

Agricultural Sciences

<p>Institute of Applied Ecology, Chinese Academy of Sciences, 72 Wenhua Road, Shenyang 110 015, China</p>	<p>Research Activities: Forest ecology: Structure of forest community and its regeneration and succession, ecological physiology, genetic ecology and information systems, forest entomology and pathology. Forestry ecological engineering: Structure and management of forests, ecological climatology and plant systematic taxonomy. Agroecology: Structure, functions and ways in promoting productivity of agroecosystem. Pollution ecology: Transformation patterns of organic and inorganic pollutants in the terrestrial ecosystem.</p>
<p>Institute of Subtropical Agriculture (ISA), Chinese Academy of Sciences, Changsha P.O. Box 10, Hunan 410125, China</p>	<p>Research Activities: Sustainable subtropical agro-ecosystems; environmentally friendly, healthy livestock production; molecular ecology and crop breeding; improvement of regional agricultural systems; management of agricultural resources; monitoring of the processes of carbon and nutrient cycling in soil-crop systems; investigation of soil microbial diversity and microbial molecular mechanisms; molecular genetics of stress tolerant crops; manipulation of animal nutrition and farming animal safe production; integration of crop and animal production systems.</p>
<p>Centre for International Forestry Research (CIFOR), P.O. Box 0113 BOCBD, Bogor 16000, Indonesia</p>	<p>Research Activities: Environmental services and sustainable use of forests; forests and governance programme; forests and livelihood. The research agenda is organized as follows: enhancing the role of forests in mitigating climate change; enhancing the role of forests in adapting to climate change; improving livelihoods through smallholder and community forestry; managing trade-offs between conservation and development at the landscape scale; managing the impacts of globalised trade and investment on forests and forest communities; sustainability managing tropical production forests.</p>
<p>International Center for Agricultural Research in the Dry Areas (ICARDA), P.O. Box 5466, Aleppo, *Syria *Temporarily in Lebanon: P.O. Box 114/5055, Beirut, Lebanon</p>	<p>Research Activities: Conservation, characterization and evaluation of plant genetic resources; Crop improvement: wheat, barley, and food legumes (chickpea, faba bean, lentil); Integrated crop pest and disease management; Cropping systems management; conservation agriculture; Livestock (small ruminants) improvement and management; Integrated crop/livestock/rangeland systems; Water and land management. Socio-economic studies: poverty and livelihood analysis, value chain and market analysis, policy analysis, adoption and impact assessment. GIS/remote sensing and resource mapping.</p>
<p>Center for Genomic Sciences (UNAM), Av. Universidad s/n. Cuernavaca, Morelos, Mexico</p>	<p>Research Activities: Biological nitrogen fixation (Rhizobium-legume symbiosis, associative diazotrophs): Metabolic engineering - C and N metabolism - in Rhizobium and plants, taxonomy of N fixing bacteria, ecological analysis of plant bacteria interactions, molecular genetics of bacterial plasmids, agricultural applications. Genomics: Total genome sequence of Rhizobium etli, bacterial genome dynamics, molecular evolution in Rhizobium, bio-informatics of bacterial genomes, integration of the regulation of gene expression, Proteome of Rhizobium etli.</p>
<p>Philippine Rice Research Institute, Maligaya, Science City of Muñoz, Nueva Ecija 3119, Philippines</p>	<p>Research Activities: Development and biotechnology of rice varieties; Integrated nutrient management; Integrated pest management; Rice engineering and mechanization; Rice chemistry and food science; Seed production and distribution etc.</p>
<p>Institute of Plant and Microbial Biology, Academia Sinica, Academia Road, Nankang Taipei 11529, Taiwan</p>	<p>Research Activities: plant growth and development; plant responses to the environment; plant biochemistry and secondary metabolism. Micro RNA discovery programme. Delayed fruit ripening technology. Virus replication. Mechanisms of special promoters.</p>

Centres Participating in the Scheme

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National Center for Genetic Engineering & Biotechnology (BIOTEC), Thailand Science Park, 113 Phaholyothin Road, Klong 1, Klong Luang, Pathumthani 12120, Thailand

Research Activities: Bioresource utilization from plants and microorganisms; Protein-liqand engineering and molecular biotechnology; Plant cell technology for food biotechnology; Mycology; Microbial culture collection; Cassava and starch technology; Plant genetic engineering; Marine biotechnology; Microbial bioprocess development; Rice genomics; Shrimp biotechnology.

Biology and Medical Sciences

Beijing Institute of Genomics (BIG), Chinese Academy of Sciences, Beijing, China	Research Activities: Research on rice genome. Research on chicken and silkworm genome. Human Genome. Genomic analysis of several pathogenic microorganisms including SARS virus and bird flu virus.
Institute of Biochemistry and Cell Biology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, 320 Yue-Yang Road, Shanghai 200031, China	Research Activities: Biochemistry, molecular biology and cell biology, with particular interests in new targets and new mechanisms in drug discovery, protein complexes, epigenetics, male reproductive biology, cell, signalling networks, and stem cell (including pluripotency and differentiation) and regenerative medicine.
Institute of Biophysics, Chinese Academy of Sciences, 15 Datun Road, Chaoyang District, Beijing 100101, China	Research Activities: Molecular biology; Brain and cognitive science.
Institute of Hydrobiology, Chinese Academy of Sciences, 7 Donghu Nanlu, Wuhan 430072, Hubei, China	Research Activities: (i) 'Biological Invasion and Adaptive Evolution': biological invasion, adaptive evolutionary, biodiversity and conservation of freshwater fishes; (ii) 'Conservation Biology of Aquatic Animals': ecology, animal behaviour, bioacoustics, conservation genetics, physiology and reproductive biology; (iii) 'Fish Behaviour and Evolution': mating, feeding, and learning behaviour, behaviour development; (iv) 'Fish Phylogenetics and Biogeography': taxonomy, phylogeny, biogeography, evolution, and speciation of freshwater fish groups through both the morphological and molecular data; and (v) 'Fish Ecology and Resources Conservation': impact of the Three Gorges Dam on the Yangtze River fishes, conservation biology of rare and endemic fish in the upper Yangtze, ichthyoplankton resources for Chinese carp, aquatic ecology in the Chishui River, and breeding fish as laboratory animals.
Institute of Microbiology, Chinese Academy of Sciences, No.1 West Beichen Road, Chaoyang District, Beijing 100101, China	Research Activities: WDCM Management System of Microbial Strains. Application of cloud computing and cloud storage technologies in microbial resource data and information preservation and services. Global microbial data and information sharing mechanism through the international coordination of experts in accordance with OECD data standards on microbial data resources. International reference strain catalogue which records the detailed information of type strains according to ISO standards kept in each culture collection, as well as their roles in environment monitoring, food testing etc. Scientific community system platform serving worldwide culture collections and researchers focusing on microbial resources.
Institute of Zoology, Chinese Academy of Sciences, Da Tun Road, Chao Yang District, Beijing, China	Research activities: Biodiversity; ecology; agricultural biology; human health and reproductive biology. Particular emphasis on: integrative biology; evolutionary biology; reproductive biology; invasive biology; technological innovations for sustained control of agricultural pests.
Institute of Tropical Medicine "Pedro Kouri", P.O. Box 601, Marianao 13, 17100 Havana City, Cuba	Research Activities: Hemorrhagic Dengue Pathogenesis, Tuberculosis control and surveillance, Sexual transmitted diseases, Integrated vector control and studies of intermediate hosts, Poliomyelitis, circulation of wild virus after vaccination programme, Etiopathogeny and characterization of virus isolated in the Cuban neuropathy epidemic, Studies of new immunogens and clinical trials of new vaccines, Neurologic syndrome surveillance, Oxidative stress and bioequivalence of Cuban antiretroviral drugs related to AIDS patients, Basic research on antimalarial drugs.
Molecular Biology & Genetics Unit, Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur Campus, Jakkur P.O. Bangalore 560 064, India	Research Activities: Receptor mediated gene delivery, new drug targets for malaria; construction and evaluation of Tat expressing DNA vaccines for HIV, molecular genetic basis of neurological and psychiatric disorders in humans; molecular and developmental analysis of formation of blood vessels in mouse; chromatin-mediated transcription regulation in humans.

