



**Office of the Vice-President for Graduate Studies,
Research, and Innovation**



LETTER FROM THE VICE- PRESIDENT’S OFFICE

UPE celebrates its 27th anniversary as a University with a view to the future, seeking excellence in Research and Innovation. The investment in the Undergraduate Research, Graduate, and Innovation Programs have been key to the growth of UPE by increasing its visibility and importance within the State of Pernambuco. For the next 10 years, consolidation of Research and *Stricto sensu* Programs will be a goal to be pursued, not only to obtain CAPES higher scores, but also contribute to the strengthening of Pernambuco state actions as well as to the qualification of personnel required by productive, industrial and educational sectors.

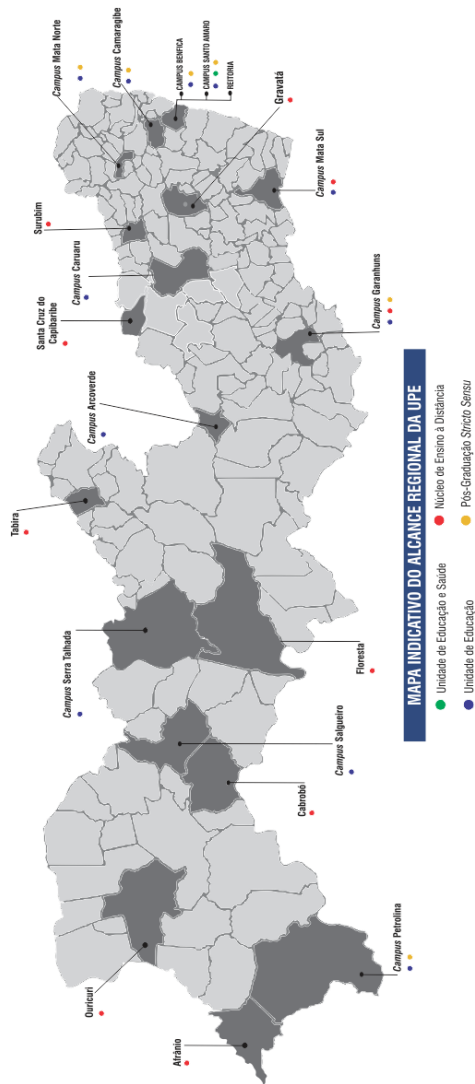
Above all, I emphasize that this process requires investment focused on securing doctors in UPE academic programs. Today we are heavily investing in the support of qualified scientific production as well as in the process of internationalization and qualification of research laboratories with a view to consolidation of the *Stricto sensu* in UPE.

Therefore, the research groups here listed, whether or not linked to graduate studies, provide information about those responsible for the scientific production of UPE.

Maria Tereza Cartaxo Muniz

Vice-President for Graduate Studies, Research, and Innovation

UNIVERSITY OF PERNAMBUCO REGIONAL REACH



PROPEGI

PROPEGI stands for Office of the Vice-President for Graduate Studies, Research and Innovation of the University of Pernambuco whose mission is to lead, coordinate, and support efforts and productions of the institution in the areas mentioned.

FULL LIST OF RESEARCH GROUPS:

AGRARIAN SCIENCES (1)

- **Natural Resources of Caatinga**

Studies focused on Caatinga in different areas of knowledge aimed at the expansion of scientific knowledge and technological development in the region.

Lines of Research:

Renewable Energy

Biotechnology

Characterization of Ecosystems and Sustainable Development

Development and Environment

Environmental Education

Natural Sciences Teaching – Biology, Chemistry and Physics

Arbuscular Mycorrhizal Fungi: Biodiversity, Ecology and Bio-technological Application

Lead Investigators: Regina Lúcia Félix de Aguiar Lima

Claudemiro de Lima Júnior

Contact: regina_aguiar@hotmail.com

BIOLOGICAL SCIENCES (15)

- **Biodiversidade**

The group works with the dynamics of terrestrial communities and aquatic environments, studying the mechanisms that generate and maintain biodiversity in protected areas and in those under different degrees of environmental impact. The group also aims to train specialists and train taxonomists, who are fundamentally needed to increase knowledge of biodiversity in Brazil. Researchers are currently developing studies on the biodiversity of coastal tidal areas, in areas of Atlantic forest and areas of the Pernambuco wilderness. The studies conducted by the researchers can be used by private and public companies and government agencies as a basis for actions aimed at the sustainable exploitation of natural resources and / or environmental preservation.

Lines of Research:

Bioindicators

Marine, Coastal and Immunological Biology

Plant Ecophysiology

Benthic Ecology

Ecology of Marine Benthos

Population Ecology
Ecological Modeling

Lead Investigators: Betty Rose de Araujo Luz

Filipe Martins Aléssio

Contact: betty.luz@upe.br

• **Biotechnology and Therapeutic Innovation**

The research group Biotechnology and Therapeutic Innovation in UPE / Campus Garanhuns is composed of researchers who seek, in addition to the training of their students, to develop methods, analytical tools and biotechnological and biopharmaceutical products in laboratory scale that can contribute to the resolution of aggravations to health and diseases.

Lines of Research:

Molecular Biology and Biomarkers

Biomaterials and Drug and Protein Releasing Systems

Microbial Enzymes

Applied Microbiology

Lead Investigators: Fábio Rocha Formiga

Contact: fabio.formiga@upe.br

• **Agricultural Crops and Caatinga in the Lower Middle Part of São Francisco Valley**

Knowledge of the biological processes that occur in the agricultural crops of the Lower Middle Part of São Francisco Valley and in Caatinga, by using microbiological and genetic indicators; Understanding the effects of management practices in the Lower Middle Part of São Francisco Valley on crop production and on organisms involved in maintaining these crops; Knowledge about possible diseases caused by phytonethogens in crops of this same region; Knowledge of the quantity of nutrients and quality of food products (fruits,tubers, etc.) originated from the cultures of the Lower Middle Part of São Francisco Valley; Identification of the organisms present in the agricultural areas and in caatinga by using traditional taxonomy and genetic tools; Knowledge of soil morphology in crops and in caatinga, and its relationship with soil organisms; Knowledge of the health of rural workers in these areas for possible future interventions, improving their quality of life; Knowledge and application of Environmental Education in the Lower Middle Part of São Francisco Valley.

Lines of Research:

Nutritional Assessment of Agricultural Products originated from the Lower Middle Part of São Francisco Valley;

Knowledge and Application of Environmental Education in the Lower Middle Part of São Francisco Valley;

Diseases Caused by Phytonematodes in the Cultures of the Lower Middle Part of São Francisco Valley;

Arbuscular Mycorrhizal Fungi Associated with Cultivated Plants and Caatinga Plants in the Lower Middle Part of São Francisco Valley;

Genetics of Organisms Present in Cultures and in Caatinga of the Lower Middle Part of São Francisco Valley;

Soil Morphology in Crops and in Caatinga in the Lower Middle Part of São Francisco Valley;

Products of Biotechnological Importance Obtained from Fungi Filament Indices from Crops and Caatinga in the Lower Middle Part of São Francisco Valley;

Quality of Agricultural Soils and Caatinga Soils in the Lower Middle Part of São Francisco Valley by Using Microbiological and Genetic Indicators;

Health of the Rural Worker in the Cultivated Areas of the Lower Middle Part of São Francisco Valley;

Lead investigators: Maryluce Albuquerque da Silva Campos

Leilyane Conceição de Souza Coelho

Contact: marylucecampos@yahoo.com.br

• Ecology of Aquatic Ecosystems

Ecology of aquatic ecosystems (marine, continental and estuarine) with special emphasis on plankton: trophic interactions and ecological modeling.

Lines of Research:

Plankton Ecology

Environmental Education

Ecological Modeling

Lead investigators: Mariana Guenther Soares

Contact: mariana.guenther@upe.br

• **Group of Studies in Ethnoecology and Ecology of Tropical Fish**

To carry out bioecological studies on the tropical ichthyofauna of marine, estuarine and freshwater ecosystems in order to understand the natural history of fish and their relationship with the environment. To study the relationships between fishermen / fisherfolk communities and the environment with a systemic approach.

Lines of Research

Tropical Fish Ecology

Ethnoecology

Lead Investigators:

Simone Ferreira Teixeira

Susmara Silva Campos

Contact: teixeirasf.upe@gmail.com

• **Medical and Applied Microbiology**

The work of this group in the area of medical and applied microbiology has the purpose of characterizing isolated bacterial of medical importance by molecular techniques. In this regard, molecular typing and detection of genes involved in mechanisms of bacterial resistance are developed, espe-

cially in isolates that cause nosocomial infection. Hospital infection outbreak control measures are expected to be improved through the identification of outbreaks of infection and clones prevalent in the hospital setting.

Research lines:

Molecular Characterization of Pathogenic Bacteria

Lead investigators:

Márcia Maria Camargo de Moraes

Contact: marcia.morais@upe.br

• **Biological Modeling**

Biological Modeling is a multidisciplinary research group that has life as the focus of study, through the identification of models inserted in biological processes and that proposes models as a research tool in the bio-medical area. The proposed models are representations that simulate the behavior or activity of biological systems or processes, and may include the use of mathematical equations, computers and other electronic equipment.

Lines of Research:

Protein Packaging

Health Education

Bone Modeling

Osteoporosis

Memory Processes

Quality of life

Recognition of Patterns in Medical Images

Lead investigators: Rita de Cássia Moura do Nascimento

Contact: rcassiamoura@yahoo.com.br

• Environmental Monitoring in Coastal Areas

This research group has been attending a series of calls for environmental studies in the coastal region of Suape, south coast of the State of Pernambuco, particularly in faunal inventories and rescue programs. It has been strengthened in Financing Agreements, with research in the P & D Area by the National Agency of Electric Energy - ANEEL.

