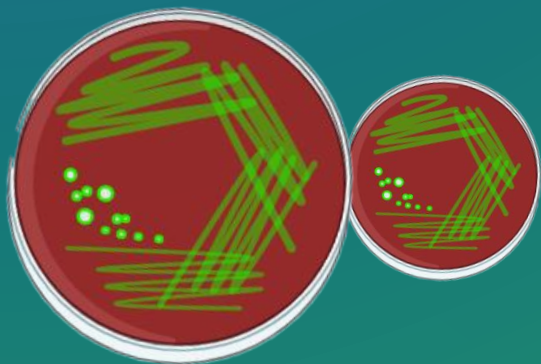


One Day One Genome

Pseudomonas simiae



- Isolation** Bacteria isolated from the environmental samples from Ny-Alesund, Arctic at 79°N, during Second Indian Arctic Expedition
- Findings** Sequencing identified genes coding *N*-Acyl Homoserine Lactone molecule which is associated with quorum sensing which help to survive in the cold environment. Quorum sensing is the process of cell-to-cell communication in bacteria which allow them to respond to changes in environmental conditions
- Application** Reveals gene regulation in bacteria thriving in such extremely cold environments and its role in regulating genes involved in cold adaptation.



Quality of Genome Assembly and Annotation:

Results from indigenously developed **BHARAT** analysis pipeline: (Bacterial Hybrid genome Assembly and Rapid Annotation Toolset)

Table 1: Assembly Details	
Contigs	124
GC Content	59.70
Contig L50	10
Genome length	6,265,466 bp
Contig N50	217,239

Table 2: Annotated Genome Features	
CDS	7,222
tRNA	56
Repeat Regions	0
rRNA	6

Subsystem Analysis

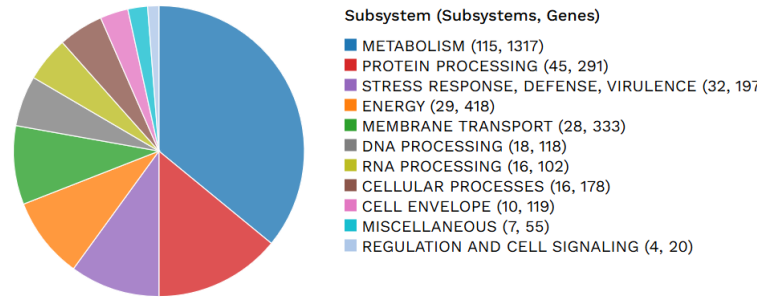


Table 3: Antimicrobial Resistance Genes	
AMR Mechanism	Genes
Antibiotic target in susceptible species	Alr, Ddl, dxr, EF-G, EF-Tu, folA, Dfr, folP, gyrA, gyrB, Iso-tRNA, kasA, MurA, rho, rpoB, rpoC, S10p, S12p
Antibiotic target replacement protein	FabG, fabV, HtdX
Efflux pump conferring antibiotic resistance	EmrAB-OMF, EmrAB-TolC, MacA, MacB, MdtABC-OMF, MdtABC-TolC, MexAB-OprM, MexEF-OprN, MexEF-OprN system, MexJK-OprM/OpmH, TolC/OpmH, TriABC-OpmH
Gene conferring resistance via absence	gidB
Protein altering cell wall charge conferring antibiotic resistance	GdpD, PgsA
Protein modulating permeability to antibiotic	OccD1/OprD, OccD2/OpdC, OccD3/OpdP, OccD4/OpdT, OccD6/OprQ, OccK5/OpdH, OccK6/OpdQ, OccK8/OprE, OprB, OprD family, OprF

Genome Assembly

