

Research Lab Sheet

Lab Name	Bacteriology Laboratory
Academic Year	2021-2022

Basic Information	
Department	Botany Department
Location	Faculty of Science
Total area (m²)	40 m²

Lab Members				
No. of Prof.	No. of Ass. Prof.	No. of Lect.	No. of Ass. Lect. & Demonst.	No. of technicians
2	2	1	3	-



كلية العلوم
Faculty of Science

حاصلة على شهادة الاعتماد من الهيئة القومية
لضمان جودة التعليم والاعتماد في 2012/7/12م



جامعة سوهاج
University of Sohag

Staff members

	Name	Scientific degree	e-mail	Specializations	Link of homepage
1	Prof. Magdy A. Abo Gharbeia	Ph.D.	abwghrbyhmjdy@gmail.com	Microbiology	
2	Prof. Ali E. Abo Amer	Ph.D.	a.abo-amer@science.sohag.edu.eg		http://www.researchgate.net/profile/Aly_Abo-Amer/
3	Prof. El Sayed M. Soltan	Ph.D.		Microbiology	
4	Dr. Rehab M. Mohammed	Ph.D.	rehab_mustafa@yahoo.com	Microbiology	
5	Dr. Marwa M. Farghaly	Ph.D.		Microbiology	

Ass. Lecturers & Demonstrators

	Name	Scientific degree	e-mail	Specializations	C.V
1	D. Maha M. Mohammed	Ph.D.	maha90182@gmail.com	microbiology	
2	Dina Hussien	Bachelor		microbiology	
3	Mohamed Abo El Fadl	M.sc.		microbiology	

Researchers

1	Warda Aref Osman	Bachelor	sci.warda@yahoo.com	microbiology	
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These produced by the Lab			
M. SC. Thesis			
	Degree	Title	Approval date
1	M. Sc.	"Bacteriological and physiological studies of the effect of some heavy metals and the herbicide 2, 4- D on growth and nitrogenase activity of <i>Azotobacter</i> spp. isolated from wastewater irrigated soil at Sohag district"	2009
2	M. Sc.	Studies on endophytic microorganisms of some medicinal plants.	2010
3	M. Sc.	"Incidence of plasmids in bacteria isolated from agriculture soil and their roles in bioremediation"	2008
4	M. Sc.	Comparative study for removal of some heavy metals from liquid wastes using natural resources and bacteria"	
Ph.D. Thesis			
1	Ph.D.	(Study the effect of some medicinal plant extracts on human oral microflora).	2015
2	Ph.D.	Study of the endophytic microorganisms of some economic plant roots in Egypt with clear aspect to some physiological considerations.	2014
3	Ph.D.	Study of biodegradation ability of some bacteria isolated from Sohag soil on insecticide lannate"	2012

Articles produced by the Lab		
	Title	Journal information
1	Biogenic synthesis of ZnO nanoparticles and its potential use as antimicrobial agent against multidrug-resistant pathogens	SMF Gad El-Rab, AE Abo-Amer, AM Asiri Current microbiology 77 (8), 1767-1779, 2020
2	Antibiotic Resistant Genes in Multidrug-Resistant Extended-Spectrum β -lactamase-Producing <i>E. coli</i> Isolated from Children's Samples	Aly E Abo-Amer , Hani Moubasher American Academic Scientific Research Journal for Engineering, Technology, and Sciences 74 (2), 101-103, 2020
3	Isolation and prevalence of multidrug-resistant extended-spectrum β -lactamase-producing <i>E. Coli</i> from adults and children	AE Abo-Amer , H Moubasher, S Sliai Bioscience Research 67 (2), 888-897, 2019
4	Isolation, antimicrobial resistance profile and molecular characterization of bacteria from broiler	AE Abo-Amer , MY Shobrak, AD Altalhi BIOSCIENCE RESEARCH 15 (2), 900-912, 2018
5	Isolation and antimicrobial resistance of <i>Escherichia coli</i> isolated from farm chickens in Taif, Saudi Arabia	AE Abo-Amer , MY Shobrak, AD Altalhi Journal of global antimicrobial resistance 15, 65-68, 2018
6	Isolation, Incidence and Molecular Characterization of Drug-resistant <i>Escherichia coli</i> of Goat Milk	AE Abo-Amer , JA Alorabi Annual Research & Review in Biology, 1-9, 2018
7	Microbial deterioration of limestone of Sultan Hassan mosque, Cairo- Egypt and suggested treatment.	Abd-Elkareem, E. and Mohamed R., M. International Journal of Chem Tech Research, 10(5): 535- 552, 2017