Lines of Research:

Ecology of Biofouling

Ecology of Limnetic and Terrestrial Fauna

Ecology of Macro and Benthic Megafauna

Macroalgae Ecology

Environmental Management

Taxonomy and Ecology of Sessile and Sedentary Invertebrates, with a View to Bioinvasion Analysis.

Lead investigators: Múcio Luiz Banja Fernandes

Contact: muciobanja@gmail.com

• Applied Morphology

To develop and elucidate morphological aspects applied to Biological Sciences, with emphasis on Human Health.

Lines of Research:

Craniofacial Growth and Development

Teaching and Reflective Study of Education in Biology and Health

Fundamentals of Histological Techniques

Craniofacial Imaginology

Computer-Assisted Surgical Simulation and Virtual Planning

Teaching Practices in Biology and Health Teaching Laboratories

Nerve Regeneration

Toxicology in Embryonic Development

Lead Investigators: Joaquim Celestino da Silva Neto

José Romero Souto de Sousa Júnior

Contact: joaquimcelestino@hotmail.com.br

• Morphology and Systematics of Angiosperms with Emphasis on Semi-Arid Flora

Taxonomic and nomenclatural studies of representatives of Malvaceae; descriptions and identifications of morphotypes; integration of the group with the courses of Bachelor of Biological Sciences (traditional learning) and Bachelor of Biological Sciences (distance learning), both from the University of Pernambuco, through the curricular components of Botany and related areas; publication of articles in scientific journals.

Lines of Research:

Contribution to the taxonomy of *Herissantia* Medik. (Malvaceae) with emphasis on the species of Brazil

Morphology and Systematics of Malvaceae

Taxonomy and Systematics of *Sida* L. and *Sidastrum* E.G. Baker (Malvaceae, Malvoideae), with emphasis on the species of the Northeast of Brazil.

Lead Investigators: George Sidney Baracho de Souza

Contact: georgesidney@hotmail.com

• **Systematics, Ecology and Management of Tropical Biota**

Development of studies on the functioning and dynamics of the mangrove ecosystem; improvement of research methodologies; evaluation and performance of ecosystem restoration work as well as impact analysis; environmental management and environmental education projects for coastal areas.

Lines of Research:

Mangrove Ecology

Ecology and Conservation of Fauna

Ecology and Management of Tropical Fish

Fishery Resource Ethnoecology

Plant Physiology

Lead Investigators: Simone Ferreira Teixeira

Gilberto Dias Alves

Contact: teixeirasf.upe@gmail.com

• **Fungi of Biotechnology Importance**

The group has defined biotechnological strategies by employing arbuscular mycorrhizal fungi to maximize the production of bioactive compounds with pharmacological properties in plants native to Caatinga. In addition, biochemical and microbiological quality studies of semi-arid soils have been conducted. The team works to increase the visibility of the University of Pernambuco in the development of low cost technologies that improve environmental quality.

Lines of Research:

Applied Molecular Biology

Ecology and Systematics of Cryptogenes and Phanerogams

Phytochemistry Applied to Mycology

Arbuscular Mycorrhizal Fungi

Medicinal plants

Biochemical and Microbiological Quality of Soil

Lead Investigators: Fábio Sérgio Barbosa da Silva

Francineyde Alves da Silva

Contact: fabio.barbosa@pesquisador.cnpq.br

• **Biochemistry of Macromolecules**

The biochemistry research group of macromolecules has presented relevant productions in the biochemistry field of lectins, epidemiological and biomolecular studies in infectious and degenerative diseases, as well as in the genetic polymorphism of folate route enzymes and its correlation with blood diseases. Recently, some members have been focusing on the study of polymorphism of mannose-binding lectin (MBL) and the susceptibility or resistance to infectious diseases and blood diseases.

Lines of Research:

Biochemistry of Protease Inhibitors

Biochemistry of Lectins

Epidemiological and Biomolecular Studies of Hepatitis

Pathophysiological Studies of Biological Systems in Chronic Diseases

Immunodiagnosis

Immunopathology of Dengue

Mannose Binding Lectin Polymorphism

Genetic Polymorphism of Immunity Proteins

Genetic Polymorphisms in Degenerative Diseases

Lead Investigators: Maria do Socorro de Mendonça Cavalcanti

Contact: socorro.cavalcanti@upe.br

• **Environmental Biology**

Research focused on the environmental field, with the goal of integrating students and professors in the field of interdisciplinary research, aiming at raising the knowledge level of the group through integrated practices.

Lines of Research:

Biology, Environment and Health

Environmental Education

Studies of Fauna, Flora and Microbiota of Pernambuco

Lead Investigators: Ubirany Lopes Ferreira

Viviane Lúcia dos Santos Almeida de Melo

Contact: viviane.almeida@upe.br

• **Human and Animal Genetics**

This research group has as its main objective studying children's cancer at the level of cytogenetics and molecular biology, since the laboratory that is to support the research has recently joined the National Diagnostic Center of Childhood Cancer as a reference laboratory in this area. In addition to studies in the field of human genetics, research has also been conducted on cytogenetics and insect cytotaxonomy, with the general objective of studying genetic variability and identifying chromosome markers in this group of organisms.

Lines of Research :

Human Cytogenetics

Epidemiology

DNA polymorphisms

Cell Therapy

Oncogenic Viruses

Lead Investigators: Maria Tereza Cartaxo Muniz

Contact: tereza.cartaxo@upe.br

HEALTH SCIENCES (45)

- **Human Performance Assessment - ESEF**

The Human Performance Assessment Study Group officially began in 2002, as a result of the work carried out by the Human Performance Group, linked to the extinct ESEF-UPE Physical Education and Sports Laboratory, created in 1995. With the official implementation of CENESP- UPE (Sports Excellence Center, linked to the Ministry of Sports) and with the acquisition of state-of-the-art equipment the great growth of the area began in 1998. Our objective is to study the organic responses to motor activities and to develop technology in the fields of physiology, biochemistry, cineanthropometry and biophysics as a factor of performance evaluation and improvement of physical and sports aptitude in apparently healthy populations, athletes and also in populations with special needs. The Research Group on Human Performance Assessment - ESEF / UPE guarantees support to the Post-Graduation Program in Physical Education, especially in the area of Health and Human Performance.

Lines of Research:

Biodynamic Aspects of Human Performance

Metabolism and Physical Exercise

Lead Investigators: Manoel da Cunha Costa

Fernando José de Sá Pereira Guimarães

Contact: mcosta2@gmail.com

• **Oral Cancer**

This research group has as main objective the study of oral cancer (etiology, prevention, diagnosis) by using molecular biology methods to verify genetic alterations in the methylenetetrahydrofolate reductase (MTHFR) gene associated with susceptibility to oral squamous cell carcinoma and human papillomavirus (HPV) infection. The technical support is provided by the Center for Pediatric Oncohematology – CEONHPE, a reference laboratory that integrates the National Center for the Diagnosis of Childhood Cancer.

Lines of Research:

Genetic Alterations and Mouth Cancer

Popular Health Education

Risk Factors for Oral CPC

Dentistry in Oncology

Viral Research

Prevention and Early Diagnosis of Oral Cancer

Lead Investigators: Aurora Karla de Lacerda Vidal

Contact: aurora.vidal@upe.br

- **Forensic Sciences (Legal Medicine and Legal Dentistry/Civil, Penal and Constitutional Law)**

The goals are: To promote an extensive diagnosis of the epidemiological, clinical, ergonomic, laboratorial, environmental, expert and jurisprudential aspects of occupational pathologies, locally and nationally, in order to disseminate and socialize information for all those who work in the different areas of Occupational Health.

- To deepen the dynamics of evaluations in the field of identification and mapping of environmental risks.
- To promote studies on the experts' work in the scope of Labor Justice and Federal Justice (Civil Courts and Federal Special Civil Courts).
- To promote studies on the behavior of RSI - repetitive stress injuries / DORS (work-related osteomuscular disorders) at regional and national levels, including assessments of the social, economic and jurisprudential repercussions of these pathologies.
- To promote studies on: Medicine and Legal Dentistry (Violence, Traumatology, Tanatology, Anthropology, Entomology and Forensic DNA); Medicine and Dentistry at work (Occupational Health and Biosafety).
- To promote studies on: Legislation, Ethics, Bioethics and Criminal Law, Labor Law, Civil Law, Constitutional Law and Bio-Law.

- To promote studies on the experts' work in the scope of the Institutes of Legal Medicine and Criminalistics.

Lines of Research:

Forensic Anthropology and Genetics

Bio-Law and Applied Legislation

Forensic Science and Skills

Civil Law (Civil Liability)

Labor Law, Inferential Law and Forensic Science

Criminal Law and Forensic Science

Entomology and Forensic DNA

Identification and Mapping of Occupational Risks

Human Identification

LER (Repetitive Strain Injuries) / DORT (Work-Related Osteomuscular Disorders)

Perspectives on the Right to Human Life

Forensic Radiology

Forensic Toxicology

Trauma - Forensic, Medical and Dental Aspects

Trauma - Attacks by Large Marine Animals

Violence

Lead Investigators: Marcus Vitor Diniz de Carvalho

Evelyne Pessoa Soriano

Contact: carvalho_marcus@yahoo.com.br

- **Oral and Maxillofacial Surgery**

The goal of this research group is to develop, perfect and determine the best conducts with reference to surgical techniques, materials, instruments; pre-operative, intraoperative and postoperative medications in Oral-Maxillofacial Surgery and Traumatology and tissue regeneration; Human resource training.