Molecular Biophysics Unit, Indian Institute of Science, Bangalore 560 012, India	Research Activities: Macromolecular crystallography; Computer modelling; Membrane biophysics; Peptide & protein folding/engineering; Computer modelling of proteins, nucleic acids and carbohydrates; application of computational chemistry to study biomolecular interactions; knowledge based prediction and design of protein and nucleic acid motifs. X-ray crystallography covering structure and interactions of amino acids, peptides, ionophores, drugs and other effector molecules, protein crystallography, virus crystallography. Synthetic, physico-chemical and spectroscopic studies covering ionophores and membranes; biologically active peptides, oligo nucleotides and DNA binding drugs; Oligosaccharides. Biological chemistry covering folding, structure and function of proteins and molecular chaperones; sequence specific structure and functions of DNA; protein engineering; membranes; ionic channels and electrophysiology.
National Centre for Biological Sciences, Tata Institute of Fundamental Research, GKVK Campus, Bangalore, 560 065, India	Research Activities: Structural biology: Protein folding - Studies on model proteins. Molecular neurobiology: Membrane transport systems, Gene expression in the nervous system, Cell biology of synaptic transmission. Neurogenetics: Neurogenetics of chemosensory perception, Pattern specification in nervous system and muscles, Molecular biology of olfaction in Drosophila. Biology of parasites: Host factors controlling papilloma virus.
Department of Biology, Faculty of Sciences, Institute of Biotechnology, Ferdowsi University of Mashhad (FUM), Park Square, Mashhad, Iran	Research Activities: Molecular biology and biotechnology: DNA and RNA purification, microbial transformation, SDS PAGE and agarose gel electrophoresis, preparation of competent cells, DNA cloning, site-directed mutagenesis, PCR, reverse transcription and RT-PCR, mutation detection, human stem cell culture and genetic engineering; Human EC and plant cell culture, transfection/transformation of human, plant, bacteria and yeast for control of gene expression (over-expression and down-regulation) in different cell lines.
Division of Human Genetics, Immunology Research Centre, Avicenna Research Institute (A.R.I.), Mashhad University of Medical Sciences, Mashhad 9196773117, Iran	Research Activities: Cancer genetics: Genetic linkage analysis of familial oesophageal squamous cell carcinoma (ESCC); preparing dendritic cell vaccines for ESCC; genetic markers in early diagnosis of gastrointestinal cancers; ESCC gene therapy by silencing cancer specific genes; detection of new ESCC molecular markers using cDNA microarray. Human medical genetics: molecular analysis of diseases like Congenital Adrenal Hyperplasia (CAH), Marfan, diabetes, Papillon-Lefèvre syndrome.
Faculty of Medicine, Shahid Beheshti Medical University (SBUMS), Evin, Tehran, Iran	Research Activities: Related laboratory test for neuro, anatomical, pathological, microbiological and medical biotechnology in clinical research areas.
Institute of Biochemistry & Biophysics, University of Tehran, P.O.Box 13145-1384, Tehran, Islamic Republic of Iran	Research Activities: Protein ligand interaction; Protein stability; Membrane biophysics; Biosensors and bioelectrochemistry; Hyperthermia and radiation biology of the hematopoietic system and human cancers; Immunocytochemistry and immunohistochemistry of cytoskeleton on cancer cells; Immunogold electron microscopy; Effects of low frequency magnetic fields on biological tissues, cells and cytoskeleton; Isolation and characterization of chromatin proteins; Interaction of anthracycline antibiotics with DNA and chromatin components; Plant cytogenetics and cytotaxonomy; Metabolism and immune responses; Enzyme immobilization; Enzyme inhibition and activation; Molecular oncology studies on certain types of cancers; Bioinformatics.
National Institute for Genetic Engineering and Biotechnology (NIGEB), Tehran, Islamic Republic of Iran	Research Activities: Plant Biotechnology; Medical Biotechnology; Molecular Genetics; Industrial and Environmental Biotechnology; Basic Sciences; Animal and Marine Biotechnology; Bioinformatics; Bioethics; Stem Cells; Tissue Engineering.

