

CSIR-IHBT



Ultimate Destination for Research on Bioresources

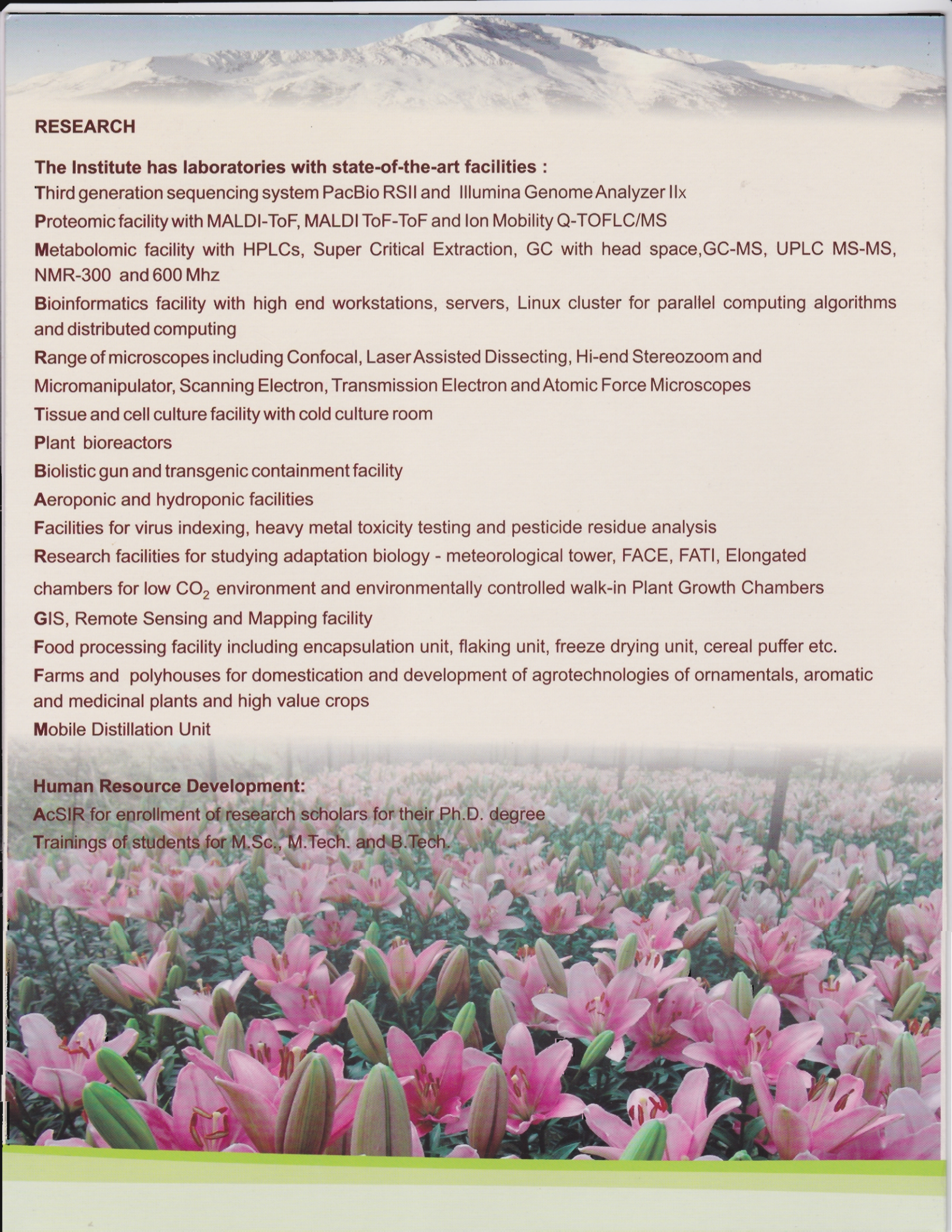


MISSION

Committed to develop technologies to boost bioeconomy through sustainable utilization of Himalayan bioresources