Lines of Research:

Diagnosis and Epidemiology of Oral Injuries

Tissue Engineering, Bone Regeneration and Stem Cells

Study of Operative and Therapeutic Techniques in Oral-Maxillofacial Surgery

Nerve Injury and Microsurgery in Oral-Maxillofacial Surgery

Pathology of the ATM

Oral-maxillofacial Traumatology

Lead Investigators: Belmiro Cavalcanti do Egito Vasconcelos

Contact: belmiro@pesquisador.cnpq.br

- **Diagnostic Imaging**

The goals are to verify and establish radiological parameters in devices and systems that produce high image quality;

To study root fractures, periapical bone lesions, periodontal lesions and maxillomandibular complex lesions.

Lines of Research:

Quality Control of Radiological Imaging Systems

Methods of Imaging for Temporomandibular Joint

Osteointegrated Implants

Prevalence of Oral Cavity Changes

Cone Beam Computed Tomography

Lead Investigators: Luciane Farias de Araujo

Contact: lufarias_radio@hotmail.com

• **Clinical Epidemiology**

With the current change in the epidemiological profile of dental caries in Brazil, diagnosis has become more important, since it may indicate more preventive and lower-cost therapy for services and for the population. In this context, the discussion about the methods and factors to be considered in the diagnosis and decision of treatment of dental caries becomes important in the sense of avoiding unnecessary invasive procedures. Similarly, in periodontal diseases, although they have a lower prevalence in Brazil, it is observed that the therapeutic indications are not uniform and that factors other than the patient's health are taken into account. In Recife, there are strong indications that teeth are restored for reasons unrelated to the

patient's health. Because there are no studies that relate therapeutic attitude regarding dental caries, pulp and periapical diseases and periodontal diseases with the the dental surgeon's socioeconomic and demographic data, this research group was established with the purpose of conducting cross-sectional epidemiological studies, seeking proposals for the solution of this problem.

Lines of Research:

Dental cavity

Treatment Decision

Temporomandibular Dysfunction

Periodontal Disease

Epidemiology

Odontogeriatrics

Evidence-Based Dentistry

Special Patients

Dental Loss

Recurrent Acidosis

Violence

Lead Investigators: Arnaldo de França Caldas Junior

Eliane Helena Alvim de Souza

Contact: caldasjr@alildeia.com.br

- **Epigenetics, Immunobiology and Fisiopathological Mechanisms and Alternative Therapies in Infectious Diseases**

This group has a partnership with the Liver Institute of Pernambuco (IFP), Aggeu Magalhães Research Center, Federal University of Pernambuco and IOC-FIOCRUZ-RJ to develop research within the lines of viral immunology, immunopathology and molecular biology. At our university, UPE, it is the only group to study epigenetic factors in infectious diseases. Together with the IFP we assist in the implementation of screening for the IL28B mutation in the targeting of treatment for Hepatitis C. The patent for kit and processes for the diagnosis of liver fibrosis is currently one of our most important researches.

Lines of Research:

Development of New Technologies for the Treatment of Infectious Diseases

Immunomodulation of Antiviral and Anti-parasitic Response

Epigenetic Markers Associated With Susceptibility and Progression of Infectious Diseases

Lead Investigators: Patrícia Muniz Mendes Freire de Moura

Contact: patricia.moura@upe.br

- **Studies in Dermatology**

The research lines outlined by this group are aimed at the clinical and laboratorial study of our outpatients' most frequent diseases in order to benefit society by improving medical practice through research. In scientific initiation work, the leishmaniasis and AIDS co-infection among patients seen in two State Reference Services was evaluated retrospectively. The results

showed a low frequency of co-infection, and a prospective study was recommended. The study evaluated the frequency of association of psoriasis and metabolic syndromes, finding a high incidence as well as more extensive forms of the disease. This research group works with projects in American cutaneous and mucosal leishmaniasis, relapsing cutaneous leishmaniasis aiming at the clinical, epidemiological, laboratorial and therapeutic profile of the study population.

Research lines:

Acne

Infectious and Parasitic Diseases in Dermatology

Neoplasms

Onicopathies

Psoriasis

Lead Investigators: Ângela Cristina Rapela Medeiros

Contact: rapelaac@yahoo.com.br

• **Studies in Hematology**

The Research Group on Hematology (GPEH), established in the University of Pernambuco (UPE) and Hemocentro de Pernambuco (HEMOPE), develops research, teaching and assistance activities. The main lines of research are clinical and molecular studies on blood diseases, especially adult onco-hematological hemorrhages. Scientific production includes publications and works presented at local, national and international scientific events with

awards. The members of the GPEH participate in UPE / HEMOPE education and offer courses, training, orientation and tutoring to undergraduate and graduate students. The professionals of the group provide assistance to hematological patients with activities in the hematological clinic and conduct qualitative and quantitative molecular tests.

Lines of Research:

Clinical and Hematologic Studies in Hemopathies

Molecular Studies in Hemopathies

Lead Investigators: Raul Antônio Morais Melo

Contact: raul.melo@outlook.com

• **Studies in Health, Rehabilitation and Functional Performance**

First research group of UPE in the area of Rehabilitation, which aims to bring together researchers from the areas of Physiotherapy and Physical Education to conduct research projects related to the study of human movement, evaluation, prevention and treatment of major diseases that compromise health. The creation of the research group allows for greater interaction among the professors and the strengthening of lines of research within the institution.

Lines of Research:

Biomechanical Analysis and Functional Intervention in Human Movement;
Evaluation and Intervention in Physical Therapy in the Health of Women, Children and Adolescents.

Lead Investigators: Rodrigo Cappato de Araújo

Ana Carolina Rodarti Pitangui de Araújo

Contact: rodrigocappato@yahoo.com.br

• **Ethnographic Studies in Physical Education and Sport (ETHNOS)**

Congregating people interested in researching the pedagogical practice of Physical Education (its contents, manifestations, interfaces and institutionalizations) whether in school or in other social spaces, ETHNÓS seeks approximations with the epistemological foundations of the Dialectic Approach in the materialist-historical and the hermeneutic-dialectic aspects. Our choice is due to the intention of carrying out ethnographic methods, having as common elements the bibliographic study, observation, description and analysis of the cultural manifestations of the subjects in order to recognize in the collected data and in their analyzes, senses, contradictions, reality and possibilities. ETHNÓS is linked to the Pedagogical Practice and Professional Training in Physical Education line of research which belongs to the area of concentration “Culture, Education and Movement”.

Lines of Research:

Physical Education

Physical Education, Culture and Dance

Teacher Training in Physical Education

Recreational Practices and Physical Education

Public Policy and Physical Education

Lead investigators: Lívia Tenório Brasileiro

Marcílio Souza Júnior

Contact: livtb@hotmail.com

• **Exercise and Chronic Noncommunicable Diseases**

The purpose of this group is to develop research in the area of prescription of physical exercise for the prevention, treatment and rehabilitation of some chronic noncommunicable diseases such as diabetes, obesity, dyslipidemia, osteoporosis, cancer and asthma.

Lines of Research:

Physical assessment

Aging

Physical Exercise and Metabolic Diseases

Physical Exercise and Osteomyoarticular Diseases

Lead Investigators: Denise Maria Martins Vancea

Contact: dvancea@ig.com.br

• **Research and Extension Group on Care, Social Practices and Vulnerable Populations' Right to Health (GRUPEV)**

Group for the study of chronicity and vulnerability in health;

Care, social practices and health promotion in leprosy and other chronic diseases as well as social participation and right to health.

Lines of Research:

Chronicity and Vulnerability in Health

Care, Social Practices and Health Promotion in Leprosy and Other Chronic Diseases

Social Participation and the Right to Health

Lead Investigators: Danielle Christine Moura dos Santos

Raphaella Delmondes do Nascimento

Contact: danielle.moura@upe.br

• Study Group on Integrated Health Services Networks

GERISS is a group that has been researching aspects related to Integrated Health Services Networks (RISS) in the Unified Health System (SUS) in recent years, particularly with regard to access, coordination and continuity of care- intermediate objectives- and to equity of access and efficiency- final objectives. The research has evaluated the limits and possibilities in the integration of networks in Pernambuco and generated evidence that can facilitate the planning of SUS public managers in order to improve the performance of networks as well as to increase the population's access to health services.

Lines of Research:

Evaluation of Policies and Health Systems

Health Care Networks guided by Basic Attention

Lead Investigators: Maria Rejane Ferreira da Silva

Paulette Cavalcanti de Albuquerque

Contact: rejane.ferreira@upe.br

- **Women's Studies and Research Groups (GEPEM)**

The Women's Studies and Research Group (GEPEM), created in 1994, is made up of professors from the Nursing School (FENSG) at the University of Pernambuco (UPE) who minister Obstetrical and Gynecological Nursing, a professor from the Faculty of Medical Sciences (FCM) at UPE, and a professor from the Department of Nursing at the Federal University of São Paulo (UNIFESP). The research developed by the GEPEM-UPE has given room for presentations in national and international events, publication in indexed journals and in books. Some theses were also presented at events in Brazil and abroad.

Lines of Research:

Fundamentals of Caring for Health

Promotion of Women's Health

Lead Investigators: Arabela Antônia Nery de Melo Costa

Contact: arabela_costa@uol.com.br

- **Violence Studies and Research Group**

The group of studies and research on violence is composed of faculty, lecturers and technicians of the health area. With a multidisciplinary and mul-

tiprofessional character, the researchers involved have been mainly dedicated to the topics of domestic violence, school violence, support networks, education and health promotion. The knowledge produced takes into account the diverse interfaces of violence in different age groups. Organized in two lines of research, the group conducts epidemiological surveys, evaluation of actions and programs of attention to people and groups in situation of violence.