<p>Pasteur Institute of Iran, No. 69 Pasteur Avenue, Tehran 13164, Iran</p>	<p>Research Activities: Research on basic medical health sciences: Fundamental and applied research on diagnosis of various diseases. Molecular biology, virology, fungal biotechnology, malaria and vector research, medical parasitology and entomology, pharmaceutical informatics and design, protein chemistry, molecular immunology and vaccine research.</p>
<p>Reproductive and Genetic Unit, Research and Clinical Centre for Infertility, Yazd Medical Sciences University Bouali Avenue, Safayieh, Yazd, Iran</p>	<p>Research Activities: Cytogenetic tests such as karyotyping and FISH (fluorescence in situ hybridization, under development) as well as molecular genetic tests: PCR (polymerase chain reaction) for Y chromosome microdeletions and detection of polymorphisms related to ovarian dysfunction. Molecular biology techniques such as PCR, reverse transcription and RT-PCR, mutation detection, human stem cell culture. Studies on fertilization through assisted reproductive technology (ART) treatment cycles, including on ovarian dysfunction, Y microdeletion in infertile and recurrent pregnancy loss (RPL) patients, effects of infections and cancers. Methods for non-invasive prenatal diagnosis and preimplantation genetic diagnosis (PGD) for advance diagnosis of genetic disorders.</p>
<p>Jordan University of Science and Technology (JUST), Biology Division, P.O. Box 3030, Irbid 22110, Jordan</p>	<p>Research Activities: Pharmacology and medical materials development. Cancer research. Early diagnosis. Medical technology. Nutrition and growth rate in Jordan. Animal production and effects of chemicals on animal products.</p>
<p>International Centre of Insect Physiology and Ecology (ICIPE), P.O. Box 30772-00100, Duduville Campus, Off Thika Road, Nairobi, Kenya</p>	<p>Research Activities: Improving human, animal, plant and environmental health (the 4-H paradigm): vector control for the reduction of malaria and other vector-borne diseases; integrated strategies and tools to increase livestock productivity through control of livestock disease vectors; development of sustainable food security strategies through research into integrated pest management (IPM) for field and horticultural crops and storage pests; conservation and sustainable use of the agricultural production base and important natural ecosystems by encouraging and utilizing arthropod diversity, cataloguing and sharing biodiversity data, and discovering endemic wealth by bioprospecting for useful natural products. icipe laboratories are equipped with analytical instrumentation (gas chromatographs, high performance liquid chromatographs, mass spectrometers), electrophysiological equipment (for detection of candidate behaviourally active compounds), wind tunnels and other related facilities for studying insect behaviour, and an animal rearing and containment unit.</p>
<p>Biotechnology Institute, Autonomous University of Mexico, IBT/UNAM, P.O. Box 510-3 Cuernavaca, Morelos, Mexico</p>	<p>Research Activities: Molecular biology and Bacteria biochemistry. Biochemistry of parasites, viruses and biotechnology of plants. Genetics and molecular biology of the microorganism plant interaction. Molecular and cellular biology of animals. Cellular biochemistry of peptidergic neurons. Structure function and manipulation of peptides and proteins. development and methodological consolidation in molecular biology. Industrial microbiology. Fermentation engineering and technology. Product recovery and purification: Design of process and control equipment. Enzyme engineering and technology. Biotechnological prospective. Integration of processes and prototypes. Technology development.</p>
<p>Department of Infectomics and Molecular Pathogenesis, CINVESTAV-IPN, Ave. IPN No. 2508, Col. San Pedro Zacatenco, Mexico, D.F. 07360, Mexico</p>	<p>Research Activities: Cellular and molecular pathogenesis of protozoan of medical importance (<i>Entamoeba histolytica</i>, <i>Giardia lamblia</i>, <i>Trichomonas vaginalis</i>, <i>Lishmania mexicana</i>, <i>Trypanosoma cruzi</i>, <i>Plasmodium</i> sp., <i>Acanthamoeba castellanii</i> and <i>Naegleria fowleyi</i>). Search for and identification of diagnosis and vaccine biomarkers for parasitic and viral diseases. Ultrastructural studies of parasite and opportunistic protozoan. Mechanisms of viral entry and replication (dengue virus and Norwalk virus). Biopathogenesis of osteoarthritis, hepatic cirrosis, ovarian cancer and odontogenic tumors. Modulation mechanisms of the immune response to pathogens. Molecular biology of hematophagous insects, Anophelines and Triatomines.</p>

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<p>Institute of Cellular Physiology, National Autonomous University of Mexico, Apartado 70-600, 04510 Mexico, D.F. Mexico</p>	<p>Research Activities: Membranes: Receptors and signals; transport through carriers and channels, transport ATPases and bioenergetics, respiratory chain, mitochondrial and bacterial. Metabolic regulation, cellular and hormonal. Neurophysiology and neurochemistry, mostly neurotransmitters, ethology; Physiology of the sense organs; ionic channels in neurones. Immunology of parasites. Microbial physiology, metabolic regulation, solute transport, genetics and molecular biology.</p>
<p>Drug Research & Production Unit, Faculty of Pharmacy, Obafemi Awolowo University, Ile-Ife, Nigeria</p>	<p>Research Activities: Studies on medicinal plants with anti-inflammatory properties; Chemistry of plants used against Malaria; Studies on plants used in the control of Schistosomiasis, Trypanosomiasis and Trichomoniasis. Studies on the chemistry and biology of Nigerian Zanthoxylum species. Studies on natural products containing anticonvulsant properties. Developing pharmaceutical adjuvants from locally available raw materials; Production of synthetic/conventional drugs.</p>
<p>Department of Bioscience, COMSATS Institute of Information Technology (CIIT), Park Road, Chak Shahzad, Islamabad, Pakistan</p>	<p>Research Activities: Epidemiological investigation of Pertussis infection; detection of bioavailable organophosphates from environment; distribution of Huanglonbing (a disease of citrus plants); molecular basis of familial high blood cholesterol; exploring the regulatory roles of MicroRNAs (iRNAs); detection of bioavailable toxic metals in the environment; genetic analysis of KISS-1 and KAI-I genes; genetic mapping of autosomal recessive Non-Syndromic Mental Retardation Disorder; pollen allergens; promoter architecture and expression patterns of plant genes; viral aetiology of breast cancer; biological control of root knot of tomato caused by Meloidogyne nematodes; mutational and expressional analysis of carcinogen detoxifying genes; micropropagation of tea plant.</p>
<p>Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore 54590, Pakistan</p>	<p>Research Activities: Biochemical, microbiological and molecular diagnostic tests of human genetics (hypertension, infertility, obesity, haemophilia and leukemia). Waste water treatment under aerobic and anaerobic stress conditions. Bioremediation. Biodegradation. Phytoremediation. Agricultural products. Industrial microbiology. Virology. Immunology. Biofertilizers. Phytohormones. Novel antibiotic purification. Enzyme purification. Protein purification.</p>
<p>National Centre of Excellence in Molecular Biology, University of Punjab, 87 West Canal Bank Road, Thokar Niaz Baig, Lahore 53700, Pakistan</p>	<p>Research Activities: Molecular and genetic basis of deafness, thalassemia, rinitis pigmentosa and cataract and other eye diseases; Bt transgenic technology to breed insect resistance in rice, cotton, chickpea, maize and barley; Molecular basis of hepatitis virus; Drug resistance in tuberculosis; Biopesticides; Plant genomics; Bioremediation; Microbial enzymes and polysaccharides; Biodegradable plastics; DNA typing has been established for use in parenthood identification and crime investigation.</p>
<p>Panjwani Centre for Molecular Medicine and Drug Research (PCMD) – International Centre for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi 75270, Pakistan</p>	<p>Research Activities: Molecular genetics and cell biology relevant to the study of human diseases and their possible treatment through molecular medicine and rational drug design. Facilities are available for NMR and mass spectroscopy, protein chemistry, histopathology, immunocytochemistry, microbial transformation and biotechnology, enzyme inhibition, organic synthesis, computational chemistry, immunology and bioassays. PCMD also hosts a Bio-Bank for isolating, culturing and propagating, a Compound Bank that is a national resource for drug discovery and development and an Animal Resource Facility.</p>
<p>Centre for Biotechnology of Sfax (CBS) Bioprocess Laboratory, 3038 Sfax, Tunisia</p>	<p>Research Activities: Anaerobic and aerobic biodegradation and agro-industrial by-products; Fungal biotechnology; enzyme production; biocomposting; membrane reactors for waste treatment; chemistry of polyphenols, production of antioxidants by bioconservation.</p>

