

Learning Support Facilities of the Agrotechnology Study Program

Genomic Laboratory

Description

The Genomic Laboratory supports the advancement of agricultural biotechnology by providing facilities for direct DNA and RNA sequencing using Oxford Nanopore Technologies (ONT), including PromethION P2 Solo and MinION. These tools enable real-time genetic analysis for crop improvement, pathogen detection, and agrochemical residue monitoring. The lab plays a pivotal role in enhancing precision agriculture through nanobiosensors and supports the development of pest-resistant and nutrient-rich crops. It also contributes to student competency development across all Agrotechnology concentrations, particularly in the field of genetic and molecular biology.

Functions and Roles

1. Facilitates practical sessions in molecular biology and genetics, giving students hands-on experience in DNA/RNA extraction, sequencing, and bioinformatics analysis.
2. Supporting research in precision medicine, focusing on the identification of genetic biomarkers for more personalized diagnosis and therapy. Furthermore, it plays a key role in genomic research for biotechnology applications, such as developing disease-resistant plants and microorganisms for industrial use.

Available Laboratory Equipment

NO	EQUIPMENTS	AMOUNT	CONDITION
1	PC Basecall Server	1	Good
2	(H12106) VenomRX DAEMON XL White ATX Gaming Case	1	Good
3	(U65340) msi gpu 4090 rtx	1	Good
4	(X22501) PROCESSOR AMD RYZEN 9 5950X 4.9GHz BOX	1	Good
5	(N42239) Gamemax 800W VP-800-RGB	1	Good
6	(P57533) Motherboard Mainboard MSI MEG X570 Ace Socket AM4 DDR4	1	Good
7	(W02856) AOSNKE 16GB	1	Good

8	(M0323) AOSNKE 16GB	1	Good
9	(S32053) AOSNKE 16GB	1	Good
10	(F51414) AOSNKE 16GB	1	Good
11	(G60630) AOSNKE AS380 1TB NVMe M.2 2280 PCIe Gen 3x4 SSD Solid State Drive	1	Good
12	(3pcs) kabel sata orange x3	1	Good
13	(X27848) TP-LINK TL-WN823N USB WiFi	1	Good
14	(Z49112) FAN AMD	1	Good
15	(P80186) FAN RGB RX7 12CM / FAN CHASING RGB / FAN CASING 12CM FULL COLOUR - Rainbow	1	Good
16	(D88840) FAN RGB RX7 12CM / FAN CHASING RGB / FAN CASING 12CM FULL COLOUR - Rainbow	1	Good
17	(B99870) Western Digital 18TB DC HC550 SATA 6gb/s Ultrastar mdl: WUH721818ALE6L4, p/n: 0F38459	1	Good
18	(M18689) Western Digital 18TB DC HC550 SATA 6gb/s Ultrastar mdl: WUH721818ALE6L4, p/n: 0F38459	1	Good
19	PromethION 2 Sequencing Unit Solo PRO-SEQ002 - P001002042	1	Good
20	Xiaomi Mi Smart Camera C200 1080P / C300 1296P 360° HD CCTV IP Cam - C300 2K - 42423/A4NJ94895	1	Good
21	Telkomsel Orbit Star H1 Modem WiFi 4G Huawei B311 B311B Free Kuota - PNG7S22526500789	1	Good
22	Xiaomi Smart Digital Thermometer 2 Mijia Bluetooth Sensor Kelembaban - 25328/13639043	1	Good
23	Xiaomi Smart Digital Thermometer 2 Mijia Bluetooth Sensor Kelembaban - 25328/13639020	1	Good
24	Xiaomi Smart Digital Thermometer 2 Mijia Bluetooth Sensor Kelembaban - 25328/13640233	1	Good
25	Micro SD 64GB Xiaomi Mi Smart Camera C200 1080P / C300 1296P 360° HD CCTV IP Cam	1	Good
26	Qubit 4 Fluorometer Invitrogen by Thermo Fisher Scientific - sn: 2322622188739	1	Good
27	JoanLab VORTEX MIXER VM-500 PRO FULL SET, Touch/Run easy to switch DIGITAL	1	Good

