

The Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering







50 years anticipating the future

COPPE – THE ALBERTO LUIZ COIMBRA INSTITUTE FOR GRADUATE

STUDIES AND RESEARCH IN ENGINEERING – HELPED RENEW

BRAZILIAN UNIVERSITIES; THEREBY CONTRIBUTING TO THE

COUNTRY'S OVERALL DEVELOPMENT. FOUNDED IN 1963 BY

THE ENGINEER ALBERTO LUIZ COIMBRA, THE INSTITUTION MADE

IT POSSIBLE TO CREATE GRADUATE COURSES IN BRAZIL.

OVER THE COURSE OF THE LAST FIVE DECADES IT HAS BECOME THE

MOST IMPORTANT CENTER FOR ENGINEERING RESEARCH

AND EDUCATION IN LATIN AMERICA.



# Coppe in Numbers



9,754 master's degrees

3,205 doctorate degrees

### **Academic production**

12,959 dissertations and theses (UP TO 2011)

336 master's dissertations (IN 2011)

168 doctoral theses (IN 2011)

1,705 scientific papers (IN 2012)

## Interaction with society

(GOVERNMENTS, COMPANIES AND CIVIL SOCIETY)

12,700 contracts (UP TO 2011)

102 patents deposited (UP TO 2012)

17 softwares registered (UP TO 2012)

47 brands (UP TO 2012)

### Infrastructure and Human Resources (IN 2012)

12 programs of post-graduate studies (MASTERS AND DOCTORATE)

348 teachers with PhDs

2,729 students (1,643 masters and 1,086 doctoral students)

**61** post-doctoral researchers

350 employees

123 laboratories

An incubator for technology-based companies
A technology incubator for popular cooperatives
A core service in high performance computing (Nacad)



Coppe has already awarded more than 12,000 master's and doctoral degrees in its 12 graduate master's and doctoral courses. Presently, the institution has 348 faculty members, 2,729 students and 350 employees. Coppe also has 123 modern laboratories, which together constitute the country's largest engineering laboratory complex.

Based on three distinguishing features – academic excellence; full-time faculty members and students, and commitment to society – Coppe has distinguished itself through its work to increase understanding and produce highly qualified professionals and innovative teaching methods; thereby serving as a model for other universities and research institutes across the country.



cording to the last Capes evaluation (the Brazilian Federal Agency for Support and Evaluation of Graduate Courses), in September, 2010, Coppe was Brazil's leading engineering graduate institute with the highest number of courses rated 7, which is equivalent to the performance of the most important and respected research and teaching centers in the world.

### **BROADENING ITS HORIZONS**

Coppe has a staff and a research infrastructure that are permanently ready to meet the needs of Brazil's

economical, technological and so-

cial development. As Coppe is always looking to the future, the institution has served as a nation and worldwide model

in engineering teaching and research and has helped Brazil face one of its most important challenges in its recent history.

Coppe has joint research projects with various internationally renowned scientific institutions. In addition, some of its faculty members are participating members of international committees, research institutions and multilateral bodies, such as the United Nations' Intergovernmental Panel on Climate Change (IPPC), which was awarded the Nobel Peace Prize in 2007.











In 2008, Coppe expanded its role in the international theater by creating the China-Brazil Center for Climate Change and Innovative Energy Technologies in partnership with Tsinghua University, which is the most prominent Chinese university in the field of engineering. The Center is headquartered at Beijing's Tsinghua University, where an office is maintained for the coordination of activities and the establishment of contacts with Brazilian and Chinese companies that are potentially interested in technologies to be jointly developed.



# ANTICIPATING THE FUTURE FOR FIVE DECADES

Coppe is characterized by its ability to remain one step ahead of the needs of Brazilian society. Aware of the importance of technology and science for the development of the country, Coppe has established the Coppetec Foundation in 1970, in order to manage its partnerships and projects. Coppetec Foundation has administered more than 12,000 contracts and partnerships with national and international, private and state-owned companies and governmental and non-governmental agencies. Presently, the Coppetec Foundation manages roughly 1,300 ongoing projects, as well as 102 patent applications and 17 software registered by Coppe.

Coppe and Petrobras, who have shared a partnership for more than 30 years, signed the first major cooperation agreement between the company and a university in 1977. By 1985, there were already 33 fixed platforms in operation in Brazil whose structural design was based on work carried out at Coppe. The Coppe/Petrobras partnership has become a world reference model and has helped develop the technology that gives Brazil the leading position in deepwater oil exploration and production. The country has saved billions of dollars and has achieved self-sufficiency in oil.

As Coppe researchers are capable of anticipating technological solutions and responding to future requests, they are already developing new technologies that will support Petrobras and the Brazilian government in the exploration and production of oil and gas in the pre-salt layers.







# COMMITMENT TO THE COUNTRY AND SOCIETY

Coppe is a pioneer in bringing together academia and society. It can transform results into new businesses capable of creating wealth. In 1994, Coppe created its Technology-based Business Incubator which has facilitated the introduction of more than 100 innovative products and services to the market. Forty-eight companies have already passed through the Incubator and now operate autonomously. Presently, there are 19 companies in the Incubator whose activities are developed in the fields of oil/gas/energy; information and knowledge technologies, and the environment. Together, these 67 companies have created more than 700 jobs for highly qualified professionals.

In addition, the institution has also applied engineering and technology to the fight against poverty and inequality, serving as a bridge between Brazil's privileged and under-privileged classes. To succeed in this battle, Coppe founded the Technological Incubator of Popular Cooperatives in 1995. This incubator has become a reference model for other states and countries. One hundred and eighteen cooperatives have been formed and 2,100 jobs have been created.

COPPE HAS BECOME A REFERENCE WITHOUT
LOSING ITS ORIGINAL ESSENCE: AUDACITY, CRITICAL
ANALYSIS, A DEEP CONNECTION TO THE BRAZILIAN
REALITY, AND A COMMITMENT TO INNOVATION AND
THE DEVELOPMENT OF THE COUNTRY.

# TWELVE ENGINEERING PROGRAMS

- Biomedical EngineeringProgram (PEB)
- Chemical Engineering Program (PEQ)
- Civil Engineering Program (PEC)
- Electrical Engineering Program (PEE)
- Energy Planning Program (PPE)
- Mechanical Engineering Program (PEM)
- Metallurgical and MaterialsEngineering Program (PEMM)
- Nuclear Engineering Program (PEN)
- Oceanic Engineering Program (PENO)
- Production Engineering Program (PEP)
- Systems Engineering and ComputerScience Program (PESC)
- Transportation Engineering Program (PET)