Chemistry

<p>Natural Products Research, Department of Chemistry, University of Botswana, Gaborone, Botswana</p>	<p>Research Activities: Isolation and structure elucidation of natural products; Investigation of the biological activities of secondary metabolites; Synthesis of natural products; Spectroscopy (NMR and MS).</p>
<p>State Key Laboratory of Catalysis (SKLC), Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Zhongshan Road 457, Dalian 116023, China</p>	<p>Research Activities: Investigation of transition metal nitrides and carbides: preparation of high surface area transition metal nitrides and carbides under milder conditions, identification of active sites for hydrogenation reaction on nitrides catalysts, selective hydrogenation reactions on nitride and carbides. In-situ molecular spectroscopy characterization on catalysis: interaction between metal and support & metal cluster catalysts, characterization of ox-species on mixed oxides catalysts, in-situ experimental methods on catalysts. Studies on HDS, HDN catalysis: modification of active phase on HDS catalysts by TiO₂, Ru as promoters, co-adsorption of C₄H₄S and C₅H₅N with NBO or CO on above catalysts.</p>
<p>Chemistry and Physics of Materials Unit, Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur Campus, Jakkur P.O. Bangalore 560 064, India</p>	<p>Research Activities: Photophysical and device aspects of polymeric and biomolecule-based materials, Metal and semiconductor nanocrystal assemblies, electrical and magnetic behaviour of nano-objects, reactivity of molecular clusters and surfaces; Electronic charge density in molecular crystals, aspects of hydrogen bonding; Computer simulation methods to study the structure and dynamics of complex systems such as micelles and long chain organic molecules in bulk and at interfaces; Brillouin and Raman spectroscopic studies of oxides and other related materials; Nano science initiatives including new forms of carbon and other inorganic nanotubes, Porous solids and thin films and oxide ceramics.</p>
<p>Department of Chemistry, Indian Institute of Technology, Chennai 600 036, India</p>	<p>Research Activities: Synthetic and mechanistic organic chemistry, analytical and radio analytical chemistry, coordination compounds, electrochemistry, solid state chemistry, catalysis, theoretical chemistry, photochemistry and spectroscopy. Major experimental facilities like IR, UV-Vis. NMR, ESR and mass spectrometers, X-ray diffractometer, electrochemical analyser, atomic absorption and plasma emission spectrometer.</p>
<p>Solid State Structural Chemistry Unit, Indian Institute of Science, Bangalore 560 012, India</p>	<p>Research Activities: Solid state chemistry. Molecular dynamics and relaxation phenomena. New batteries. Electronic structure of solids. Synthesis of new materials, structure, electronic and magnetic properties of oxides, Chalcogenides and related materials covering preparative solid state chemistry; Amorphous solids; Solid ionics, Materials electrochemistry, Solid state electro-chemistry; Oxide catalysis; Electron states in molecules, Solids and surfaces, X-ray spectroscopy and photoelectron spectroscopy, EELS etc. High temperature superconductivity; Metal insulator transitions, Phase transitions in solids; Theoretical solid state chemistry of strongly correlated systems; X-ray crystallography (structural aspects of bio-organic and Bio-inorganic systems, electron density distribution and chemical bonding).Molecular relaxation phenomena; reaction dynamics; statistical mechanics and Monte Carlo and molecular dynamic simulations in the condensed state and at interface and other frontier areas of theoretical chemistry.</p>
<p>Proteomics Research Centre, Shahid Beheshti Medical University (SBUMS), P.O. 1971653313, Tagrish, Tehran, Iran</p>	<p>Research Activities: Medical informatics proteomics techniques: Studying protein profiles by two dimensional electrophoresis, peptide mapping, cell culture facilities and electrophysiology methods.</p>
<p>Institute of Chemistry, (IQUNAM) National Autonomous University of Mexico, Circuito Exterior, Ciudad Universitaria, 04510 Mexico, D. F. Mexico</p>	<p>Research Activities: Organic synthesis; Natural products chemistry; Heterocyclic chemistry; Inorganic chemistry; Physical and Theoretical chemistry; Biochemistry and Organometallic chemistry; Homogeneous and Heterogeneous catalysis; Electrochemistry. The major experiment facilities of the institute are NMR; EPR; X-ray diffractometers (for proteins) and medium size molecules and proteins.</p>

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H.E.J. Research Institute of Chemistry – International Centre for Chemical and Biological Sciences (ICCBS), University of Karachi, Karachi 75270, Pakistan	Research Activities: Isolation and structure elucidation of natural products. Determination of biological activity of natural products by using bioassay techniques. Total synthesis of natural products and their derivatives. Isolation, characterization and structure-activity studies of proteins. Use and application of modern spectroscopic techniques. Pharmacological screening of bioactive natural products.
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Earth Sciences

<p>Institute of Oceanology, Chinese Academy of Sciences (IOCAS), 7 Nanhai Road, Qingdao, China</p>	<p>Research Activities: Marine biology; Physical oceanography; Marine geology and Marine chemistry. Priority research fields in 1) Experimental marine biology and marine biotechnology; 2) Ocean circulation and its dynamic process; 3) Marine biodata systematics and ecology; 4) Marine sedimentation, paleoceanographical changes and its environmental effects. Application in 1) Aquaculture technique, 2) Applied chemistry (including bio-active matter and marine medicine, 3) Marine engineering and disaster.</p>
<p>Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (RADI, CAS), No. 9 Dengzhuang South Road, Haidan District, Beijing, China</p>	<p>Research Activities: Research and applications of remote sensing and Digital Earth: studying of remote sensing information mechanisms, construction of large airborne and spaceborne EO research infrastructures and an integrated air-space-ground EO system and building of a scientific platform for Digital Earth and a global environment and resources spatial information system; promoting the development of scientific research and meeting national and global demands in this field; reporting on disaster risks in developing countries, including both the characteristics of the disasters and the adaptation strategies taken by different countries and regions.</p>
<p>International Centre for Climate and Environment Study (ICCES/IAP), Chinese Academy of Sciences, Beijing 100029, China</p>	<p>Research Activities: Climate dynamics, prediction theories and studies on global change; Medium range numerical weather prediction; Mesoscale dynamics and forecasting; Atmospheric environment research; Acid rain problems; Middle atmosphere programme; Geophysical fluid dynamics; Cloud physics, radiation and remote sensing; Atmospheric chemistry; Global change; Natural cybernetics; Natural disasters.</p>
<p>International Water Management Institute (IWMI), Sub Regional Office for Nile Basin & Eastern Africa, P. O. Box 5689, Addis Ababa, Ethiopia</p>	<p>Research Activities: Integrated water and land resources management for water, food and the environment. The research agenda is organized in five different themes: Integrated water resources management for agriculture; Sustainable smallholder land and water management; Sustainable groundwater management; Water resource institutions and policies; Water health & environment.</p>
<p>Centre for Space Science & Technology Education in Asia and the Pacific, (CSSTEAP), IIRS Campus, No. 4 Kalidas Road, P.B. No. 222, Dehradun 248 001, (U.P.) India</p>	<p>Research Activities: Remote sensing and Geographic Information System; Satellite Meteorology and Global Climate; Satellite Communications; Space and atmospheric sciences.</p>
<p>National Geophysical Research Institute (NGRI), Uppal Road, P.Bag No. 724, Hyderabad 500007, India</p>	<p>Research Activities: Exploration of hydrocarbon and coal; Mineral exploration and engineering geophysics; Exploration, assessment and management of groundwater resources; Earthquake hazard assessment; Lithosphere, Earth's interior and paleoenvironment; Development of geophysical instrumentation; Geochemical analysis, geochronological studies, isotope geology.</p>
<p>International Centre for Environmental and Nuclear Sciences, (ICENS), University of the West Indies, Mona, Kingston 7, Jamaica</p>	<p>Research Activities: Environmental geochemistry; Analytical methods: NAA, XRF, ION Chromatography; Flow injection Analysis; Geographical information systems; Geochemical mapping; Environmental impact assessments.</p>
<p>International Water Management Institute (IWMI), P.O. Box 2075, Colombo, Sri Lanka</p>	<p>Research Activities: Integrated water and land resources management for water, food and the environment. The research agenda is organized in five different themes: Integrated water resources management for agriculture; Sustainable smallholder land and water management; Sustainable groundwater management; Water resource institutions and policies; Water health & environment.</p>