Contact

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RESEARCH

The Institute has laboratories with state-of-the-art facilities :

Third generation sequencing system PacBio RSII and Illumina Genome Analyzer IIx

Proteomic facility with MALDI-ToF, MALDI ToF-ToF and Ion Mobility Q-TOFLC/MS

Metabolomic facility with HPLCs, Super Critical Extraction, GC with head space, GC-MS, UPLC MS-MS, NMR-300 and 600 Mhz

Bioinformatics facility with high end workstations, servers, Linux cluster for parallel computing algorithms and distributed computing

Range of microscopes including Confocal, Laser Assisted Dissecting, Hi-end Stereozoom and Micromanipulator, Scanning Electron, Transmission Electron and Atomic Force Microscopes

Tissue and cell culture facility with cold culture room

Plant bioreactors

Biolistic gun and transgenic containment facility

Aeroponic and hydroponic facilities

Facilities for virus indexing, heavy metal toxicity testing and pesticide residue analysis

Research facilities for studying adaptation biology - meteorological tower, FACE, FATI, Elongated chambers for low CO₂ environment and environmentally controlled walk-in Plant Growth Chambers

GIS, Remote Sensing and Mapping facility

Food processing facility including encapsulation unit, flaking unit, freeze drying unit, cereal puffer etc.

Farms and polyhouses for domestication and development of agrotechnologies of ornamentals, aromatic and medicinal plants and high value crops

Mobile Distillation Unit

Human Resource Development:

AcSIR for enrollment of research scholars for their Ph.D. degree

Trainings of students for M.Sc., M.Tech. and B.Tech.

FACE for climate change research



Hi-tech analytical facility



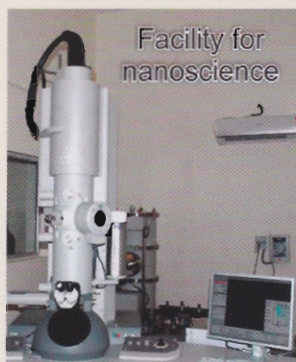
Pilot plant for developing functional food and nutraceuticals



State-of-the-art genome sequencing facility



Facility for nanoscience



CPCSEA approved animal house with flow cytometer and zebra fish facility for testing of bioactive compounds and toxicity of products and molecules

Preclinical testing facility



Facilities for translational research:

- Pilot plants for processing of herbals, nutraceuticals, tea, natural colours and extraction of essential oils
- Incubation center for food and nutraceutical processing under MSME, H.P. and CRTDH, DSIR

CSIR-IHBT CATERES TO

Food/Nutraceuticals: Ready to eat ethnic cuisines (Kangri Dham), buck-wheat based products, nutrimix and nutriibar, tea concentrates, tea & tea based wines, catechins, steviol glycosides, flavours, dietary fiber, antioxidants and SOD

Fragrances/Flavours/Essential oils/Health: Aescin, borneol, kutkin, *Ginkgo biloba* extract, rose water, bioactive molecules, natural vanillin, colours and dyes and medicated toothpicks

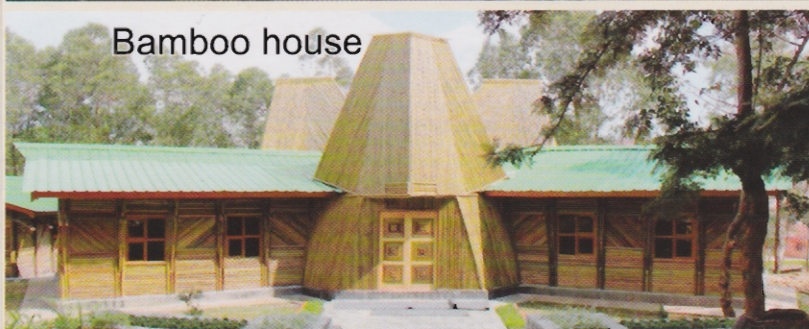
Biotechnology: Genes, recombinant enzymes, RNA isolation solution iRIS™, bamboo charcoal, tissue culture protocols for *Picrorhiza kurroa*, *Fritillaria roylei*, bamboo, rose, stevia, saffron, orchids, tea, lilies, apples, potatoes etc.

