

Techniques	Genomics	Genotyping (MLST, PFGE, PCR-RFLP, microsatellite), microarray
	Gene editing	CRISPR/Cas gene editing, homologous recombination, knock-in, knock-out, knock-down, siRNA/shRNA silencing, transposon-mediated mutagenesis, PCR
		Gene delivery (transfection, transduction, electroporation, heterologous vectors such as adenovirus)
	Protein Chemistry	Protein expression and purification, 2D gel Electrophoresis
		Protein turnover (radioactive pulse-chase, ubiquitination)
		Chromatography (HPLC, FPLC, TLC, immuno-chromatography)
	Microbiology	Bacterial physiology (quorum sensing, biofilm formation)
		Virological techniques (propagation, titration, purification, neutralization, reverse genetics, mutagenesis, vectorization)
	Immunology & Vaccinology	Antibody engineering (hybridoma, hybrid antibodies, clonal population & screening)
		Flow cytometry, FACS, ELISpot, cytotoxicity, lymphoproliferation, cytokine analysis, ELISA, LFA
		Immunoprofiling, immunocyto/histochemistry, immuno-EM, immunoprecipitation, immunoblotting, immunofluorescence, cellular response assays
		Vaccine design and testing, Adjuvant design, testing and understanding their mechanism of action
	Cell and stem Cell Biology	Cell and organ culture
		Microscopy (confocal, TEM, SEM, live cell/animal imaging, super-resolution microscopy), FRET, ChIP
		Cell cycle regulation with respect to infection. Stem cell biology for its therapeutic applications
	Transgenic animals	Transgenesis (micromanipulation, germ-cell & testicular transgenesis) for determining functions of gene (s) and for generating disease models
	Nanotechnology	Electrospinning, SELEX, micromoulding, dynamic light scattering, nanoparticle formulation
	Diagnostics	Development of ELISA, Lateral Flow Assays
		Biosensor design/fabrication, Aptamers
	Bioinformatics	Pan-genomics, big data analysis, genome annotation, prediction algorithms
		Software & pipeline development, protein structure annotation, molecular modelling, simulation, docking
Machine learning techniques, programming languages		
Omics (NGS, genomics, RNAseq, transcriptomics, Southern blot, single cell genomics and transcriptomics, microarray, SNP chip)		
Biochemistry	Biochemical & biophysical inter-molecular interactions (pull-down, Y2H, M2H, microscale thermophoresis)	
	Enzyme kinetics, isothermal titration calorimetry	
	Surface plasmon resonance, circular dichroism	