Engineering Sciences and Technologies

<p>Institute of Metal Research, Chinese Academy of Sciences, 72 Wenhua Road, Shenyang 110016, China</p>	<p>Research Activities: Materials physics, Crystal structure and crystal defects, Fatigue and fracture of materials, Rapid solidification, Nanocrystalline materials, Surfaces and Interfaces, Hydrogen in metals, Phase transformation. Low segregation superalloys, Ti-alloys, Al-Li alloys, Intermetallic compounds, MMC, Ceramics, Carbon materials, Superconductors, Magnetic materials, Composites, Biomaterials. Welding, NDT, Metal processing.</p>
<p>Indian Institute of Technology (Delhi), Hauz Khas, New Delhi 110 016, India</p>	<p>Research Activities: Applied mechanics, Civil engineering, Chemical engineering, Electrical engineering, Computer science and engineering, Mechanical engineering, Textile technology, Chemistry, Physics, Mathematics, Management studies, Humanities and social sciences, Biochemical engineering and biotechnology, Atmospheric sciences, Electronics, Instrument design and development, Energy studies, Material science and technology, Industrial tribology, Machine dynamics and maintenance engineering, Rural development and technology, Educational technology and biomedical engineering.</p>
<p>Raja Ramanna Centre for Advanced Technology (RRCAT), Indore 452013, India</p>	<p>Research Activities: Physics, Technology and application of lasers: Laser technology, Development of various lasers, Crystal growth. Laser physics, Non-linear optics, Picosecond phenomena. Laser applications, Study of laser produced plasma, Effect of lasers on biological specimen, Laser material processing. Laser instrument, Laser flourimeter, Medical laser, Laser power meter. Accelerator technology and applications: Construction of 450 MeV & 2 GeV Synchrotron radiation sources. Development of medical and industrial accelerators. Technology of ultrahigh vacuum. Magnetic effects in superconductors.</p>
<p>The Energy and Resources Institute (TERI), Habitat Place, Lodhi Road, New Delhi 110003, India</p>	<p>Research Activities: Earth Science and Climate Change: Energy-environment interface, global environment research, modelling and policy analysis, statistical analysis, conventional energy sources, information technology; Energy Technology: Chemical and hydrogen energy, industrial energy, renewable energy technology applications, biomass energy technology applications, environmentally sound technology applications; Environmental Resource Management: Forestry, biodiversity, rural energy; Biotechnology: Microbial biotechnology, plant molecular biology, plant tissue culture; Information science.</p>
<p>Jordan University of Science and Technology (JUST), Engineering Division, P.O. Box 3030, Irbid 22110, Jordan</p>	<p>Research Activities: Mechanical, industrial and bioengineering. Mitigation of effects of earthquakes, floods, strong winds and other natural and man-made hazards. Artificial intelligence, computer vision, computer architecture, compilers, human-computer interfaces, networking. System optimization. Material science. Water management, irrigation.</p>
<p>Centre for Advanced Studies in Telecommunication (CAST), COMSATS Institute of Information Technology (CIIT), Park Road, Chak Shahzad, Islamabad, Pakistan</p>	<p>Development of WiMAX testbed. Development of a Software Defined Radio (SDR) platform for WiMAX and WLAN. Breast cancer detection through UWB. Genetic sciences. Wireless sensor networks. Cooperative MIMO, frequency hopping (slow and fast), routing and data aggregation, OFDM sidelobe suppression. Open source development for mobile platforms. Design methodologies and rapid prototyping. Electronic system level design. Optical communication.</p>
<p>School of Computing, University of South Africa (UNISA), Floors 3& 4, GJ Gerwel building (block C), UNISA Science Campus, Florida Roodepoort, Johannesburg, South Africa</p>	<p>Research Activities: Human-Computer Interaction; ICT4D; Information Technology Research (Information Systems); Semantic Computing. Please see also: http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=221</p>

Mathematics

<p>Institute of Mathematics, Academy of Mathematics and Systems Science (AMSS) Chinese Academy of Sciences, Beijing, 100080, China</p>	<p>Research Activities: Theory of value distribution, Complex dynamic system, Theory of functions of several complex variables, Analytic number theory, Transcendental number theory, Algebraic number theory, Quantum group, Coding theory, Algebraic geometry, Singularity theory, Algebraic topology, Index theory, Differential dynamic system, Non-linear hyperbolic equations, Mathematical physics, Non-linear functional Analysis, Operator algebras, Analysis on manifolds, Numerical solution of differential equations, Wavelets.</p>
<p>Delhi Centre of Indian Statistical Institute, 7 J.S. Sansanwal Marg, New Delhi 110 016, India</p>	<p>Research Activities: Mathematics: Theory of operators in a Hilbert Space, Spectral theory of Schrödinger operators, Mathematical theory of quantum mechanics and quantum stochastic processes, Perturbation of linear operators and matrices, Classical stochastic processes and applications. Statistics: Linear models, Design of experiments, Inference and decision theory.</p>
<p>Indian Institute of Science, Department of Mathematics, Bangalore 560 012, India</p>	<p>Research Activities: Algebraic/combinatorial topology; Commutative algebra and algebraic geometry; Differential equations; Differential geometry; Fluid mechanics; Integral equations and Operator theory; Nonlinear waves, Hyperbolic equations and Numerical analysis; Nonlinear dynamics, Numerical analysis; Physiological fluid dynamics; Plasma physics; Probability & stochastic processes.</p>
<p>Centro de Investigación en Matemáticas, A.C. (CIMAT), Jalisco S/N, Valenciana A.P. 402, 36000 Guanajuato, GTO, Mexico</p>	<p>Research Activities: Functional Analysis; Algebraic Geometry; Differential Geometry; Applied Mathematics; Dynamical Systems; Topology and Combinatorial Geometry. Probability and Statistics: Applied Statistics; Statistical Inference; Stochastic Modelling. Computer Sciences: Mathematical Computing; Software Engineering.</p>
<p>Institute of Mathematics, National Autonomous University of Mexico, Circuito Exterior, Ciudad Universitaria, 04510 Mexico, D.F. Mexico</p>	<p>Research Activities: Algebraic topology, Algebraic geometry, Banach algebras, Combinatorics, Cohomology of Groups, Dynamical systems, Mathematical logic, Low dimensional topology and Knot theory, Representation theory of algebras, Ring theory.</p>
<p>Centre for Advanced Studies in Mathematics (CASM), Lahore University of Management Sciences, Lahore, Pakistan</p>	<p>Research Activities: Fixed point theory, fuzzy mathematics, differential geometry, probability theory, operator theory, combinatorics, computational mathematics, financial mathematics.</p>
<p>Department of Mathematics, COMSATS Institute of Information Technology (CIIT), Park Road, Chak, Shahzad, Islamabad, Pakistan</p>	<p>Research Activities: Modelling and simulation of population balances. Numerical investigation of two phase flow models. Fluid mechanics. Computational mathematics. Computational fluid mechanics, computational analysis, heat and mass transfer, topology, elastodynamics, modelling and simulation.</p>
<p>Institute of Mathematics Hanoi, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet Road, Cau Giay District, 10307 Hanoi, Vietnam</p>	<p>Research Activities: Algebra, Geometry and Topology, Number Theory, Mathematical Analysis, Differential Equations, Probability and Statistics, Optimization and Control Theory, Scientific Computing and Numerical Analysis, Mathematics for Computer Science, Postgraduate Training.</p>