Lines of Research:

Promotion and Monitoring of Health

Violence and Health

Lead Investigators: Lygia Maria Pereira da Silva

Maria Aparecida Beserra

Contact: lygia.silva@upe.br

• Study and Research Group on Epistemology and Care

Fundamentals in Health and Nursing

This group seeks to conduct studies and research to know the fundamentals of health care and nursing in its philosophical, historical, social and anthropological aspects. It aims to understand the practices and knowledge in training in the field of health and nursing and how they affect the promotion and monitoring of health of the human population.

Lines of Research:

Fundamentals of Caring for Health and Nursing in Health Promotion

Professional Identity and History of Nursing

Policies and Process of Care in Adult, Elderly and Worker's Health

Safety and Health Promotion in the Various Ways of Caring

Lead Investigators: Fátima Maria da Silva Abrão

Contact: abraofatima@gmail.com

• **Study Group on Stomatherapy**

The work developed by the group aims initially to know the epidemiological panorama of the three areas - wounds, stomies and incontinences- that compose stomatherapy, and then, intervene in a preventive, curative and rehabilitation way to modify the scenario and promote a better quality of life for the population involved.

Lines of Research:

Nursing Care for People with Impaired Skin Integrity

Stomatherapy Nursing

Lead Investigators: Isabel Cristina Ramos Vieira Santos

Marília Perrelli Valença

Contact: grupoestomaterapiaupe@gmail.com

• **Study and Research Group on Public Health (GEPSC)**

Nursing Professionals have been involved in Teaching, Research and Extension activities and have been contributing to Research in the Public Health

Area. They seek not only to formulate norms, guidelines and critical positions of social movements and the real health needs of the community, but also to follow-up and reformulate proposals for Health Programs and Policies that may contribute to the construction of new Health Models that meet expectations and social demands for more and better quality of health.

Lines of Research:

Epidemiology

Collective Health

Public health

Lead Investigators: Rute Cândida Pereira

Vera Rejane do Nascimento Gregório

Contact: rucape@hotmail.com.br

• **Research Group on General Surgery and Liver Transplantation – FCM**

Research group created under the Faculty of Medical Sciences with the aim of supporting medical students interested in scientific initiation. We are not connected to the *stricto sensu* Graduate Program. Our production focuses on publications in periodicals indexed to PUBMED and directed to the education and training of undergraduate students in Medicine.

Lines of Research:

General surgery

Medical Education

Liver transplant

Lead Investigators: Luiz Eduardo Correia Miranda

João Evangelista Neto

Contact: lecmiranda@gmail.com

joaoevneto@hotmail.com

• **PROCAPE Research Group on Cardiovascular Diseases**

The group is made up of professors and non-professors from the University of Pernambuco, most of them with Masters or PhD degrees from various specialties in the area of human health and conducts research in the field of prevention, diagnosis and treatment of cardiovascular diseases. Their research is closely linked to the Master's program in Health Sciences of the Faculty of Medical Sciences of UPE and also to the scientific initiation programs of medical students. The group also participates in national institutional projects such as the Prediction Study (DCIT - CNPq) and the Morpheus Project (CNPq).

Lines of Research:

Heart Attack in Infectious Diseases

Cardiovascular Changes Related to the Aging Process

Evaluation of Cardiovascular Therapeutics (medicines, procedures or devices)

Biomarkers Associated with Prognosis in Cardiology

Risk Factors and Prevention of Cardiovascular Diseases

Genetics and Cardiovascular Diseases

Research Group on Chagas Disease, Heart Failure and Cardiomyopathies

Sleep Medicine

Autonomic Heart Regulation

Lead Investigators: Dário Celestino Sobral Filho

Rodrigo Pinto Pedrosa

Contact: dsobral@uol.com.br

• **Research Group on Sports and Management (GEQUIP) – ESEF**

Since 2013 this group has been participating in national and international investigations. That same year we participated in the writing of the book Municipal Sports Management in Ibero-America: History, Theory and Practice. In 2015, the group became responsible for the management of the Intercontinental Sports Management Association - AIGD. Systematically, the group takes part in International and national Congresses in the area of Sports and Management and produces and publishes scientific articles in specialized magazines.

Lines of Research:

Performance Analysis

Cognition and Sports Action

Physiology Applied to Sports

Event Management and Sports Facilities

Management of Sports Organizations

Sports marketing

Teaching-Learning Methodology; Sports Tactical-Technical Training

Sports Manager Profile and Training

Public Sports and Leisure Policies

Lead Investigators: Carlos Augusto Mulatinho de Queiroz Pedroso

Vera Lucia Samico Rocha

Contact: carlosaugustomulatinho@gmail.com

• **Research Group on Life Styles**

This research group was initiated in January 2004 and, at present, the GPES supports the Master's Degree in Hebiatrics of the Faculty of Odontology at UPE and the Associate Postgraduate Program in Physical Education UPE / UFPB. The researchers of the GPES have been able to disseminate their main productions and to foment scientific training activities for the investigators and students involved. In addition, a closer exchange has been established with similar research groups, among which: Research Group on Physical Activity and Quality of Life (PUCPR), Research Group on Physical Activity and Health (UFSC) and Group of Study and Research in Metabolism, Nutrition and Exercise (UEL). GPES has also been active in establishing new research groups in several HEIs, and has maintained formal cooperation with research institutes abroad, among which: CIAFEL of the University of Porto (Portugal) and RICH of the University of Southern Odense (Denmark).

Lines of Research:

Epidemiology of Health Related Behaviors

Interventions of Physical Education in Health

Promoting Health and Healthy Lifestyles

Lead Investigators: Mauro Virgilio Gomes de Barros

Rafael Miranda Tassitano

Contact: contato@gpesupe.org

• **Research Group on Humanization and Arts in Health**

The present Research Group aims to study / research actions of humanization in the health area and the influence of art in the therapeutic process.

Lines of Research:

Humanization in Health

Tanatology

Lead Investigators: Tânia Maria Falcão Lake

Contact: tanialagofalcao@gmail.com

• **Research Group on Public Health**

The Collective Health Research Group aims to strengthen the institutional performance of the University of Pernambuco, Petrolina Campus in social

and economic development, professional-citizen training, and in the construction and dissemination of knowledge through articulation between teaching, research and extension. The Group will encourage and promote the insertion and participation of professors and students in the community, in the management and social participation in the Unified Health System in Petrolina and Macroregion. In addition, this group intends to integrate professionals of the service network into the Health Bachelor Programs in this Campus and favor interdisciplinary and multicentric approaches.

Lines of Research

Education in Health and Teaching-Service-Community Integration

Health: Policies, Management and Evaluation

Promotion, Attention and Surveillance in Health

Lead Investigators: Marianne Louise Marinho Mendes

Flávia Emília Cavalcante Valença Fernandes

Contact: marianne.marinho@upe.br

• Research Group on Health Informatics (GPIs)

The researchers in this group are professors and technicians from the Faculty of Nursing, Faculty of Medicine and the Health Secretariat of the State of Pernambuco. The group initiated research in the area of Health Informatics in order to introduce the subject into the training of students of the Nurs-

ing and Medicine Courses. In addition, the group also offers lines of research where technology tools can be very supportive. Currently the group incorporates undergraduate and graduate students in the development of Research Projects.

Lines of Research:

Assistive Technology

Educational Technologies

Lead Investigators: Claudinalle Farias Queiroz de Souza

Mirian Domingos Cardoso

Contact: mirian.domingos@upe.br

• **Research Group on Human Motor Behavior and Health**

The Human Motor and Health Behavior Research Group aims to produce and disseminate knowledge about how practice, information processing and development process modify human motor behavior and how the latter associates with a healthy lifestyle. This research group is linked to the Associate PostGraduate Program in Physical Education UPE / UFPB. Rationale: Fundamental for understanding and intervening in daily human motor practices which align with a healthy style of life is to describe order and variation of changes in motor behaviour; study the effect of variables in motor learning, as well as propose explanatory models for such changes. This research group incorporates undergraduate students, CNPq and FACEPE scientific initiation fellows, masters and doctoral students. The Motor

Learning line of research develops studies on factors (eg. knowledge of results, instructions) that interfere with the acquisition of motor skills.

Lines of Research:

Motor Learning

Physical Activity, Health, and Psychomotor Performance in Childhood and Adolescence

Biomechanics and Anthropometry

Cognition-action in Children Practicing Collective Sport Modalities

Motor Behavior in Elderly

Motor Skills and Physical Activity

Neuroscience and Sports

Lead Investigators: Maria Teresa Cattuzzo

Aldemir José Ferreira Teles

Contact: mtcattuzzo@hotmail.com

• **Research Group on Human Performance - Petrolina Campus**

This is a group composed of researchers with different backgrounds (physical education, physiotherapy, medicine, nutrition, nursing, psychology and biology), originated in the research line "Nutritional, physiological, morphological and biochemical markers applied to human performance"

of the Research Group "Nutrition, Food and Health" in Petrolina Campus. In these areas of knowledge, interdisciplinary research projects are developed

through epidemiological, clinical or experimental studies in the Human Performance Research Laboratory. Our objective is to bring together the activities developed in different areas, producing science and knowledge to disseminate in society through scientific articles published in indexed journals and effective participation of researchers as speakers at national and international scientific events.

Lines of Research:

Determinants of Cognitive, Behavioral and Educational Performance at Different Levels of Education;

Physiological, Biochemical and Morphological Mechanisms Related to Human Performance;

Molecular and Functional Mechanisms Involved in Human Health Maintenance.

