

Priority Areas of Study

The ICAR International Fellowships are available in frontier areas of Agriculture and allied sciences at the recognized agricultural universities/ institutions in India and abroad. The identified priority areas are-

Biotechnology in plants, animals and fisheries: Gene knock-down technology, marker assisted selection (MAS), allele mining, transgenic technology, microbial molecular taxonomy, diagnostics and vaccines, molecular breeding, genome resource conservation, biofortification, bio-prospecting, bioremediation, bio-security, non-chemical non-thermal processing and membrane technology, apomixes, stem cell research, fermentation technology, nutri-genomics, nutra-ceuticals, bi-economics of effective agro-technologies Epigenetics and reproduction, Next generation gene sequencing, Immuno-physiology

Nanotechnology applications in agriculture comprising plant, animal and fisheries/ aquaculture sciences, natural resource management, Food/Fish processing etc.

Climate Change: Impact, adaptation, mitigation, Soil Carbon Sequestration, carbon trading/carbon sequestration in agro-ecosystems, methane mitigation in livestock etc.

Micro-molecules

Bioinformatics, Bio-environmental engineering, Ergonomics and agricultural safety, Advanced machine design,

Sensor-based applications including bio-indicators, bio-sensors

Endophyte biology

Agriculturally important biodiversity (including fisheries)

Herbivory process

Precision agriculture/farming, Hi-tech Horticulture, Aeroponics, Controlled environment agriculture

Functional foods/Health foods,

Post harvest management, Food Engineering, Extraction of bio-active compounds, Novel techniques for storage of food grains/food fishes, Processing and value addition, Extrusion processing, Designer fish foods, Value chain management, Smart/modified atmosphere packaging,

Canopy architecture management, Ultra High density orcharding

Development of pest and disease forecasting models, Development of diagnostics

Agri-waste utilization, Peri-urban horticulture, organic farming

Nutrient bioavailability

GIS & remote sensing, geo-informatics, image processing

Water Footprint and virtual water, Phyto-biomediation of waste/poor quality water

Soil & water conservation engineering, Conservation of bio-resources and species modeling, Soil microbe interactions for organic matter and nutrient dynamics

Computer aided designing of implements and processing plants

Bio-fuels

Veterinary health

Fresh water/Marine/Cold water fish breeding and culture

Pearl/crab culture, Fish disease diagnosis, vaccines and Immunoprophylaxis

Intensive aquaculture (cage culture, raceways)

Organic/ornamental aquaculture, Fish food formulation, FCR & flesh quality enhancement

Food safety and quality assurance, HACCP&GMP in Fish processing

Market intelligence, Multi-market modeling

Research evaluation and impact assessment

Institutional economics.

Decision Support Systems

Agro-forestry and sustainable Livelihoods

Management of sea water intrusion in inland and coastal aquifer

Note: The other frontier areas in agriculture and allied sciences may also be appropriately considered.