8	Isolation of <i>Bdellovibrio</i> sp. from Wastewater and Their Potential Application in Control of <i>Salmonella paratyphi</i> in Water	AERR El-Shanshoury, AE Abo-Amer , OM Alzahrani Geomicrobiology Journal 33 (10), 886-893, 2016
9	Antibiotic resistance and molecular characterization of <i>Enterobacter cancerogenus</i> isolated from wild birds in Taif province, Saudi Arabia	AE Abo-Amer , MY Shobrak The Thai Journal of Veterinary Medicine 45 (1), 101, 2015
10	Isolation and Molecular Characterization of Heavy Metal-Resistant <i>Alcaligenes faecalis</i> from Sewage Wastewater and Synthesis of Silver Nanoparticles	AE Abo-Amer , AERR El-Shanshoury, OM Alzahrani Geomicrobiology Journal 32 (9), 836-845, 2015
11	Isolation and Molecular Characterization of Multidrug-Resistant <i>Salmonella</i> , <i>Shigella</i> and <i>Proteus</i> from Domestic Birds	AE Abo-Amer , MY Shobrak The Thai Journal of Veterinary Medicine 45 (1), 23, 2015
12	Biosorption of zinc and cadmium by <i>Klebsiella pneumonia</i> KM609983 isolated from Sohag, Egypt.	Mohamed, R. M. Global Advanced Research Journal of Microbiology. 4(2):018-026, 2015
13	In vitro antibacterial activity of <i>Ipomoea reptans</i> extracts.	Gad, M. H., Mohamed, R. M. , El-Sawi, N. M., Younes, S. H. and El-Ghadban, E. A. Global Advanced Research Journal of Medicine and Medical Science. 4(4): 190-193, 2015
14	Derivatives of thiazole, triazole and indole from endophytic <i>Streptomyces</i>	Mohammed, R. M. , El-Maghraby, O. M., Soltan and Mohammed, M. M.

	vinaceusdrappus KJ534509.	International Journal of Pure & Applied Bioscience, 2015
15	Role of wild birds as carriers of multi-drug resistant <i>Escherichia coli</i> and <i>Escherichia vulneris</i>	MY Shobrak, AE Abo-Amer Brazilian Journal of Microbiology 45 (4), 1199-1209, 2014
16	Isolation and Molecular Characterization of Heavy Metal-Resistant <i>Azotobacter chroococcum</i> from Agricultural Soil and Their Potential Application in Bioremediation	AE Abo-Amer, MA Abu-Gharbia, ESM Soltan, WM Abd El-Raheem Geomicrobiology journal 31 (7), 551-561, 2014
17	Biosorption of cadmium by living and lyophilized biomass of <i>Bacillus cereus</i> DAA54 and <i>Pseudomonas aeruginosa</i> DAA86.	Mohamed, R. M., Abu-Gharbia, M. A. and Abdelrehim, D. A. Jokull Journal, Vol. 64(2): 202-250, 2014.
18	Endophytic fungi of three economic plant roots in Sohag, Upper Egypt.	El-Maghraby, O. M. O., Soltan, S. M. , Mohammed, Rehab M. and Mohammed, Maha M. Journal of Environmental Studies [JES] 13: 39-52, 2014.
19	Biosorption of aluminum, cobalt, and copper ions by <i>Providencia rettgeri</i> isolated from wastewater	AE Abo-Amer, AB Ramadan, M Abo-State, MA Abu-Gharbia, HE Ahmed Journal of basic microbiology 53 (6), 477-488, 2013
20	Inhibition of foodborne pathogens by a bacteriocin-like substance produced by a novel strain of <i>Lactobacillus acidophilus</i>	AE Abo-Amer Applied biochemistry and microbiology 49 (3), 270-279, 2013