	DISPLAY, Touch: 0-3000RPM. Run: 100-3000RPM - SN: 032920241039		
28	JoanLab 96-hole PCR microplate DBS1 0.2ml*96 1500rpm - 2403001870	1	Good
29	JoanLab Standard centrifuge tube DBS2 1.5ml*24 1500rpm - 2403001812	1	Good
30	JoanLab Digital Display Heating Dry Bath Incubator Shaker Laboratory Equipment - DBSC100C - sn: BW239AL0000929	1	Good
31	ELVE-16 THERMAL CYCLER - BH80122S16002	1	Good
32	JoanLab MINI CENTRIFUGE MC-4K, Rotor:0.2ml*16+1.5/2.0ml*8 Speed: 4000rpm+5% RCF: 980xg - sn: 032920241087	1	Good
33	JoanLab CENTRIFUGE MC-15PRO DIGITAL DISPLAY, Speed:1000-14500rpm RCF 14104xg, Rotor:12x0.2ml/0.5ml/1.5ml/2ml tubes - SN: 032920241119	1	Good
34	Digital Microscope 9012100000 ABS Inspection model: 315, black	1	Good
35	JoanLab Laboratory Water Bath Constant Temperature Digital Display Heater WB100-1 AC 220v 300w - sn: 2023091101011	1	Good
36	JoanLab PIPETTE non autoclavable M2.5, 0.1-2.5UL SN: CU0427050	1	Good
37	JoanLab PIPETTE non autoclavable M10, 0.5-10UL SN: CU0427053	1	Good
38	JoanLab PIPETTE non autoclavable M100, 10-100UL SN: CU0427109	1	Good
39	JoanLab PIPETTE non autoclavable M1000, 100-1000UL SN: CU0427129	1	Good
40	JoanLab PIPETTE non autoclavable M50, 5-50UL SN: CU0427080	1	Good
41	JoanLab PIPETTE STAND L size, 3 pcs of pipette	1	Good
42	JoanLab PIPETTE STAND L size, 3 pcs of pipette	1	Good
43	laboratory alumunium rack heating cooling block for centrifuge tube 1,5ml and 0,2ml	1	Good
44	laboratory alumunium rack heating cooling block for centrifuge tube 1,5ml and 0,2ml (Wadah)	1	Good
45	laboratory alumunium rack heating cooling block for centrifuge tube 1,5ml and 0,2ml	1	Good
46	laboratory alumunium rack heating cooling block for centrifuge tube 1,5ml and 0,2ml (Wadah)	1	Good

47	60 holes double-sided plastic centrifugal pipe rack	1	Good
48	Routher Tp-Link Archer C54 AC1200 Dual-Band Wi-Fi Router - sn: 22442B5004943	1	Good
49	BHR6765GL Xiaomi Smart Home Hub 2	1	Good
50	ADAPTOR - Xiaomi Mi Smart Camera C200 1080P / C300 1296P 360° HD CCTV IP Cam	1	Good
51	kabel USB LINDY Type C to A USB 3.2 Gen2 10Gbps 3A 60W, 0.5M	1	Good
52	Automatic Voltage Regulator SVC-1000N Matsunaga	1	Good
53	Automatic Voltage Regulator SVC-1000N Matsunaga	1	Good
54	INFORCE UPS IF 2000NA - sn: E0122312UPS200134	1	Good
55	Notale Seco Smart Dehumidifier Serap Kelembapan With Wifi 12L/hari	1	Good
56	Polytron Mini Refrigerator 50L PRH 51R	1	Good
57	Polytron 100L PCF-118	1	Good
58	Oxford Nanopore Minion Mk1B (MIN-101B)	1	Good
59	Vaccine Carrier Box + Thermometer Digital / Cooler box Vaksin - 5L + thermo, Packing standar	1	Good
60	Digital Anlytical Balance Laboratory Scales Microbalance Electronic Precision	1	Good
61	2" Cryo-color Cryobox with 100-well dividers, 5 assorted colors, 5 pcs/pack (1 pcs)	1	Good
62	3D PROTOTYPE Magnetic-Rack-Final-(2).STL	1	Good
63	SSD midasforce 4tb - sn: MFRT400004240004	1	Good
64	JoanLab MINI VORTEX MIXER VM-210, 2100RPM MAX:50ML	1	Good
65	MinION Sequencer Device	1	Good