Lead Investigators: Paulo Adriano Schwingel

Contact: paulo.schwingel@upe.br

- **Hebiatics**

The Hebiatics research group is composed of professors and students from several areas of health, such as dentistry, medicine, nursing, physical education and physiotherapy so as to enable the development of multidisciplinary work and the generation of knowledge that takes the determinants of health in adolescence into account. The composition of the group allows the development of research with an interdisciplinary and innovative

character. Organized in four lines of research, the group conducts studies on adolescents' health-related behavior, investigates mediators, determinants, biological and health risk factors in adolescence, in addition to conducting epidemiological surveys and evaluating adolescents health care programs.

Lines of Research:

Behaviors Related to Health in Adolescence;

Adolescent Health Care Policies and Programs;

Promotion, Protection and Recovery of Health in Adolescence.

Lead Investigators: Carolina da Franca Bandeira Ferreira Santos

Fabiana de Godoy Bene Bezerra

Contact: viviane.colares@upe.br

• **Bone Metabolism**

This research group aims to assess risk factors associated with osteoporosis secondary to diabetes and insulin resistance; D Paget bone; Deficiency of Vitamin D and Primary Hyperparathyroidism.

Lines of Research:

Chronic Metabolic Diseases

Factors Associated with Sarcopenia, Fragility, Auditory Dysfunction and Vitamin D Deficiency in Elderly with Osteoporosis, Primary Hyperparathyroidism and Type 2 Diabetes.

Lead Investigators: Francisco Alfredo Bandeira and Farias

Contact: fbandeira@gmail.com

- **Nutrition, Food and Health - Petrolina Campus**

The research group on Nutrition, Food and Health is made up of faculty members of the University of Pernambuco Nutrition course (UPE) who work in different areas, such as food, basic nutrition and dietetics, collective nutrition, public health, related pharmacology nutrition and health education. Research projects are developed in the following areas: nutritional assessment (either through epidemiological or clinical studies); food analyzes (through bromatological and / or microbiological studies); health education (through approaches developed in undergraduate and graduate studies). The purpose of this research group is to bring together the activities developed in the different areas, producing science and knowledge to be disseminated into society through scientific articles published in indexed journals and effective participation either as lecturers or in the organization of scientific events.

Research lines:

Science and Food Technology

Food and Nutritional Behavior and Dietary Study

Education and Health

Pharmacology, Health and Nutrition

Lead Investigators: Cristhiane Maria Bazílio de Omena

Iracema Hermes Pires de Mélo Montenegro

Contact: crisbomena@hotmail.com

- **Otorhinolaryngology - FCM**

Having been created with the First Course of Specialization in Otorhinolaryngology at the Faculty of Medical Sciences of Pernambuco fourteen years ago, this group, targeted at training new professionals in this specialty, invests not only in theory but also in the practice of medicine. The association of teaching and research resulted in publications of articles in scientific journals; participation in congresses; book chapters; promotion of journeys, seminars, theoretical and practical courses on various subjects. The idea of formalizing research activities provided members with a new impulse to encourage undergraduate and graduate students to research into the area of Otorhinolaryngology, with the aim of giving emphasis to those aimed at our society own problems and whose results may turn into the benefit of their members.

Research lines:

Laryngeal Conditions

Otoneurological Conditions

Rhinosinusal Conditions

Methodology of Medical Education

Lead Investigators: Luiz Alberto Alves Mota

Contact: luizmota10@gmail.com

- **Endemic and Chronic-Degenerative Pathologies in Brazil**

This group aims at a) Promoting an extensive diagnosis of the epidemiological, clinical, ergonomic, laboratorial, environmental, expert and jurisprudential aspects of the Chronic-Degenerative and Endemic Pathologies in Brazil in the loco-regional and national contexts, in order to disseminate and share information with all those working in different areas of Health; b) Evaluating the elements of Health Promotion in Nursing, Medicine and Dentistry; c) Deepening the dynamics of assessments in the field of identification and mapping of biological and environmental risks

Lines of Research

Dental Cavity

Chronic-Degenerative Osteomuscular Diseases

Endemic Viruses Study

Study of Trauma

Hepatitis B: Prophylactic Attitudes of Nursing and Dentistry Students Facing Occupational Contamination Risk.

Interface between SUS and the Endemic and Chronic-Degenerative Pathologies in Brazil

Biological Hazards

Lead Investigators: Marcus Vitor Diniz de Carvalho

Evelyne Pessoa Soriano

Contact: carvalho_marcus@yahoo.com.br

- **Practices and Technologies for Promoting Health Care Security**

This group aims to develop studies and research aimed at current practices and technologies that favor the maintenance of health and promote the safety of health care.

Lines of Research :

Nursing and Safety in Health Care

Practices and Technologies for Health Promotion and Nursing Assistance

Surveillance in the Rational Use of Medications

Lead Investigators: Regina Célia de Oliveira

Contact: regina.oliveira@upe.br

- **Health Policy, Planning, Management and Education (PRÁXIS)**

Through research participation, seminars, publications of articles and exchanges with other research centers, with the support of local and state governments, this group seeks to promote the importance of monitoring and evaluating public health policies, and in particular, the new modalities of public management in health introduced by the Administrative Reform of the Brazilian State. In addition, it seeks to develop studies on health decision-making within government institutions and collegiate arrangements, which, by introducing the participation of different social actors, generate conflicts of interest and problems of collective action. It presents as a third line of research, health education and training as instruments and input for

health promotion policies, which in turn become a research subject for the group.

Lines of Research:

Analysis of Health Education Policies and Work Policies in Public Health

Analysis of Training Policies, Education Policies and Health Promotion Policies

Monitoring and Evaluation of Health Management in Brazil

Decision Making in Health Policies

Lead Investigators: Joselma Cavalcanti Cordeiro

Cecile Soriano Rodrigues

Contact: cordeirojc@hotmail.com

• **Process of Caring for the Carrier of Acute and Chronic**

Noncommunicable Diseases

The research developed by this group focuses on the discussion of human development in the midst of socio-economic inequalities; in the midst of the risk and occurrence of acute and chronic noncommunicable diseases; and in the midst of onco-hematological diseases. This is the scenario where the nursing care required for health promotion, prevention, and assistance to the bearers needs to be considered.

Lines of Research:

Chronic Noncommunicable Diseases (CNCD) and their Risk Factors

Hematologic and Oncological Diseases

Lead Investigators: Maria das Neves Figueroa

Tânia Maria Rocha Guimarães

Contact: tmrguimaraes@gmail.com

• **Project for the Aging Population of Pernambuco (PROENP-PE)**

The group in this Project for the Aging Population of Pernambuco (PROENP-PE) is made up of researchers and students from the University of Pernambuco and the State Secretariat of Pernambuco working in the area of Elderly Health. This group develops research in the State of Pernambuco in the area of Epidemiology of Aging. The main PROENP-PE Project is a population-based cohort study on aging with the objective to identify the socioeconomic profile, health aspects, quality of life, functional capacity and accessibility of the elderly population to health services in the state. This project also seeks strategies to promote health for the elderly and to protect those who are vulnerable and at risk .

Lines of Research:

Attention to the Health of Vulnerable Groups (elderly, indigenous, quilombolas)

Aging, Health and Work

Epidemiology of Aging

Palliative Care for the Elderly with Cancer and Dementia

Lead Investigators: Marília Siqueira Campos Almeida

Fabia Maria de Lima

Contact: fabia.lima@hotmail.com

• **Women's Health**

The Faculty of Medical Sciences of the University of Pernambuco was the pioneer in the implantation of the *Stricto sensu* Postgraduate Course in Toco Gynecology in the Northeast in 1993. Throughout the years, the program has always sought to meet the quality criteria of a *Stricto sensu* graduate program, in the sense of playing the role of a center for teacher training and high level researchers, a generator of expertise in the field of Toco gynecology. We have sought to solidify the research groups, which, although created together along with the Master's Program, were at first scattered, without structured lines of research. In fact, a consolidated line of research marks the advisor's scientific maturity. Over the years, at the expense of an exhaustive process of faculty awareness about the importance of consolidating research lines and the coherence between them and the projects designed, the research group has been maturing and the verticalization of research lines structured in a natural way reflects today the interests for a given topic and the professional maturity and scientific leadership of the researcher / advisor. Thus, the group of researchers, in addition to defining more vertical lines of research, chose a hierarchical organization, that is, students of scientific initiation and masters are permanently involved in the research projects that are developed around lines of research under the responsibility of a supervisor who plans and coordinates the progress and direction of the work. This hierarchical organization has

enabled an increase in scientific production, valuing and encouraging new researchers.

Lines of Research :

Cost-Accuracy Assessment of Alternative Methods for Uterine Cancer Screening;

Study of the Relationship between Hyperandrogenism and Hyperinsulinemia in Chronic Hyperovaginal Anovulation;

Study of the Epidemiological, Clinical and Biomolecular Aspects of HPV, HIV and other STDs Infection;

Clinical, Metabolic and Therapeutic Interrelations of Bone Mineral Density and Hormonal Status of Women;

Clinical, Endocrine and Metabolic Repercussions of Hypoestrogenism in the Cardiovascular System;

Risks and Repercussions of Surgical Methods of Approaching Benign Hemorrhagic Disorders of the Uterus.