	isolated from camel milk	
21	Endophytic fungi of three leguminous plant roots in Egypt.	El-Maghraby, O. M., M. Soltan , E. M. Mohammed, R. Mohammed, M. M. Journal of Basic & Applied Mycology 4: 59-68, 2013
22	Characterization of a strain of Pseudomonas putida isolated from agricultural soil that degrades cadusafos (an organophosphorus pesticide)	AE Abo-Amer World Journal of Microbiology and Biotechnology 28 (3), 805-814, 2012
23	Partial characterization of a bacteriocin produced by Lactobacillus salivarius isolated from oral cavity of desert foxes	AE Abo-Amer , MY Shobrak African Journal of Microbiology Research 6 (36), 6589-6599, 2012
24	Isolation and characterization of heavy-metal resistant microbes from roadside soil and phylloplane	RM Mohamed, AE Abo-Amer Journal of Basic Microbiology 52 (1), 53-65, 2012
25	Biodegradation of diazinon by Serratia marcescens DI101 and its use in bioremediation of contaminated environment	AE Abo-Amer J Microbiol Biotechnol 21 (1), 71-80, 2011
26	Molecular approach for detection of waterborne pathogens	AE Abo-Amer Nova Science Publisher's, 2011
27	Optimization of bacteriocin production by Lactobacillus acidophilus AA11, a strain isolated from Egyptian cheese	AE Abo-Amer Annals of microbiology 61 (3), 445-452, 2011

28	RpoS-independent and growth phase-dependent expression of dcuSR operon of <i>Escherichia coli</i>	A Abo-Amer , A Altalhi Acta Microbiologica et Immunologica Hungarica 56 (3), 211-227, 2009
29	Isolation, characterization and application of bacterial population from agricultural soil at Sohag Province, Egypt	AE Bahig, AE Abo-Amer , AA Khaled, KA Amel Malaysian Journal of Microbiology 4 (2), 42-50, 2008
30	Behavioral response of resistant and sensitive <i>Pseudomonas aeruginosa</i> S22 isolated from Sohag Governorate, Egypt to cadmium stress.	Soltan, E. M; Mohamed, R. M and Shoreit, A. A. African Journal of Biotechnology Vol. 7 (14), 2008
31	Characterization of a bacteriocin-like inhibitory substance produced by <i>Lactobacillus plantarum</i> isolated from Egyptian home-made yogurt	AE Abo-Amer Sci. Asia 33 (3), 313-319, 2007
32	Involvement of chromosomally-encoded genes in malathion utilization by <i>Pseudomonas aeruginosa</i> AA112	A Abo-Amer Acta microbiologica et immunologica Hungarica 54 (3), 261-277, 2007
33	Molecular characterization of antimicrobial compound produced by <i>Lactobacillus acidophilus</i> AA11	A Abo-Amer Acta microbiologica et immunologica hungarica 54 (2), 107-119, 2007
34	Chromosomal genes-mediated inhibition of intestinal and foodborne pathogens by <i>Lactobacillus acidophilus</i> AA11	AE Abo-Amer Rev Latinoam Microbiol 48 (1), 24-30, 2006
35	Inhibición mediada por genes cromosomales por <i>Lactobacillus acidophilus</i> AA11 de patógenos intestinales	AE Abo-Amer Revista Latinoamericana de Microbiología 48 (1), 24-30, 2006

