



Centro Internacional de Física
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Director



CIF's research groups

- Basic research

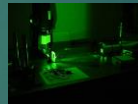


- Biophysics and tropical diseases
- Biophysics of cellular signaling
- Cellular neurophysiology



- Applied research

- Optics
- Materials science
- Environmental biotechnology
- Applied physics and technological development





New results



Environmental Biotechnology

Strategies for mitigating the impact of climate change in the province around Bogota

- Two green houses built and operated. More than 300000 plants planted
- Pollination by bees in pilot coffee plantation: 30% increase of the production
- Organic fertilization in sugar cane plantation: 20% yield increase
- Optimization of energy consumption in “panela” manufacturing facilities
- Pedagogical work with the communities. More than 8000 peasants involved



New results



Applied Physics

Optimization of the use of energy by vulnerable populations in the province of Cundinamarca

- Development of “intelligent Photocontrollers” for public illumination in 8 towns. Total 1800 devices manufactured and being installed
- Installation of solar energy in 4 rural schools not connected to the grid
- Work with the communities on the rational use of energy



New results

Applied Physics+Biotechnology

Pilot project on rational use of energy in public buildings in 5 provinces of the central region of Colombia

- On-line monitoring of power consumption and climatic variables in public buildings
- Analysis of the data
- Implementation of the recommendations
- 10% savings in 3 months



National Cooperation Agreements

Universities

- National University in Bogota
- Universidad Javeriana
- Universidad de los Andes

Industry and public sector

- Inelsa electrical devices
- Cadena security and printing
- IGAC Remote sensing and image analysis
- National Space Commission



International Cooperation

COMSATS



ICTP

TWAS



Max Planck Institute, Gottingen



Ecole de Physique et Chimie, Paris

Paris VI



NYU, Biophysics Institute

Woodshole



What we can offer to COMSATS

- Expertise in environmental and climate change policies
- Sharing our industrial experiences
- Expertise in science policy
- Work with rural communities on rational use of energy and climate change
- Development of solutions for industrial problems



Future programs

- Monitoring of structural health of buildings and roads
- Research on tropical diseases
- Chip design laboratory
- Freeze-drying plant for tropical fruits
- Gamma ray sterilization of fruits and vegetables
- Treatment of plant lake contamination using native microorganisms



Science and technology for achieving SD goals

Most of CIFs activities are directly related with SD goals

- Climate change
- Rational use of energy
- Water decontamination
- Creation of industrial facilities for fruits and vegetables processing
- Research on tropical diseases
- Improvement of the infrastructure

Many Thanks

