



# CAS-NGS

Center for Advanced Studies in  
Agriculture and Food Security  
University of Agriculture Faisalabad

Empowering Researchers with Affordable NGS

## Subsidized Sequencing Services

High-impact genomics at  
affordable research rates

%

LIMITED-TIME  
**SUBSIDIZED**  
COMMERCIAL RATES

### CORE SEQUENCING SOLUTIONS

From sample QC to  
sequencing-ready data

- ★ Whole Genome
- ★ Metagenomics
- ★ Transcriptomic
- ★ Epigenetics



### WHY CHOOSE CAS-NGS?

- Local access to advanced sequencing
- Expert scientific and bioinformatics support
- Affordable rates for academia and industry

### APPLICATIONS



Agriculture



Biodiversity



Human Health



Microbes



cas.afs@uaf.edu.pk



041-9201919, 041-9200161-71



ext 4241, 4244



03168662119



CAS\_NGS



Cas-Ngs



cas\_ngs



CAS-NGS



PARTNER WITH **CAS-NGS** FOR ACCESSIBLE GENOMICS SOLUTIONS



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## Who We Are

An in-house genomics platform for Pakistan

**CAS-NGS is an advanced genomics initiative of CAS-AFS, University of Agriculture Faisalabad.**

It has been developed to provide accessible, reliable and locally available sequencing and bioinformatics solutions for Pakistani scientists.

Our aim is to bridge the national gap in end-to-end genomics services from sample preparation and sequencing to bioinformatics analysis, interpretation, training and capacity building.

**Local Sequencing. National Capacity.  
Global-Standard Science.**

## Why In-House Sequencing Matters

**A national scientific capability, not just a service**

**1**

### **Reduce Delays**

Faster sample processing and project turnaround within Pakistan.

**2**

### **Lower Costs**

Affordable research rates with reduced dependence on international outsourcing.

**3**

### **Protect Resources**

Local biological material, germplasm and pathogen data remain better protected.

**4**

### **Retain Data Ownership**

Sequencing data and analysis outputs stay with Pakistani scientists and institutions.

Our Samples. Our Data. Our Discovery.



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## National Impact

**Building Pakistan's genomics future**

### Building Pakistan's genomics future

It is a step toward national scientific self-reliance, enabling Pakistan to generate, analyze, protect and use its own biological data for innovation, food security, biodiversity conservation and biotechnology-driven development.

**Partner with CAS-NGS for accessible,  
locally guided and globally relevant genomics.**

## SUCCESS STORIES

**Proven genomics milestones from local capacity**

### BUILDING NATIONAL CAPACITY IN ADVANCED GENOMICS



#### COTTON GENOME

- First locally adapted/developed cotton variety sequenced and assembled
- Gap-free, high-quality genome assembly
- Foundation for crop improvement and functional genomics



#### HEMP GENOME

- Local hemp genomes successfully sequenced
- Supports comparative genomics, breeding and trait discovery
- Demonstrates capacity for non-model plant genomes



#### MICROBIAL GENOMES

- Microbial genomes successfully sequenced and assembled
- High-quality, no-gap genome assemblies
- Useful for pathogen surveillance, diagnostics and biodiversity

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## Whole Genome Sequencing (WGS)

### Introductory Subsidized Rate Card

FREE OF COST DNA EXTRACTION (Till 31st August, 2026) | ON DEMAND DOWNSTREAM ANALYSIS

| Genome Category      | Genome Size Range | 30X -50x Coverage (PKR) | Includes                                                                                |
|----------------------|-------------------|-------------------------|-----------------------------------------------------------------------------------------|
| Microbial Genomes    | $\leq 10$ MB      | 25,000                  | Genome assembly, annotation, QC report and phylogeny free of cost                       |
| Small Genomes        | $\leq 1.0$ Gb     | 50,000 – 100,000        | Sequencing only (advance Bioinformatics service optional (20,000-50,000))               |
| Medium Sized Genomes | $\leq 2.0$ Gb     | 100,000 – 200,000       | Sequencing only (advance Bioinformatics service optional (50,000-100,000))              |
| Large Genomes        | $< 2.0$ Gb        | Quote-Based             | Sequencing and downstream analysis will be charged according to genome size and project |

