

## Proposed schedule for Algae Ecology & Biotechnology Training Workshop

November 21, 2022 (Day 1)	
9:00-9:30	REGISTRATION (Auditorium, Institute of Botany, PU, Lahore)
9:35	INAUGURAL SESSION Recitation from Holy Quran
9:40	Naat Sharif
9:45	Welcome & Introduction by Prof. Dr. Ghazala Yasmeen Butt
9:50	Address by International speaker
9:55	Address by Prof. Dr. Aliya Rehman
10:00	Address by Dr. Aiysha Begham Khan
10:05	Address by Dr. Ehsan Elahi Valeem
	Address by Prof. Dr. Abdul Nasir Khalid (Director, Institute of Botany)
10:10	Address by Vice Chancellor, University of the Punjab, Lahore
10:15	REFRESHMENTS
10:30-11:00	TECHNICAL SESSION I At Auditorium, Institute of Botany, PU, Lahore
Lecture-1	Environmental and Ecological impact on algae by International Speaker
Lecture-2	Algal distribution and biotechnology by Prof. Dr. Ghazala Yasmeen Butt
12:00	VISIT TO BOTANICAL GARDEN For Algal Collection <i>Bench work on Collected Algal Specimens</i> (Algal Diversity/ preservation)
13:00-14:00	LUNCH & PRAYER BRAKE
14:00	<i>Bench work on</i> Collected Algal Specimens (Different Algal Phyla)
15:30	TECHNICAL SESSION-II Botany Auditorium
Lecture-3	Introduction of marine algal ecology and its impact Dr. Ayesha Begham Khan
16:00	VISIT TO PHYCOLOGY RESEARCH LABORATORY
16:30-17:00	Resource persons: Group discussion about algae (to understand the level of attendees of the course)
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November 22, 2022 (Day 2)	

9:00	Tea/ coffee
9:30	Welcome and Introduction of the day activity by Prof. Dr. Ghazala Yasmeen Butt
9:45	TECHNICAL SESSION-III Botany Auditorium
Lecture-4	Algal culturing and their Uses Dr. Ehsan Elahi Valeem
10:15	<i>Bench work on</i> Collected Algal Specimens (Identification)
12:00	Group discussion on algal identification
12:30	<i>Lab work for culturing (in groups)</i> Media (Chu#10/ Bold Basal) and Petri plates preparation
14:00-15:00	LUNCH & PRAYER BRAKE
15:00	TECHNICAL SESSION-IV Botany Auditorium
Lecture-5	Algal Extraction for lipids by Prof. Dr. Ghazala Yasmeen Butt
15:30	<i>Lab work for culturing (in groups)</i> In continuation of Media & Petri plates
16:30-17:00	Quiz/ discussion/ Question answers
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November 23, 2022 (Day 3)	
9:00	Tea/ Coffee
9:30	Welcome and Introduction of the day 3 <sup>rd</sup> activities by Prof. Dr. Ghazala Yasmeen Butt
9:45	TECHNICAL SESSION-V Botany Auditorium
Lecture-6	Algal Extraction for Lipids by Foloch method Dr. Nazim Hussain
10:15	<i>Bench work on</i> selected species Folch method for lipid extraction
13:00	Group discussion <i>in lab</i> on different steps
13:30	<i>Lab work continue</i>
14:00-15:00	LUNCH & PRAYER BRAKE
15:00	TECHNICAL SESSION-VI Botany Auditorium
Lecture-7	Algal Nutrients & their importance by Prof. Dr. Aliy Rehman
15:30	<i>Bench work</i>
16:30-17:00	Discussion/ Question Answers
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November 24, 2022 (Day 4)	
9:00	Tea/ Coffee
9:30	Welcome and Introduction of the day 3 <sup>rd</sup> activities by Prof. Dr. Ghazala Yasmeen Butt
9:40	<i>Lab work (Evaporation, measurement &amp; decolorizatio)</i>
12:00	discussion

12:30	Lab work (Pre-esterification, Alkali catalyzed Traus- esterification of the lipids/ extraction/ vacuum distillation procedure)
14:00-15:00	LUNCH & PRAYER BRAKE
15:00	TECHNICAL SESSION-VII Botany Auditorium
Lecture-8	Physiochemical test and its importance International Speaker
15:30	<i>Bench work on physiochemical test (performed ingroups)</i> Determination of Cetane number/ Saponification value/ Iodine number/ Degree of unsaturation/ long chain saturated factor/ cold filter plugging point/ viscosity/ density/ oxidation stability/ high heat value/ acidic value/ aniline point/ moisture test)
16:30-1700	Discussion/ Question Answers
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November 25, 2022 (Day 5)	
9:00	Tea/ Coffee
9:30	Welcome and Introduction of the day 3 <sup>rd</sup> activities by Prof. Dr. Ghazala Yasmeen Butt
9:40	<i>Lab work Fatty acid analysis</i>
12:00	discussion
12:15	TECHNICAL SESSION-VIII Botany Auditorium
Lecture-9	Software introduction Dr. Nazim Hussain
12:45	<i>Bench work on</i> PROMETHEE-GAIA Software & Biodiesel Analyzer Software
14:00-15:00	LUNCH & PRAYER BRAKE
15:00	CONCLUDING REMARKS Botany Auditorium by Prof. Dr. Razi Abbas Shamsi (Emiratis Professor) and Prof. Dr. Abdul Nasir Khalid (Director, Institute of Botany, University of the Punjab, Lahore)
15:20	Vote of Thanks by Prof. Dr. Ghazala Yasmeen Butt (Chief organizer)
15: 25	Distribution of the Shield & Certificate
16:00	REFRESHMENT