COLOMBIA

2nd - Number of native tree species
5th - Tropical rain forest
3rd - Primary forest cover
10th - Highest average annual deforestation of primary forests
Mission: Promote basic and applied research, specially in physics and industrial and technological development in Colombia and the Andean and Caribbean countries.

Objectives:
- Development of basic and applied research
- Training of scientists
- Industrial technological development and innovation
- Introduction of new technologies in the country
- Creation of knowledge-based industries (spin offs)
CIF STRENGTHS

- High level and qualified basic research
- Experience in technological development
- Interdisciplinary professional team able to provide integrated solutions
- Administrative flexibility
CIF’s GROUPS

BASIC RESEARCH
- Biophysics and membrane biology
- Optics
- Materials
- Nuclear Physics - U. Nacional

APPLIED RESEARCH AND TECHNOLOGICAL DEVELOPMENT
- Applied Physics and Tech. Development
- Biotechnology

PROJECT MANAGEMENT

www.cif.org.co
BIOPHYSICS AND MEMBRANE BIOLOGY

Cell electro-physiology applied to tropical parasitic diseases – Leishmania, Chagas malaria

Neurosciences

Director: PhD. Marcela Camacho
Main researchers: PhD. Enrico Nassi, PhD. Maria del Pilar Gómez

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PROJECTS

• Functional characterization of Leishmania ClC ion channel

• Membrane studies of the *Leishmania* parasitophorus vacuole

• *Leishmania* chloride channels, potential therapeutic target

• Melanopsin mediated transduction in unconventional photoreceptors
NUCLEAR PHYSICS*

Director: PhD. Fernando Cristancho

- Nuclear structure
- Interaction of radiation with matter
- Applications of nuclear techniques to detection of “anti-personal mines”

*UNIVERSIDAD NACIONAL DE COLOMBIA

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NEW PROJECTS

Light Detection And Ranging Technology

Design and Development of a High Speed Scan Laser integrated to a navigation systems for manufacturing a multifunctional LIDAR.
ENVIRONMENTAL BIOTECHNOLOGY

DEVELOPMENT AND SERVICES

- Bioremediation
- Cleaner production
- Agricultural Biotechnology
- Evaluation of Impact of climatic change
- Environmental Economy Analysis

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Community participation

Meetings with panela producers – participative diagnostics
Industrial sludge management - Spin off

Services of remediation and final disposition of two types of residues contaminated with hydrocarbons.
APPLIED PHYSICS AND TECHNOLOGICAL DEVELOPMENT

SERVICES

- Satellite Engineering
- Industrial instrumentation and automation
- Real time applications and data transmission
- Rational Use of Energy

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SMART GRIDS

Monitoring applications to measurement of:

- Energy, gas and water consumption
- River flows
- Oil and gas well production
- Others

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TECHNOLOGICAL-BASED INSTITUTIONS AND SPIN-OFFS

PROMOTED

- CIC. Corporación para la Investigación de la Corrosión - *Corrosion research corporation*
- TECLASER. Laser precision cutting
- AIDETEC. Electronic devices production

NEW PROJECTS

- Sludge management services
- Energy analysis services (consumption and quality)
INTERNATIONAL COOPERATION

- COMSATS
- ICTP
- TWAS
- Max Planck Institute Goettingen
- Ecole de Physique et Chimie, Paris
- Paris VI
- NWY, Biophysics Institute
- Woodsdshole
NETWORKING

Association of 5 Centres with similar characteristics:
• Complementary research fields
• High scientific and technological level
• Regional and international recognition
International prices have led to an expansion of Colombia’s Oil and Mining industry. As a result, Royalty revenues from these activities have increased by nearly 70 percent over the last five years and are expected to double within the next 10 years.
SCIENCE, TECHNOLOGY AND INNOVATION FUND

Increases by Nearly 40 percent the country’s funding in specific areas and is designed to foster regional Economic growth through investments in science, technology Innovation

CIF Project Approved:
Identification of alternatives researches to face the Climate Change on the basin floor in Rio Negro y River Lower Magdalena

US$ 2,000,000
Entities:
- 6 Majors
- 2 Universities
- Industries

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