Lead Investigators: Hélio de Lima Ferreira Fernandes Costa

Laura Olinda Bregieiro Fernandes Costa

Contact: department_mi@yahoo.com.br

• **Theories and Practices in Health, Illness and Cure**

This is a pioneering group in health at UPE / Campus Petrolina, whose objective is a) to develop studies, research and extension activities related to theoretical and methodological perspectives and conceptions in the field of

health, and b) to analyze actions, practices and behaviors related to forms of knowledge about health, healing and disease. It focuses specifically on the constitution of differences, their hierarchies and collective interventions in the social, cultural and educational fields.

Lines of Research:

Social Divisions, Subjectivity and Collective Action in Health - DIS. Saúde.

Education and Popular Inclusive Processes: Teaching and Learning, Health Education.

Studies and Actions of Health Surveillance: Technologies, Innovations and Interventions.

Lead Investigators: Maria Antoniêta Albuquerque de Souza Barroso

Maria Elda Alves de Lacerda Campos

Contact: antonieta.albuquerque@hotmail.com

• Fundamentals and Practices of Nursing in Cardiovascular Nursing

This group consists of nursing researchers, doctoral professors, masters, nurses from public, private and university hospitals, undergraduate, specialization and undergraduate students, scientific initiation fellows. The group is intended for all nurses who care for clients / patients in cardiology services in various clinical and surgical situations and who are involved in investigating and discussing phenomena related to caring in cardiovascular disease. This research group is part of the Thematic Line of the Associate Graduate Program in Nursing UPE / UEPB.

Lines of Research:

Evaluation and Rehabilitation of Cardiopulmonary Dysfunction

Assisted / Nursing Care

Health Care and Nursing in Acute and Chronic Health Situations

Hospital Nursing

Fundamentals of Nursing Practice and Health Promotion

Lead Investigators: Simone Maria Muniz da Silva Bezerra

Contact: simone.muniz@upe.br

• Nursing Studies and Research Group on Health Promotion for Vulnerable Populations (GEPEV)

GEPEV was started in 2010. This group seeks to study and do research on nursing actions for health promotion, focusing on health care of the elderly, families and workers. Health surveillance and integral care that match the public policies are also under investigation.

Lines of Research:

Alcohol and Drug Research;

Nursing in Mental Health Promotion;

Clinical and Surgical Oncology;

Working Process in Nursing and Health / Worker's Health;

Promotion of health, Surveillance, Prevention of Diseases / Health Problems and Nursing.

Lead Investigators: Jael Maria de Aquino

Carlos Alberto Domingues do Nascimento

Contact: jaelquino@ig.com.br

EXACT SCIENCES AND EARTH SCIENCES (11)

• Software Engineering

This research group is interested in the study of programming languages and software engineering, involving the development of new languages, implementation and optimization of compilers for specific applications, comparative studies among languages, use of formal languages in the analysis and verification of systems and the study and proposition of methods and techniques that promote the development of reliable and low cost software.

Lines of Research:

Development and Application of Programming Languages

Education & ICT

Requirements Engineering

Experimental Software Engineering

Project Management

Productivity in Software Development

Software quality

Information Systems

Verification, Validation and Testing

Lead Investigators: Maria Lencastre Pinheiro de Menezes Cruz

Contact: mlpm@ecomp.poli.br

- **Studies of UPE's Marine Biota**

This research group has been attending a series of calls for environmental studies in the coastal region of Suape, south coast of the State of Pernambuco, particularly in wildlife inventories and rescue programs. It has been strengthened through the P & D Program of the National Agency of Electric Energy – ANEEL.

Lines of Research:

Environmental Impacts

Coastal Area Monitoring

Systematics and Ecology of Recent Groups

Lead Investigators: Mucio Luiz Banja Fernandes

Andrea Karla Pereira da Silva

Contact: muciobanja@gmail.com

- **Mathematical Studies and their Trends**

With the creation of this research group, interaction among faculty members is expected to grow, which may strengthen the lines of research. It is also believed that the research carried out by the group can offer alternative answers for the teaching and learning practices related to the area of Mathematics.

Lines of Research:

Teacher Training in Mathematics

Analysis and Development of Teaching Materials for Teaching Mathematics

History of Mathematics

Polynomial Identity

Applied Math

Mathematical Modeling in Mathematics Education

Processes of Teaching-Learning of Mathematics in Basic Education and in YAE.

Lead Investigators: Lucília Batista Dantas Pereira

Contact: lucilia.batista@upe.br

- **Photonics and Applied Electromagnetism**

The research group in photonics and applied electromagnetism aims to provide solutions in several areas of engineering through the use of computational and experimental techniques. The group has contributed to the ar-

eas of photonics, electrical systems, electronics and applied electromagnetism. The main topics under research are: optical spectroscopy of nanostructured materials, diagnosis of combustion using lasers, optical sensors, optical communications systems, optical networks, nonlinear optical effects, surface plasmas and applications of electromagnetic fields in biological systems.

Lines of Research:

Applications of Solar Thermal and Photovoltaic Energy

Energy Efficiency

Biomedical Engineering

Optical Instrumentation

Experimental Investigation of Pre-Mixed Combustion

Optical Properties of Nanostructures.

Sensors

Control System

Smart Grids

Adaptive Optics

Lead Investigators: Luis Arturo Gómez Malagón

Contact: lagomezma@poli.br

- **Research Group on Embedded Systems (GPSE)**

The group focuses its research on the development of offshore platforms based on various technologies. Currently the group develops research related to: instrumentation and sensing, aid to medical diagnosis, recycling of digital waste, development of educational platforms, robotics of swarms and networks of wireless sensors.

Lines of Research:

Automation and Control Systems

Computational Intelligence

Parallel Processing

Sensor Networks

Electronic Junk Reuse

Swarm Robotics

Reconfigurable Systems

Smart Grids

Lead Investigators: Sérgio Campello Oliveira

Contact: scampello@ecomp.poli.br

• **Socio-Environmental Study on Drainage Basins (HIDROCAMPUS)**

The Hydrocampus was created to supply the low existence of researches in exact sciences in Upe, specifically of Physical Geography. We participate in the publication of local, regional, national and international scientific events such as ENGs, CNEDUs and EGALs. As knowledge / products generated, we offer model workshops, digital maps generated in Q-GIS, cultural cartographic literacy workshops and several articles published in conferences

and FAFIRE magazine to the community. The group includes university professors, technicians and students who are committed to the research lines. In mapping, we have monitors and volunteers who give workshops in Q-GIS; In river basins, we went to the springs, the encounter and the mouth of the rivers of the Goiana Basin. In studies of fluvial hierarchy and pollution, we have researchers who are in graduate courses, some are professors and others have a master's degree. Lastly, Hidrocampus coordinates and maintains the UPE Cartography Laboratory.

Lead Investigators: Jorge José Araujo da Silva

Contact: jasil1@terra.com.br

- **Computational Intelligence (CIRG@UPE)**

Research by the UPE's Computational Intelligence Group encompasses theoretical contributions in three main subareas: social and swarm intelligence, evolutionary computation and neurocomputation. The main topics studied are the development of new methodologies and intelligent techniques, as well as their applications in several areas, namely: optimization and search problems, decision support and modeling of complex real problems. The group currently investigates: (1) computational features of artificial neural and social networks, (2) development of new socio-inspired algorithms such as FSS-Fish School Search, WPA-Wolf Pack approximation

and mEvoSys-MultiEvolutionary Systems, and (3) applications of such metaphors in complex systems, decision-making environments, agribusiness (eg sugar-alcohol), shipbuilding, automotive, petroleum, and optical communications networks.

Lines of Research:

Smart Applications in Optical Networks

Intelligent Applications in Health, Biotechnology and Agronomy

Intelligent Applications in Decision Support Systems

Smart Industry Applications

Automatic Code Generation

New Techniques of Cybernetics and Computational Semiotics

New Techniques in Social and Evolutionary Computing

New Swarm Intelligence Techniques

New Techniques in Neurocomputation

New Intelligent Algorithms for Parallel and Reconfigurable Hardware Platforms

Logical Programming

Lead Investigators: Fernando Buarque de Lima Neto

Carmelo Jose Albanez Bastos Filho

Contact: fbln@ecomp.poli.br

- Southern Agreste Center for Socio-Environmental Studies

The Center for Socio-Environmental Studies of the Southern Agreste of the University of Pernambuco- Garanhuns Campus- researches topics related to collective health and environmental sanitation in a semi-arid environment. Priority in the work group is research related to the municipalities located in the southern hinterland of Pernambuco, which have, even for the Brazilian Northeast, high rates of infant mortality among their common characteristics.

Lines of Research:

Environmental Impact and Health Problems

Research on Competency Building in Professional Activity.

Environment and Urbanism

Environmental Monitoring and Modeling

Lead Investigators: Mauricio Costa Goldfarb

Contact: mcgoldfarb@yahoo.com.br

- **Landscape and Natural Heritage**

Formerly called Working Group for Landscape Studies, the group has been responsible for the training of human resources in the area of physical geography at undergraduate and postgraduate level. In addition, the group has produced bibliography on the Brazilian semi-arid landscapes, also divulging the cartography of landscapes and heritage education.

Lines of Research:

Socio-spatial Dynamics and Changes in the Urban Landscape

Environmental and Patrimonial Education

Geodiversity

Genesis and Structure of Landscapes

Environmental Changes

Lead Investigators: Luciana Freitas de Oliveira França

Natália Micheli Tavares do Nascimento Silva Mendes

Contact: lucianaagap@hotmail.com

- **Pattern Recognition**

The present group aims at the study and development of techniques and algorithms for pattern recognition, image processing, machine learning and virtual reality. The main lines of action are: Analysis and Segmentation of Textures, Neural Networks, Document Processing, Medical Image Processing, among others.