Multidisciplinary

<p>International Chair in Mathematical Physics and Applications (ICMPA-UNESCO Chair), Faculty of Sciences and Technology, University of Abomey-Calavi, 072 BP 50, Cotonou, Benin</p>	<p>Research Activities: Nonlinear and noncommutative mathematics: Differential equations, Quantum algebras, Special functions, orthogonal polynomials, Coherent states, noncommutative geometry, Quantum field theories; Mathematical Physics; Theoretical Physics; Optimal control and dynamical systems; Many body systems; mathematical statistics and applications; Physical oceanography and applications: Tropical Ocean atmosphere interactions and climate dynamics in connection with the West African Monsoon, Tropical coastal variability for reducing uncertainties on coastal risk and anticipating evolution in the perspective of global warming; Development of observational environmental network along the coasts of the Gulf of Guinea Hydrology and water resources management; Geoinformatics and its applications to water resources and ecosystems.</p>
<p>Institute of Process Engineering, Chinese Academy of Sciences (IPE, CAS), #1 Beiertiao, Zhongguancun, Haidian District, Beijing, China</p>	<p>Research Activities: Process engineering: meso-scale phenomena and mechanisms; efficient and clean utilisation of ore, biochemical process and biomass engineering; low-rank coal pyrolysis and staged conversion; green technology and process; functional materials design, preparation and application; pollution control and environmental engineering; solar, energy and CO₂ utilization.</p>
<p>Research Centre for Eco-Environmental Sciences, Chinese Academy of Sciences (RCEES, CAS), 18 Shuangqing RD, Haidian District, Beijing 100085, China</p>	<p>Research Activities: Environmental Chemistry; environmental science; systems ecology; environmental biotechnology. Environmental analytical chemistry; environmental chemical behaviour and ecotoxicology of persistent toxic substances (PTS). Water quality identification and assessment; water quality transformation in natural aquatic systems, water quality and public health. Characteristics and cybernetics of urban ecosystem; landscape pattern and ecological process; environmental change and ecological response; ecological evaluation and ecosystem management; environmental risk and environmental management. Toxicity of environmental pollutants in various biological systems; ecological risk assessment of pollutants based on toxicology measurements; novel environmental microbiology technologies; pesticide residues and mechanism of toxicity; environmentally friendly products; innovative technologies for biomass recycling. Soil eco-toxicology; risk assessment and abatement/remediation technologies; molecular microbial ecology and soil biology; soil ecology and principles/ methodologies of revegetation in degraded environments; trace elements in soil-plant systems and health impacts; contaminant transport at the soil-water interface. Pollutant conversion mechanism and key technology for water pollution control, membrane separation science and technology; VOCs and odours gases purifying mechanism and technology; excess sludge reduction and reclamation. Impact of acid deposition on terrestrial ecological system and response to emission control of air pollutants; health risk analysis of indoor air pollution; fundamental research on the selective catalytic reduction of NO_x. Novel Synthesis, characterisation and applications of environmental nanomaterials; removal and control of environmental pollutants; environmental effects of nano particles and nano-materials, biomaterials and clean industrial production.</p>
<p>Indian Institute of Technology (IIT), P.O. IIT Kanpur, India</p>	<p>Research Activities: Aerospace Engineering, Biological Sciences and Bioengineering, Chemical Engineering, Computer Science and Engineering, Civil Engineering, Electrical Engineering, Industrial Management and Engineering, Mechanical Engineering, Materials Science and Engineering, Chemistry, Physics, Mathematics and Statistics, Humanities and Social Sciences, Environmental Engineering and Management, laser Technology, Design Programme, Materials Science Programme, Nuclear Engineering and Technology.</p>

Centres Participating in the Scheme

<p>International Centre for Science, High Technology and Environmental Sciences (ICST), End of Haftbagh Alavi Highway, 7631133131 Kerman, Iran</p>	<p>Research Activities: Biosorption, Adsorption, Determination of metal and organic compound, Production of useful material from wastes, Synthesis of Corrosion Inhibitor, Synthetic Organic Chemistry, Organic Chemistry Oriented to Bioactive Molecules, Environmental Organic Chemistry, Heterocyclic Chemistry, Methods of Synthesis for the Production, Organic Chemistry and Catalysis, Multi-component Reactions, Separation processes, Kinetics and thermodynamics of processes, Plasma Physics and Photonics, Plant Biosystematics, Secondary metabolites production, Medicinal plants, Stem cells, Nervous system Molecular genetics, Protein engineering, Biological control of Insects, Acarology, Physiology of plants under stress, Phytoremediation, Bioremediation, Plant genetics diversity, Paleontology and Stratigraphy, Cambrian System, Trilobite, Brachiopod, Conodontes, GIS and RS and Climate Change, Renewable Resources, Environmental analytical chemistry, Bioanalytical chemistry, Applications of nanomaterials in analytical and bioanalytical chemistry, Monitoring and removal of arsenic from drinking waters using nanomaterials, Monitoring and determination of aflatoxins in dried fruits, Application of nanomaterials in electrochemical biosensors, Nanotechnology in environmental cleaning processes.</p>
<p>African University of Science and Technology (AUST), PMB 681, Garki, Abuja, Nigeria</p>	<p>Research Activities: Computer Science; Materials Science and Engineering; Petroleum Engineering; Pure and Applied Mathematics; Theoretical & Applied Physics; Energy and Environment; Biological Sciences and Engineering. Please see also: http://aust-abuja.org/</p>
<p>Department of Physics, University of the Free State, P.O. B0x 339, Bloemfontein, South Africa</p>	<p>Research Activities: Surface science and astrophysics with sophisticated surface analysis apparatus at its disposal. Please see also: http://natagri.ufs.ac.za/content.aspx?DCODE=113</p>
<p>University of South Africa, Preller Street, Muckleneuk, Pretoria, South Africa</p>	<p>Research Activities: please see www.unisa.ac.za</p>
<p>Asian Institute of Technology (AIT), P.O. Box 4, Klong Luang, Pathmuthani 12120, Thailand</p>	<p>Research Activities: Agribusiness Management, Agricultural Systems and Engineering, Aquaculture and Aquatic, Resources Management, Climate Change and Sustainable Development, Energy, Environmental Engineering Management, Food Engineering and Bioprocess Technology, Gender and Development Studies, Natural Resources Management, Regional and Rural Development Planning, Urban Environment Management, Civil and Infrastructure Engineering, Industrial Systems Engineering, Information and Communications. Training in: Agriculture and Food Processing, Environment and Natural Resources Management, Education and Training Development Effectiveness, Public Sector Services and Management, Private Sector Development, Information and Communication Technologies, Information and Communication Management, Infrastructure Development and Public Utility Management.</p>

