal excellence and the important role they can play now to engender the change we want to see in Ethiopia and Africa 	Conference room
11:10- 12:10pm	What is my data saying?	Dr. Merga Belina Dr. Alemu Tekewe: G1 Aliyi Hassn: G2 Solomon Enquahone: G3	<ul style="list-style-type: none"> ○ Students learn about qualitative and quantitative data, data analysis, the importance of quality control (i.e. positive and negative control, replicates), etc ○ Students learn how to analyze data to answer specific question ○ Students learn how to make conclusion and inference from data ○ Students learn how to use Microsoft Excel 	Computer Lab
12:10 – 1:10pm	Lunch break			
1:10 – 2:10pm	Access the world's data	Dr. Tsion Zewdu Desye Melese Betselot Zerihun	<ul style="list-style-type: none"> ○ Students will acquire more data about the plants and their biological activity from publically available database using user-friendly bioinformatics tools. ○ Students are introduced to the field of bioinformatics 	Computer Lab
2:10 – 2:30pm	Tea Break			
2:30 - 4:00pm	Share your exciting finding (part 2)	Dr. Alemu Tekewe: G1 Dr. Fozia Ali: G2 Dr. Belete Legesse: G3	<ul style="list-style-type: none"> ○ Students learn how to make PowerPoint Slides ○ Students learn about preparing concise and effective presentation ○ Students enter picture of their plates and literature search result on to their PowerPoint template 	Computer Lab

Day 5 (August 18, 2023)



Time	Activities	Activity leader (s)	Objective	Location
9:00 – 9:30am	Reflection & Orientation	Dr. TSION Zewdu Hana Mekonnen	<ul style="list-style-type: none">○ Collect feedback regarding Day 4 of the science camp○ Students are oriented on activities planned for Day 5	Conference room
9:30 – 10:30am	Share your exciting finding (part 3)	Dr. Alemu Tekewe: G1 Dr. Fozia Ali: G2 Dr. Belete Legesse: G3	<ul style="list-style-type: none">○ Students learn about preparing concise and effective presentation○ Students practice presenting to an audience	Computer Lab
10:30 – 11:00am	Tea break/post-questionnaire			
11:00 -12:30pm	Share your exciting finding (part 4)	Dr. Alemu Tekewe: G1 Dr. Fozia Ali: G2 Dr. Belete Legesse: G3	<ul style="list-style-type: none">○ Students practice presenting to an audience	Conference room
12:30 – 1:30pm	Lunch			
1:30 – 3:00pm	Students' Presentation	Prof. Abebaw Fekadu Dr. TSION Zewdu	<ul style="list-style-type: none">○ Students present their findings to an audience (their peers, their parents, and CDT-Africa staff)	Conference room
3:00 – 4:00pm	Closing ceremony	Prof. Abebaw Fekadu Prof. Eyasu Mekonnen Guest of Honor	<ul style="list-style-type: none">○ Students are awarded certificate for completing the science camp	Conference room