Lines of Research:

Machine Learning

Data Mining

Document Processing

Image processing

Virtual reality and multimedia

Pattern Recognition

Computer vision

Lead Investigators: Byron Leite Dantas Bezerra

Bruno José Torres Fernandes

Contact: byronleite@ecomp.pol

Humanities (22)

- **Application of Information and Communication Technologies to Education (APLIC)**

Group for Research on the Application and Use of Information and Communication Technologies - ICT in formal and non-formal education. The group's vision is interdisciplinary, relating areas of knowledge, such as: Education, Informatics and Computing. This educational research space with softwares, hard-wares, media, hypertexts, distance education, robotics, games, social networks and other emerging topics related to the information society at present is the focus of scientific research in this research group . The goal of APLIC is to educate the educational community, theorizing and training the participants for daily using information and communication technologies in the teaching-learning processes. Our aim is to efficiently subsidize

the technological initial training of teachers and students on research, contributing to their critical, competent and active participation in the current technological society.

Lines of Research:

Cultural Identity and Digital Inclusion

Innovative Methodologies with Online and Offline Technologies

Educational Multimedia

Policies of Technologies in Education and Health

Educational Robotics

Teachers' knowledge and Teaching and learning Information Technology & Computer Science

Lead Investigators: Sônia Regina Fortes da Silva

Contact: fortes.sonia@gmail.com

• **Anthropology, Religiosity, Gender, Interculturalism, Languages and Education (ARGILEA)**

The creation of ARGILEA - Anthropology, Religiosity, Gender, Interculturality, Languages and Environmental Education- responds to the need to grasp new ways of approaching social human phenomena as a key to the process of accelerated mutations that have been crossing the socio-cultural frontiers of contemporary society, taking fields of knowledge, forms of sociability and distinct historical-cultural configurations. The research and discussions developed in ARGILEA are centered on the theoretical approach that

contemplates the growing complexity of contemporary societies. The plurality of approaches as methodological strategy is one of the fundamental requirements of the multifaceted and interdisciplinary character that characterizes ARGILEA, in order to be able to reconcile the demands of knowledge that are housed in it. Although diversified when it comes to specific theoretical approaches, ARGILEA brings together some central hypotheses that constitute reference points of convergence with interfaces based on contemporary themes and objects, such as: a) being a privileged space for interdisciplinary reflections ; b) deepening the reflection on contemporary sociocultural phenomena both theoretically and methodologically; c) creating opportunities for greater integration between researchers and undergraduate and postgraduate students of UPE / Campus Garanhuns, as well as with other national and foreign institutions.

Lines of Research:

Identity, Politics and Religiosity;

Anthropology, Religiosity, Social and Cultural Movements;

Archeology, Languages, Cultures, Politics and the Environment;

Culture, Health, Individual and Person;

Education, Languages, Communication, Gender and Generations;

Ethnicity, Memories and Identity Processes;

Philosophy, Education and Social Theory;

Social History of Labor, Social Theory and Peasantry;

Cultural Identities: Indigenous and Afro-Brazilian Cultural Preservation and Transitoriness.

Lead Investigators: Adjair Alves

Jairo Nogueira Luna

Contact: adjairalves@gmail.com

- **Consciousness and Spirituality**

We use the word Awakened Consciousness in the sense of Soul, indicating the singular, collective and cosmic presence of the flow of life in the present and whole Being beyond the focus of the Ego, a system that is drawn by the external world. Therefore, transcendental consciousness is beyond all external field conditioning such as culture, nationality, heredity or any other type of fantasy, in which the main filter is the perception and beliefs with its tunnels of reality distorted by the process of identification. The idea of transcendence resumes when the Soul realizes its fantasies about the reality, being able to reach other degrees of Consciousness until the Ineffability. Now, religiosity and its symbols are fertile ground for studies on the metaphors in which the fields of Consciousness point to the advancement of the expansion of Consciousness, although religion itself also belongs to the external and illusory world, circumscribed by the fantasies and egoic identifications.

Lines of Research:

Awakened Consciousness and Spirituality

Noustherapy

Lead Investigators: Luciano da Fonseca Lins

Contact: llins25@msn.com

- **Development of Space, Territory and Region (GPDeTER)**

GPDeTER aims to understand the processes of space change influenced by interventions carried out by the population and the State. Thus, GPDeTER analyzes the urban and regional dynamics that are a reflection of the (re-) production of this space and, as a result, reveals new regional and territorial configurations .

Lines of Research:

Education, Management and Spatial Planning

Logistics and Socioeconomic Development

New Urban Configurations and Quality of Life.

Lead Investigators: Gevson Silva Andrade

Ana Regina Marinho Dantas Barboza da Rocha Serafim

Contact: gevson@yahoo.com.br

- **Diversità**

This Research Group is part of the activities of the Center of Diversity and Social Identities of the University of Pernambuco and has an interdisciplinary and interinstitutional proposal. It focuses on the diversity of Brazilian

society and the demands of the various social groups for policies and actions that recognize this diversity and guarantee their differentiated rights. It arises from the need to broaden the focus of the Research Group “Body, Culture and Subjectivity”. It is articulated with the NDIS Sexuality and Gender Teacher Training Space and with social movements. The Group's efforts are focused on teacher training in the area of sexuality and gender, diversity policies, reflection and production of material on public policies and curriculum.

Lines of Research:

Human Rights, Politics and Diversity

Sexual Diversity and Education

Old Age and Contemporaneity

Lead Investigators: Nadia Patrizia Novena

Contact: diversita.upe@gmail.com

- **GEFASSCE**

GEFASSCE develops the research project “Holistic Sertão in Brazilian Literature”, which aims to describe the images constructed about this space in the literary discourse, from Romanticism to Postmodernism. It is hoped that this study contributes to the contemporary debate on the multifaceted characteristics of Sertão present in works such as *Os Sertões*, *Grande Sertão: Veredas*, *Morte e Vida Severina*, *Galileia*, *Essa Terra* and *Inspiração*

Nordestina. From a social perspective, this study, which attempts to summarize the various literary perspectives on Sertão, can help in the teaching of literature in the schools of Basic Education.

Lines of Research:

Aspects of Semiotics, Semantics, Education and Culture in the Light of the Assumptions of Discourse Analysis;

Northeastern Popular Culture and Imaginary-Discourse Representation of Interlocutionists;

Genres and Popular Culture at School.

Lead Investigators: Genivaldo do Nascimento

Contact: gnascimento26@yahoo.com.br

• **Study Group on Sociocultural History of Latin America (GEHSCAL)**

The GEHSCAL (Study Group of Latin American Sociocultural History) is an inter-institutional and interdisciplinary research group whose main goal is to investigate the formation of the Americas from two main chronological cuts: colonization and the present time. When investigating colonization, GEHSCAL employs culturalist approaches, dealing with relationships among social groups, religiosities and sexualities, and political culture in the Iberian Americas, paying particular attention to the collection, transcription, analysis, and dissemination of colonial documentation. As regards the present-time aspect, GEHSCAL appropriates a political and social bias to analyze and

think the global conjunctures from the beginning of the great wars to a deeper debate on terrorism, economic crises, international conflicts, regional integration, institutions and power, reaching its own historiography on the concept of present time.

Lines of Research:

Culture, Gender, Ethnic-racial and Sex Diversities in Latin America;

Cultural History, Religions and Religiosities;

History of Present Time;

Political Power, Society and Culture in the Atlantic World.

Lead Investigators: Kalina Vanderlei Paiva da Silva

Karl Schurster Verissimo de Sousa Leao

Contact: gehscal@uol.com.br

• **Group of Systemic Studies of the Semiarid Region of Northeast (GESSANE)**

This group aims to produce, articulate and exchange knowledge that is embedded in a systemic context, inside and outside the academic context, so that the group's work somehow reaches out to society in general, with emphasis on the geographical scale of the Brazilian semiarid.

Lines of Research:

Environmental and Symbolic Cartography

Complexity and Systemic Approach in Geography

Eco Biogeography

Epistemology of Geography

Agrarian Geography with Emphasis on Agro Ecology and Small Rural Production

Environmental Geography

Cultural Geography

Gender, Health and Education in Geography

Urban Environment

Geographic Information Systems and Remote Sensing

Lead Investigators: Maria Betânia Moreira Amador

Contact: betania.amador@upe.com.br

• **Group of Studies and Research on School and Non-School Education in the Sertão of Pernambuco (GEPESP)**

Through ongoing transformations, we can identify a new teaching profile whose professional practice increasingly incorporates, besides the activities dedicated to teaching and academic management, the activities inherent to the development of the research. In this sense, the creation of the Group of Studies and Research on School and Non-School Education in the Sertão of Pernambuco (GEPESPE), constitutes a positive framework reinforcing the identity and the productions linked to the Bachelor's degree in Pedagogy of UPE. The researchers seek to contribute in the construction of a historical-educational knowledge about the Brazilian school, especially, the primary

school of Pernambuco; to help improve the quality of teaching, triggering other ways of thinking about teachers' know-how; to stimulate the training of teachers and researchers in the analysis and evaluation of educational programs and projects, as well as of policies and institutional arrangements at state level.

Lines of Research:

Teacher Training, Teaching, Pedagogical Praxis;
Politics, Society and Education.

Lead Investigators: Odair França de Carvalho

Maria do Socorro Carvalho Amariz Gomes

Contact: odair.carvalho@upe.br

- **Society and Nature Research Group of the São Francisco Valley**

As a result of the creation of the Research Group on Society and Nature of the São Francisco Valley, we expect: i) consolidation of a group of researchers in the Geography course with interlocution between research institutions at regional, national and international levels; ii) training students with research experience in the region of the São Francisco Valley; iii) Production of books, scientific articles for magazines and annals of events; iv) subsidizing the proposal of teaching and extension projects through the development of research projects.