Centres Participating in the Scheme

Physics

<p>Hefei Institute of Physical Sciences, Chinese Academy of Sciences, P.O. Box 1126, Hefei, Anhui 230031, China</p>	<p>Research Activities: Superconducting Tokamak HT-7 with high power low hybrid wave current drive and ion cyclotron resonance heating; Basic Fusion plasma research, experimental and theoretical; R&D of Fusion technologies including: ion beam induced mutation, electron resonance wave plasma deposition and etching for Mirco-electronics, high power plasma torch for chemical and steel industries; High magnetic laboratory and high temperature superconductivity research.</p>
<p>Institute of Modern Physics (IMP), Chinese Academy of Sciences, 253 Nanchang Road, Lanzhou 730 000, China</p>	<p>Research Activities: Low and intermediate energy heavy ion physics including the study of heavy ion collision from low to intermediate energies and synthesis and study of nuclei far from stability; Application of heavy ions in material and biological sciences; Accelerator physics: Detection techniques; Application of nuclear techniques. Atomic physics with heavy ion (beam foil spectroscopy).</p>
<p>Institute of Modern Physics, Fudan University, Shanghai 200433, China</p>	<p>Research Activities: Surface physics: Semiconductor and interfaces, Porous Silicon Si/Ge and other super lattices, Mesoscopic physics, Vacuum physics: Electron optics and Electron beam devices, Thin Film Physics, Optronics of TCNQ. Ultra Vacuum Devices. Nuclear Physics: Atomic Physics, Trace Analysis with Nuclear Techniques, Interaction of Particle Beam with Materials. Laser Physics: Nonlinear Optics, Transient Properties of Semiconductors, Optical Properties of Fullerenes. Optical Films, LB Films, Optical Information Processing, Atomic and Molecular Physics. Semiconductor Physics: Impurities and Defects, Optical Properties of Semiconductors and Superlattices. Theoretical Physics: Statistical Physics and Condensed Matter Physics, Particle Physics and Field Theory, General Relativity and Astrophysics, Plasma Physics. Low Temperature and Superconductivity: High Tc Superconductors, SQUID and its Applications. Experimental Cryogenics. Liquid Physics: Electron-Rheology, Composite Liquids.</p>
<p>Institute of Physics, Chinese Academy of Sciences, P.O. Box 603, Beijing 100190, China</p>	<p>Research Activities: Condensed matter physics, Optical physics, Atomic and molecular physics, Plasma physics, Soft matter physics, Condensed matter theory and Computational physics.</p>
<p>Institute of Theoretical Physics (ITP), Chinese Academy of Sciences, P.O. Box 2735, Beijing 100080, China</p>	<p>Research Activities: Theoretical high energy physics, Field theory formal & phenomenological, Condensed matter theory with emphasis on strongly correlated electron systems, Nonlinear science (chaotic dynamics & symbolic dynamics), Gravitation & cosmology; Nuclear theory, Theoretical biophysics (liquid crystal model of biological membrane), Computational physics.</p>
<p>Shanghai Institute of Microsystem & Information Technology, (formerly Shanghai Institute of Metallurgy) Chinese Academy of Sciences, 865 Changning Road, Shanghai 200050, China</p>	<p>Research Activities: Computer aided design and mask fabrication technology; Research of magnetic materials and superconducting materials; Development of transducers and related technology; Ion implantation technology, ion beam modification of materials; Research of the new functional thin films for the acquisition, transformation and storage of information; Research of corrosion-resistant alloys for special environments, anticorrosive coatings, protection engineering and its applications. All the necessary research equipment and related instruments such as, MBE System, MOCVD system, ion beam enhanced deposition system, 400Kev high resolution electron microscope.</p>
<p>Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, P.O. Box 800-211, Shanghai, China</p>	<p>Research Activities: Laser techniques and its applications, high intensity laser physics, laser fusion and laser plasma physics, quantum optics, laser spectroscopy, nonlinear optics, information optics, opto-electronic techniques, technical optics, crystalline and non-crystalline laser materials.</p>
<p>Egyptian Centre for Theoretical Physics (ECTP), Faculty of Engineering, MTI Modern University, Al-Hadaba Al-Wusta, 5th District, Al-Mukattam, Cairo, Egypt</p>	<p>Research Activities: High Energy Physics; Cosmology and Astrophysics; Applied Mathematics; Computational Physics.</p>