## Transcriptome Sequencing

### Introductory Subsidized Rate Card

Date generated high-quality total RNA as per paired cDNA | Workflow starts from 0.240 Q+

| Service Category         | No of Samples            | Introductory Subsidized Rate | Includes                                                                          |
|--------------------------|--------------------------|------------------------------|-----------------------------------------------------------------------------------|
| Transcriptome Sequencing | RNA - seq (> 12 samples) | 60,000/smapple               | RNA-seq, Differential gene expression and functional analysis (+Rs 20,000-75,000) |

**Include:** Bioinformatics analysis, rRNA masking or subtraction, adapter removal, de-novo transcriptome assembly, gene prediction, functional analysis (GO & KEGG) and expression analysis (gene level or transcript level)

**Note:** Given rates are applicable when the client provides, purified, high-quality total RNA. Clients may alternatively submit RNA stabalized tissue sample or fresh biological samples. The final quotation will be provided based on the selected same submission option, sample type, project.

**Need more?** Our team is here to help you design the right solution for your research.



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## Metagenomics

### Subsidized Rate Card

FREE OF COST DNA EXTRACTION (Till 31st August, 2026) | ON DEMAND DOWNSTREAM ANALYSIS

Comprehensive microbial community profiling with accurate taxonomic, diversity, and functional analysis using advanced NGS and bioinformatics.

| Package                              | Data Output/sample | Rate PKR/Sample | Include                                                                                              |
|--------------------------------------|--------------------|-----------------|------------------------------------------------------------------------------------------------------|
| Whole Genome<br>Shotgun Metagenomics | 3 Gb               | 75,000/sample   | Sequencing output,<br>Taxonomic profiling<br>and abundance<br>analysis on demand<br>(+10,000-30,000) |

| Package              | No. of Samples | Rate PKR/Sample | Target Markers       |
|----------------------|----------------|-----------------|----------------------|
| Amplicon Metagenomic | >25 samples    | 25,000/ samples | 16S rRNA/ITS/18S/COI |

Diversity and Taxonomic analysis on demand (5,000-15,000)

**Note:** Deep shotgun metagenomics and advanced functional profiling, resistome/virolome analysis, MAG recovery, and publication-level downstream analysis will be charged separately.

## Targeted Sequencing

### Rapid & Cost-effective Genomic Solutions

We offer bespoke, cost-effective solutions whether you need sequencing and broad genomic package

| Plant Clone / Diversity                                                                                             | Targeted Gene Sequencing                                                                                           | Genome Wide Variant                                                                                               | Custom Solution Projects                                                                                |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>Intragenic detection</li><li>SNP identification</li><li>Haplotyping</li></ul> | <ul style="list-style-type: none"><li>Resistance genes</li><li>Virulence genes</li><li>Specific mutation</li></ul> | <ul style="list-style-type: none"><li>SNP discovery</li><li>SV identification</li><li>Genomic variation</li></ul> | <ul style="list-style-type: none"><li>ITS, 16S, COI</li><li>Exome, GBS</li><li>CRISPR studies</li></ul> |

| Package                       | No. of Samples | Rate PKR/Sample | Includes                                                                           |
|-------------------------------|----------------|-----------------|------------------------------------------------------------------------------------|
| Custom Targeted<br>Sequencing | >50 samples    | 25,000/ samples | PCR amplicon/target genes<br>customized bioinformatics analysis<br>(+5,000-20,000) |

**Need more?** Our team is here to help you design the right solution for your research.



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## Who Can Benefit?

Designed for academia, industry and applied research



Plant breeders



Plant pathologists



Microbiologists



Biotechnology researchers



Environmental scientists



Biodiversity researchers



Medical and public health researchers



Industry R&D teams



Entomology



MS, MPhil and PhD scholars

## Service-fit examples

- WGS for genome assembly and pathogen genomics
- Transcriptomics for stress and host-pathogen studies
- Metagenomics for soil health and microbiome diversity
- Targeted sequencing for diagnostics and marker validation

## What Makes CAS-NGS Different?

All-in-one genomics support under one platform



Sample preparation support



Sequencing services



Bioinformatics pipelines



Publication-ready outputs



Hands-on training



Collaborative project design

## Complete Service Workflow

Consultation

Sample QC

Library  
Preparation

Sequencing

Basecalling/QC

Bioinformatics

Report  
Discussion

CAS-NGS provides integrated experimental and computational support instead of fragmented outsourcing.

Our Samples. Our Data. Our Discovery.