	y de alimentos	
36	Heavy metals resistant plasmid-mediated utilization of solar by <i>Pseudomonas aeruginosa</i> AA301	AE Abo-Amer, RM Mohamed ROMANIAN ARCHIVES 55, 113, 2006
37	DNA Interaction and Phosphotransfer of the C4-Dicarboxylate- Responsive DcuS-DcuR Two-Component Regulatory System from <i>Escherichia coli</i>	AE Abo-Amer , J Munn, K Jackson, M Aktas, P Golby, DJ Kelly, ... Journal of bacteriology 186 (6), 1879-1889, 2004
38	Molecular biological analysis of DcuS-DcuR controlling Câ ²⁺ -dicarboxylate dependent gene expression in <i>Escherichia coli</i>	AESA Abo-Amer University of Reading, 2003
39	Microbial degradation of building stones of Abydos temple at Upper Egypt.	Soltan, E. M and Mohamed, R. M The African journal of Mycology and Biotechnology; Vol. 7 1-14, 1999
40	Microflora of inhibiting wall paintings of Abydos temple in Upper Egypt.	El-Sharouny, H.M.; Soltan, E. M. and Mohamed, R. M. Egyptian journal of Microbiology. 36: 19-37, 1999
41	Aerospora of Abydos temple at Upper Egypt.	El-Sharouny, H.M.; Soltan, E. M. and Mohamed, R. M. Egypt. J. Microbiol. 35, 391-408, 1998
42	Optimization of bacteriocin production by <i>Lactobacillus plantarum</i> AA135	AE Abo-Amer , BA El-Deep, AD Altalhi ROMANIAN ARCHIVES 285, 36, 1971

Lab instruments						
#	Device	quantity	Quality			
			Good	Poor	Need maintenance	malfunction
1	Laminar flow Clean Beach	1	√			
2	Shaker & Warm Incubator	1			√	
3	Warm Incubator	1	√			
4	Hot plate	1	√			
5	Refrigerator	2	√			
6	Electronic Microscope	2	√			
7	Electronic Oven	1	√			
8	Autoclave	1	√			

Instruments Description	
Device name	Description /use
Laminar flow Clean Beach	Laminar airflow is used to separate volumes of air, or prevent airborne contaminants from entering an area. Laminar flow hoods are used to exclude contaminants from sensitive processes in science, electronics and medicine.
Shaker & Warm Incubator	The incubator shaker is a temperature controlled biochemical instrument combining incubation and shaking functions. It is used in cell culture, fermentation, hybridization, biochemistry and research of enzyme and cell tissues which require a high quality of temperature control and shaking speed.
Warm Incubator	Incubators and radiant warmers are used to maintain the body temperature of newborn infants. This is best done so that the energy expended for metabolic heat production is minimized. ... They may also reduce total heat loss, but only if air temperature is controlled rather than skin temperature.
Hot plate	Heating plates are professional heating devices used in temperature control technology to heat a wide variety of laboratory vessels, such as heating baths, Erlenmeyer flasks, beakers, distillation flasks or round flasks.
Refrigerator	The refrigerator in a laboratory is one of the most important equipment. Its function is to maintain,

	in a controlled environment (refrigerated space), various fluids and substances, so that they are kept in good condition the lower the temperature, the lower chemical and biological activity .
Electronic Microscope	Electron microscopes are used to investigate the ultra-structure of a wide range of biological and inorganic specimens including microorganisms, cells, large molecules, biopsy samples, metals, and crystals. Industrially, electron microscopes are often used for quality control and failure analysis.
Electronic Oven	Laboratory ovens, also referred to as laboratory furnaces, are used to sterilize biohazard waste, dissecting instruments or media/reagents for aseptic assays. They are also used for drying, heating, testing environmental stresses, such as changes in temperature, light and humidity.
Autoclave	The autoclave is a sealed device (similar to a pressure cooker) that kills microorganisms using saturated steam under pressure. The usual procedure is to heat at 1.1 kilograms/square centimeter (kg/cm ²) [15 pounds/square inch (lb/in ²)] steam pressure, which yields a temperature of 121°C.

Evaluate the fulfillment of lab to appropriateness of areas, building installations, facilities and human resources standards

Areas of assessment		Indicators	Yes	Somewhat	No
Floor area and capacity	1	Adequacy of the total capacity of the lab for the number of researcher (1).			√
Windows and doors	2	Availability of windows for adequate ventilations.		√	
	3	Ease of use of windows.			√
Equipment	6	Appropriate temperature during the lectures (3).		√	
	7	Availability of good ventilation (4).			√
	8	The existence of adequate lighting (4).			√
	9	Lab is connected to the Internet			√
	10	The existence of directions inside the Lab showing entrances and emergency exits.			√
Security and Safety	11	Existence of firefighting equipment near the hall (5).	√		
	12	Cleanliness of the room.	√		



حاصلة على شهادة الاعتماد من الهيئة القومية
لضمان جودة التعليم والاعتماد في 12/7/2012م