Centres Participating in the Scheme

<p>Department of Astronomy and Astrophysics, School of Natural Sciences, Tata Institute of Fundamental Research (TIFR), Dr. Homi Bhabha Road, Mumbai 400 005, India</p>	<p>Theoretical Astrophysics: Solar physics, Helioseismology; Spin evolution of neutron stars, Accretion-powered pulsars; Relativistic astrophysics around black holes; Neutrino-induced nucleosynthesis; Supernovae, Nuclear astrophysics; Gravitational lensing, Large scale structure and cosmology; General relativity, Quantum gravity, Gravitational collapse. Infrared and Optical Astronomy: Study of star formation in our galaxy and other spiral galaxies; Structure and energetics of galactic star forming regions; radiative transfer in interstellar clouds; Infrared studies of circumstellar shells; Physics and chemistry of photon dominated regions; Study of the galactic structure. X-ray and Gamma Ray Astronomy: X-ray spectroscopy of stellar coronae; Galactic black hole candidates; Cataclysmic variables; Nuclei of active galaxies and quasars; study of hot interstellar medium and supernova remnants; Binary X-ray pulsars; Rotation powered pulsars and magnetars; neutron stars in accreting binary systems.</p>
<p>Department of Physics, Indian Institute of Science, Bangalore 560 0212, India</p>	<p>Research Activities: High temperature superconductors, rf & microwave response tunnelling; strongly correlated electronic systems; mixed valent and heavy fermion systems and Mott transitions; Disordered systems; Soft condensed matter; Low-dimensional systems; Semiconductors; Quantum transport; Critical phenomena; Non-linear optical materials; Ferroelectricity & ferroelasticity; Magnetic Resonance; Thermal studies of solids at low temperatures; Integrable systems; Complex systems; Biomolecular structure & biophysics; Atomic & optical physics; Plasma physics; Astronomy & Astrophysics.</p>
<p>Institute of Mathematical Sciences (MATSCIENCE), CIT Campus, Taramani, Chennai, 600 113, India</p>	<p>Research Activities: Mathematics: Algebraic and analytical number Theory, Complex analysis, Differential geometry, Algebraic geometry, Algebra, Functional analysis, Harmonic analysis, Partial differential equations, Probability theory. Computer sciences: Algorithms and data structures, Automata theory, Computational complexity, Distributed computing, Finite model theory, Logics of programmes and semantics. Physics: Particle physics, Quantum field theory, String theory, Quantum mechanics, Quantum statistics, Quantum groups, Condensed matter Physics, Statistical physics, Non-linear dynamics, Classical and quantum optics.</p>
<p>Inter-University Centre for Astronomy and Astrophysics (IUCAA), Post Bag 4, Ganeshkhind, Pune 411 007 India</p>	<p>Research Activities: Solar & planetary studies; Galactic astronomy; Stellar structure and evolution, High energy astrophysics, Extra galactic astronomy, Theoretical cosmology, the partial physics–astrophysics interface, Gravitation and relativity etc.</p>
<p>Raman Research Institute, C.V. Raman Avenue, Sadashivanagar, Bangalore 560 080, India</p>	<p>Research Activities: Theoretical Physics: Condensed matter physics, Physics in biology, Optics & gravitation. Optics: Light propagation in random medium Nonlinear Optics, Laser cooling and trapping of atoms. Liquid Crystals: Synthesis of liquid crystalline compounds, Studies phase transitions, Light scattering, Monolayers, Electrochemistry, L.C. Displays, Nonlinear optics, Mean field and Landau theories, Biological physics and biological systems. Astronomy and Astrophysics: Extragalactic astronomy, The galaxy and the interstellar medium, Neutron stars and pulsars.</p>
<p>Institute for Advanced Studies in Basic Sciences, (IASBS) Gava Zang, P.O. Box 45195 -159, Zanjan, Islamic Republic of Iran</p>	<p>Research Activities: Physics: Condensed Matter, Mathematical Physics, Optics, Astrophysics, Geophysics. Mathematics: Dynamical Systems and ODE, Finite Group Theory, Computational Algebraic Geometry, Combinatorics. Chemistry: Electrochemistry and Chemometrics, Organic Synthesis and Bio-organic Chemistry.</p>
<p>Jordan University of Science and Technology (JUST), Department of Applied Physical Sciences, P.O. Box 3030, Irbid 22110, Jordan</p>	<p>Research Activities: Theoretical Physics, Solid State Physics, Superconductivity, Magnetism, Nanomagnetism and Nanoparticles, Bio and Medical Physics.</p>

Centres Participating in the Scheme

<p>Department of Physics, COMSATS Institute of Information Technology (CIIT), Park Road, Chak Shahzad, Islamabad, Pakistan</p>	<p>Research Activities: Future generation of CMOS nano-electronics; thermophysical characterization of nano ferrites; waste water treatment using solar energy; nano-scale optical characterization of semiconductors; fabrication and characterization of II-VI semiconductor thin films; hyperthermia treatment of cancer cells; phenomenological status of R-parity violating supersymmetric standard model; syntheses of BaFe₁₂O₁₉ powder by solid-state reaction and its magnetic properties; quantum computing and atomic coherence effects; high energy physics. Radiation physics. Nano materials synthesis. Advanced electronics. Thin films technology. Lasers and applied photonics.</p>
<p>African Laser Centre, Council for Scientific and Industrial Research, PO Box 395, Meiring Naude Road, Brummeria, Pretoria 0001, South Africa</p>	<p>Research Activities: Novel laser sources: mid-infrared (MIR) laser sources; robust ultra-short pulse lasers; electronic feedback control. Ultra short physics spectroscopy: Pump-probe spectroscopy of biological samples with a specific emphasis on light harvesting complexes; femtosecond chemistry with the primary aim of understanding the reaction dynamics of specific chemical reactions; development of high-power femtosecond systems based on OPCPA amplified techniques. Mathematical optics: laser beam shaping, laser beam propagation and novel resonators; optical tweezing in bio-photonics, high energy laser delivery through a turbulence atmosphere, novel gas lenses for variable focal lengths and flat-top beams for studies in high pressure and high temperature physics; novel laser resonators, non-linear optics, diffractive optical elements, micro optics, adaptive optics, refractive beam shapers, digital holograms, spatial light modulators and wavefront sensing; Biophotonics: Applications of optically-based techniques in surgery and medicine; Lasers. Material Processing: Deep penetration welding; Surface modification (cladding, hardening, alloying and cleaning); Laser milling; Specialised laser cutting, including thick section cutting and 3D profile cutting of sheet metal.</p>
<p>iThemba Labs. Laboratory for Accelerator Based Sciences, P.O. Box 722, Somerset West, South Africa</p>	<p>Research Activities: Nuclear structure using heavy ion beams; nuclear reaction mechanisms using light and heavy ions; materials research, thin films and nanostructures using ion beams; biophysics; trace element distributions using proton microprobe; radio-isotope production; radiation biology and medical applications of radio-pharmaceuticals; radiation oncology and clinical research using 66 MeV neutrons and 200 MeV protons.</p>
<p>Institute of Atomic & Molecular Science, Academia Sinica, P.O. Box 23-166, Taipei, Taiwan</p>	<p>Research Activities: Reaction dynamics: Crossed molecular beam studies of reactions of small molecules and photofragmentation of molecules. Condensed Matter: Applications of nonlinear optics to study ultrafast processes in molecules and polymers. Theory: Electronic structures of atoms and molecules, femtosecond processes and nonlinear optical processes. Surface Science: Laser-induced desorption of adsorbed molecules and diamond film formation. Molecular spectroscopy: Studies of high resolution molecular spectroscopy of small molecules by various linear and nonlinear optical spectroscopies.</p>
<p>Institute of Physics, Faculty of Sciences, University of the Republic, Igua 4225, 11400 Montevideo, Uruguay</p>	<p>Research Activities: Non linear physics. Bifurcation and chaos. Structures formation. Experimental laser physics. Linear and non-linear spectroscopy of magneto-optically cooled atoms. Experimental ultrasonic Acoustics: elastic waves in solids. Ultrasonic diffusion. Gravitational physics. Quantum gravity. Lattice gauge theories. High energy physics phenomenology. CP-violation. Physics and dynamics of minor bodies of the solar system.</p>