Inventions: Tea withering machine (PRECONDITIOINING MACHINE), tea plucking machine, mini laminar flow (STERIFLOW™), gel transfer device (GEPROTED™), mini distillation unit (HERBOSTILL™) and rooting vessel.

Farmers: Quality planting material of calla lily, gerbera, rose, thornless rose, elite rose root stocks, gladiolus, ornamentals, damask rose, tagetes, valerian, *Curcuma sp.*, *Hedychium sp.*, ginkgo, ginseng, viola, tea, stevia, bamboos, *Dracocephalum sp.*, artemisia, lemon grass, lavender, biofertilizers, biocontrol agents, biopesticides and viral diagnostic kits.



Auditorium & Library



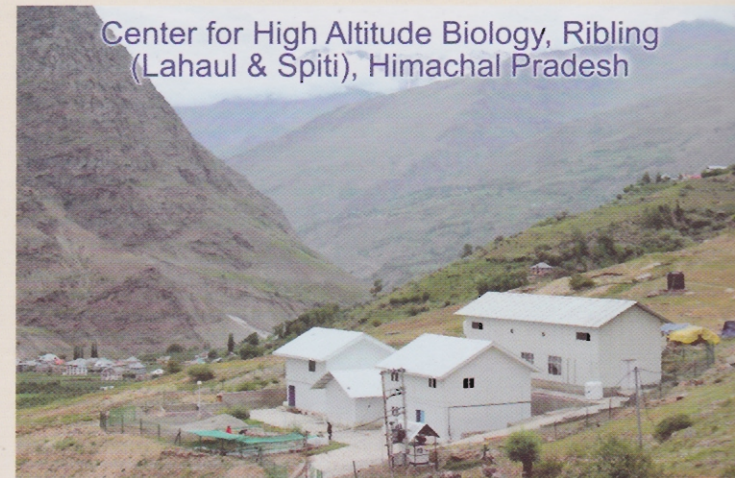
Bamboo house



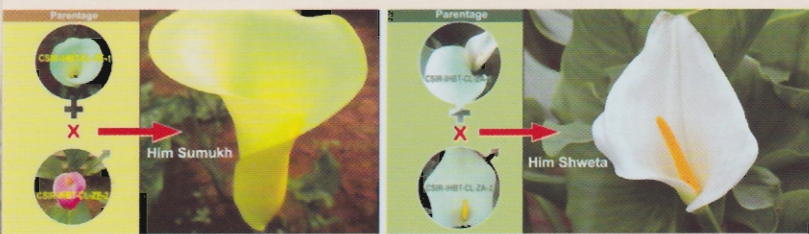
Guest house

SUPPORT FACILITIES

- Arboretum
- Fernery
- Bamboo treatment /charcoal making plants
- ICT-internally hosted web, E-mail and DNS
- servers linked under NKN with gigabyte and 24x7 Wi-fi connectivity
- Library- books, journals, databases, access to over 2000 online journals under network mode
- Studio- cameras for still and video photography, systems for sound recording, processing and making short documentaries.
- Liquid Nitrogen Plant
- Auditorium
- Training Block with virtual classroom
- Guest house
- Hostel

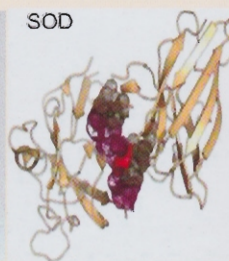


Center for High Altitude Biology, Ribling (Lahaul & Spiti), Himachal Pradesh



Function

- In situ and ex situ conservation of high altitude plants of importance
- Bioprospection and bioresource generation
- Climate change impact studies
- Evolving models for high altitude ecology
- Extension activities, training and capacity building



Dietary fiber

Freeze Dried Sapota

SOD

Catechin

Thornless rose