



**IRACAMBI ATLANTIC RAINFOREST RESEARCH
AND
CONSERVATION CENTER, BRAZIL**

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Research and Internship Opportunities

Iracambi Research Centre:

The Iracambi Research Center is located on a tranquil site harboring some of the rich biodiversity that characterizes the once-vast Atlantic Rainforest. Listed among the state's highest priority conservation areas, the sub-tropical seasonal semi-deciduous forests of Serra do Brigadeiro contribute to two major watersheds, support about 10,000 family farms and shelter the largest surviving population of the Woolly Spider monkey (the most endangered primate species in the New World). The Center is situated on Iracambi's 500 hectare farm in the buffer zone of the Serra do Brigadeiro State Park in south-eastern Minas Gerais, just six hours by bus from Rio de Janeiro.

We aim to conserve and restore the Atlantic rainforest, through scientific research, community engagement, and environmental education. We invite professors and their students, in groups or individually, in the fields of ecology, environmental management and related sociology to help us in our task of protecting this unique and endangered ecosystem.

Researchers can study focus on their area of specialty, or field work can be tailored to each group's needs. Numerous thesis and reports have generated by research undertaken at Iracambi: some of these are available at:
<http://independent.academia.edu/RainforestCenterIracambi>

RESEARCH THEMES

Research programs include:

- *Ecology & Conservation Program*
- *Forests for Water Program*
- *Community Empowerment & Education*
- *Medicinal plant research*

We are open to proposals of other topics of applied research that relate to our conservation objectives. Note, however, that we do not have resident full-time scientific staff. Students therefore need to make sure they have technical supervision from their own institutions.

FACILITIES

Lodging:

- Our research station, situated in the heart of our reforestation area and can host up to 25 at a time. All lodging options include basic but comfortable facilities with running water and electricity;
- The main building, simple but comfortably furnished, accommodates 8,
- Adjacent to the main building are 5 fully furnished cabins each with two rooms (4 beds) and a bathroom;
- Dining hall with restaurant service.

Research Facilities:

- Classroom with computer network (24 hour internet access); ArcGIS and GPS units;
- Field lab (low resolution microscope, Vernier soil and water testing equipment, weather station);
- Permanent Forest Sampling Plots; Forest tree nursery; registered private forest reserve;
- Network of forest trails with access to different micro ecosystems: stream and swamp, old growth and succession forests, shade coffee, eucalyptus with native forest;

The Iracambi brand – twenty years of research and action in the Serra do Brigadeiro, together with an extensive network of partnerships; local, national and international, plus a body of documented research and GIS data.

Data:

Our extensive database is available for researchers to use and expand.

- o GIS layers of Iracambi and surrounding areas for forest cover, land use, mining concessions, water resources;
- o Species lists and survey data for plants;
- o Species lists for birds, frogs, butterflies and stream fauna and mammal sightings;
- o Data on stream flows water flows.

RESEARCH THEMES IN DETAIL:

Ecology and Conservation research

Situated in one of the world's top biodiversity hotspots, and one of the State of Minas Gerais' largest remnants of Atlantic forest, Iracambi is a great place to do ecological research on ecosystems, biodiversity and species biology.

Researchers are welcome to contribute to our ongoing research areas or to develop their own applied research interests. Our objectives are to catalogue and understand our biodiversity – you might even discover an undescribed species, it has happened!

Ecology & biodiversity

- Forest wildlife ecology and management
- Biodiversity monitoring and inventory:
 - o mammals, reptiles, amphibians, birds, freshwater species, fungi, plants, soil microbes;
- Wildlife camera trapping census;
- Arthropod colony study;
- Butterfly monitoring;
- Forest restoration and plant regeneration;
- Ecology & biodiversity under agroforestry;
- Species distribution studies;
- Population and community ecology studies

Ecosystem processes:

- Temperate forest ecosystem processes
- Soil chemistry & erosion under land use changes
- Hydrology & water conservation (see our Forest4Water project)
- Ecosystem services
- Implications of climate change on Iracambi programs

Impacts of land use changes and habitat loss

A wealth of opportunities exist to study and map regional land use changes using GIS resources

- Forest cover and fragmentation;
- Ecological corridors and protected area buffer zones;
- Agroforestry and mono-crop agriculture;
- Hydrology & rainfall;
- Topography;
- Reforestation and conservation planning.

Forests for Water:

Iracambi is working with local communities to establish and develop sustainable land use practices that conserve forest in order to protect water sources from the impact of climate change. The objective of research related to the program is to find the best means of stimulating farmer participation in the project. The program provides a great opportunity for research in social-ecological systems and anthropology.

Social-Ecological systems:

- Socio-ecological impacts of reforestation and agroforestry;
- Planning land use practices and water strategies;
- Developing sustainable income generating activities ;
- Investigating sources of water pollution and remedial solutions.

Agro-Ecology:

- monitoring hydrology - water flows and quality;
- economic benefits of ecology-based agriculture;
- improve productivity of cattle pastures;
- Use of tree legumes in pastures;
- Exotic/native tree species mixes.

Community Stewardship & Education

Iracambi has a strong, long term program for raising environmental consciousness. With young children, we work on awareness raising; with youths, we aim to engage them as environmental leaders, and with adults, to adopt sound ecological practices in their activities. The research objective is help to measure our impact and improve our education strategy.

Social/Anthropology studies:

- Cultural and social perceptions to the “environment”;
- Perception of ownership and attitudes to conservation;
- Perceptions and responses to prospect of mining in the area;
- Matching environmental education methods to practical needs of local and marginalised communities;
- Impact assessment of environmental education.

Medicinal plants

Iracambi is home to a wealth of endemic and indigenous plant species, many of which have high economic and health values as medicinal plants. The objective of the research is to identify native plants that could be exploited on a commercial basis to generate income for farmers.

Our extensive database of botanical resources is available for research purposes.

- Phytochemistry and biological properties of medicinal plant species
- Ethno-botanical research for plants traditionally used but not officially recognised as being of medicinal value;
- Sustainable harvesting and economic viability of medical plants ;
- Cultivation and rearing of medicinal plants for commercial use.