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## Training & Capacity Building

Preparing Pakistani scientists for the genomics era

**CAS-NGS is not only a sequencing facility;  
it is a training and capacity-building platform.**

**Goal: develop a skilled national workforce in sequencing  
and computational genomics.**

## Data Ownership & Confidentiality

Our data should remain our scientific asset

**CAS-NGS respects data ownership,  
confidentiality and intellectual property.**

Project data, biological material information and analysis outputs remain the property of the client or research team unless otherwise agreed through formal collaboration or publication arrangements.

### National Scientific Self-Reliance

- Confidential project handling
- Client/research-team ownership
- Responsible use of local biological resources.
- Formal collaboration and publication clarity

Generate domestically. Analyze domestically. Protect domestically.

### Note:

- 1 Retes are subsidized for a promotional period valid until August 31, 2026
- 2 Final pricing for all services depends genome size, number of samples, required sequencing depth/coverage or read count, and any additional downstream bioinformatics analysis requested.

### Contact Information

✉ cas.afs@uaf.edu.pk  
☎ 041-9201919, 041-9200161-71  
☎ ext 4241, 4244

☎ 03168662119

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**CAS-AFS, University of Agriculture Faisalabad**

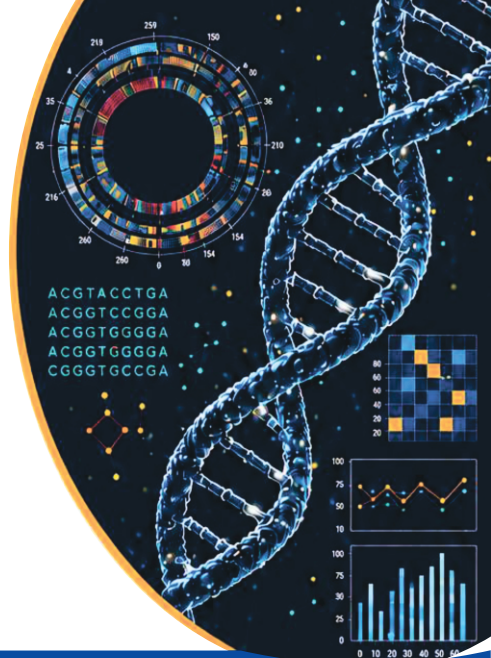


# GENEXA ANALYTICS

Transforming Complex  
Biological Data Into Useful Insights

## PROFESSIONAL BIOINFORMATICS ANALYSIS SERVICES

Advanced computational solutions for genomics,  
transcriptomics and metagenomics.  
From raw data to meaningful biological insights.



### OUR BIOINFORMATICS SERVICES



#### Genome Assembly

High-quality *de novo* and  
reference-based genome assembly.



#### RNA Seq Analysis

Differential expression, transcript assembly  
and functional interpretation.



#### Variant Calling

SNP, INDEL and structural variant detection  
with high accuracy.



#### Metagenomic Analysis

Taxonomic profiling, diversity analysis and  
functional characterization.



#### GWAS Analysis

Genome-wide association studies for trait  
discovery and population genetics.



#### Phylogenetic Analysis

Evolutionary relationships and phylogenetic  
tree construction.



#### Customized Bioinformatics Analysis

Tailored analysis workflows to meet your  
specific research needs.

### RATES (PKR)

| SERVICE                                           | RATES (PKR)      |
|---------------------------------------------------|------------------|
| Whole Genome Assembly<br>and Comparative genomics | 20,000 - 100,000 |
| RNA Seq Analysis                                  | 20,000 - 75,000  |
| Metagenomic Analysis                              | 5,000 - 30,000   |
| Variant Calling                                   | 5,000 - 50,000   |
| GWAS Analysis                                     | 5,000 - 25,000   |
| Phylogenetic Analysis                             | 5,000 - 15,000   |
| Customized Bioinformatics Analysis                | Quote on Request |

**i** Final cost depends on dataset size, projects complexity  
and analysis requirements.

### WHY CHOOSE GENEXA ANALYTICS?



Expert  
Bioinformatics Team



Fast  
Turnaround Time



Confidential &  
Secure Data Handling



Publication-ready  
Results



Competitive  
Pricing

LET'S TURN YOUR DATA  
INTO DISCOVERY.



genexaanalytics@gmail.com



+92 314 6272724 | +92 335 1311404



LinkedIn: Genexa Analytics



Facebook: Genexa Analytics



Instagram: @genexa\_analytics