Our aim is contribute to the training of professionals, as well as reach the society outside the academic walls through research activities and university extension.

Lines of Research:

Peasant agriculture, labor and social conflicts

Agribusiness and global production networks: city and countryside interactions

Education, Teaching and Work Practice

State and Public Policies in the São Francisco Valley

Environmental Monitoring and Geotechnology

Conservation Units and Watersheds.

Lead Investigators: Raimunda Áurea Dias de Sousa

Antonio Marcos dos Santos

Contact: aureasouza@hotmail.com

- **Interdisciplinary Research Group on Teacher Training, Policy and Management**

The Interdisciplinary Research Group on Teacher Training, Educational Policy and Management aims to carry out interdisciplinary investigations in the field of teacher education and educational policies and management. The investigations within this group are guided by the quantitative-qualitative research approach, with emphasis on action-research. The research carried out in the intricacies of this group intends to expand the field of teaching

knowledge based on experience and experimentation in the classroom, in order to expand new possibilities of action in Primary and Higher Education, as well as to raise the capacity of execution, evaluation and proposition of educational policies through analyzes of programs, projects, and actions experienced within the scope of the schools.

Lines of Research:

Teacher Training

Educational Policy and Management

Lead Investigators: Maria de Fátima Gomes da Silva

Luiz Alberto Ribeiro Rodrigues

Contact: fatimamaria18@gmail.com

• **Interdisciplinary Group of Social Representations and Training in Education and Environment**

The GIRSFEMA Group aims to consolidate studies and research in social representations and training in education and / or environment. It adopts the theoretical approach of the Moscovician social representations and also Gaston Pineau's approach that links stories of life and formation (self-study, socio-formation , ecoformation) with human training. He seeks dialogues with the social-genesis of social representations in the epistemology of Wolfgang Wagner.

Lines of Research:

Territory Analysis, Education and Ecosocial Needs

Teaching - Learning in Education and Environment

History of Personal and / or Professional Life in Teaching

Social Representations and Training in Education and Environment

Lead Investigators: Vera Lúcia Chalegre de Freitas

Contact: vera.chalegre@upe.br

- **History and Memory**

This group aims at investigating vestiges of the past such as traces, bibliographies, testimonies and documentary sources that make possible the understanding, of the individual or collective memory of social actors inserted in temporal periods focused by several areas of specialization in historical knowledge and related areas.

Lines of Research:

History, Powers and Cultures

Memories, Education and Representations

Lead Investigators: Joachin de Melo Azevedo Sobrinho Neto

Contact: joachin.azevedo@upe.br

- **Cultural identities: preservation and transience in Afro-Brazilian culture**

Postmodern studies bring us the idea that cultural identities today are transient, that is, always in constant process of transformation. As is well known, despite the globalization process, the cultures still preserve in their interior, some peculiarities. These peculiarities continue to sign the distinction between peoples. To discuss the formation of Afro-Brazilian culture in this perspective is the objective of this research group. Over the years, the Group has been carrying out several projects: in 2008 it set up the Center for Studies on Africa and Brazil, a project that began in 2006. Since then, several events have been held: an Introduction to African Studies course for teachers of the public network in 2008, a forum on African cultures in 2009, several extension courses, the I International Congress of Studies on Africa and Brazil - CONEAB in 2015 and the request to initiate a Masters in African Cultures, the Diaspora, and Indigenous Peoples in 2015.

Lines of Research:

Application of Information and Communication

Technologies in Education Psychosocial aspects and psychic illness in indigenous and Afro- descendant populations

Cinema, Education and Cultural Diversity

Education, Pedagogical Practice and Ethnic-Racial Relations in Brazil

Ethnicity - identity processes

Social history, memory and culture

Language, art and symbolic systems

Literary and Cultural Relations between Brazil and Africa

Silent Voices: Concerns and Anxieties of Minorities in Brazilian

Literature

Lead Investigators: Silvia Nubia Chagas

Contact: snchagas@uol.com.br

- **Laboratory of Studies on Collective Action and Culture (LACC)**

The LACC has been articulating students and researchers who show interest in issues of social rights, collective identities, health and culture. From an interdisciplinary perspective, it has strengthened the field of Social Sciences at the University of Pernambuco, bringing together courses in History, Nursing, Physical Education, Social Sciences, Social Service and Law. With significant academic insertion, it has established important interlocutions with research centers in Brazil (UFRN, UFPE, UFPB, UFAM, UEA, UNICAMP) and abroad, such as the University of Milano-Bicocca and the University of Antioquia, Colombia.

Lines of Research:

Anthropology and Law

Social Cartography and Collective Identities

State, Public Policies and New Social Demands

Interculturality, Health and Education

Lead Investigators: Erisvelton Sávio Silva de Melo

Vânia Rocha Fialho de Paiva e Souza

Contact: saviocigzap@hotmail.com

- **Ancient History: Teaching and Extension Group (Leitorado Antigo)**

The Leitorado Antigo - Teaching and Extension Group in Ancient History (History Course of the University of Pernambuco / Campus Mata Norte), has been registered in the Directory of Research Groups of Brazil (Plataforma Lattes / CNPq) since 2006. Since then, it has been actively producing academic researches. The researchers of this group dedicate themselves to "introducing the study of antiquity into Brazilian reality" (FUNARI, 2005, p. 97) through new proposals for the teaching of Ancient History, relating antiquity and the contemporary world.

Lines of Research:

The Epic Tradition in the Ancient Mediterranean: Relations between Performativity Society and Writing

Medieval Historiography

Literature and Civilization

Chinese Wisdom Literature

Lead Investigators: José Maria Gomes de Souza Neto

Renan Marques Birro

Contact: zemariat@uol.com.br

- **Language, Cognition and Subjectivity**

The Language, Cognition and Subjectivity research group aims to generate theoretical and methodological constructs in what concerns the studies of Psychology, Education and Technology. The work of this group is focused on the dimension of language as a social development tool and its relation to cognitive development and the impacts of these processes on human subjectivity. It becomes, therefore, another academic-scientific area of studies and research for undergraduate and postgraduate professors and students of different fields of knowledge from scientific institutions and higher education.

Lines of Research:

Cognitive Constructs of Mathematics

Education, Language and Cognition

Languages, Social Networks and New Digital Information and Communication Technologies

Psychomotricity and language development

Lead Investigators: Mirtes Ribeiro de Lira

Contact: mirtes.lira@upe.br

- **Center for Studies and Research in Youth and Adult Education**

A research center that investigates issues related to politics and management of education for young people (in the regular curriculum or not) and

adults, focusing on the teaching-learning process as well as the training of teachers in this area. It discusses curriculum, classroom, evaluative processes, teacher training and the production of didactic material involving students and teachers from public schools and from classrooms of indigenous, quilombola and rural communities.

Lines of Research:

Mathematics Education

History and Education: Feminist Studies, Gender and Culture

Identity, Subject and Learning

Policies and Management in Education

Lead Investigators: Waldênia Leão de Carvalho

Ernani Martins dos Santos

Contact: nepeja_upe@yahoo.com.br

- **The Place of Interdisciplinarity in Paulo Freire's Discourse**

This research group is aimed at studying interdisciplinary perspectives in Paulo Freire's work. It seeks to foster reflections on the Freirean text that enable dialogue and the partnership between educators and learners in the pedagogical "what to do". The group also puts emphasis on Paulo Freire's thinking in different perspectives of daily educational practice.

Lines of Research:

Education and Interdisciplinarity

Teacher training

Lead Investigators: Maria de Fátima Gomes da Silva

Gilvaneide Ferreira de Oliveira

Contact: fatimamaria18@gmail.com

- **Integrated Health and Multiprofessional Team**

The proposal of this research group is to define the field of action in the context of integral health, delineating step by step the work of the multi-professional team. Health as a connection to the body, psyche and Nous is reflected in the social and cultural environment of the community whether it is academic or in general, in the way health is perceived and treated, its imbalances and the way in which the subject gets sick in function of the disconnection between body, soul and spirit, whose manifestation occurs within the society. Disease can be perceived as an imbalance of human structure, seen as a holographic paradigm; healing as the harmony of the human hologram, manifested separately in the three dimensions of being. The multi-professional team needs training in the context of the unity of Being so that it can see the Other, namely, the user as a holonomic manifestation of the universe of which we are an integral part and that manifests itself in participatory awareness networks.

Lines of Research:

Education, Health and Spirituality

Perception and Belief System in Hospital Clinical Treatment

Multidisciplinary Care Practices for Interiorization of Health Care

Health and Spirituality

Lead Investigators: Luciano da Fonseca Lins

Kátia Goretti Veloso Li

Contact: llins25@msn.com

APPLIED SOCIAL SCIENCES (05)

- **Law and the Conflicts Arising from Postmodernity**

The postmodern society needs a re-reading of the classic legal institutes in order to adapt to a globalized context marked by the strong value of information. The importance of these studies is concretized in the propositions to solve the conflicts originated from the crisis of modernity.

Lines of Research:

Study of Pedagogical Practices and Teacher Training in Legal Education

Contemporary Legal Studies

Lead Investigators: Oton de Albuquerque Vasconcelos Filho

Bruno Manoel Viana de Araujo

Contact: otonvasconcelosfilho@gmail.com

- **Sustainable Local Development Management**

The importance of studies and research in the area of sustainable local development management is reflected in all spheres of society, be it political, economic, social or organizational. Research and studies contribute to the development of the local population and to the social inclusion of the various historically discriminated segments of society. This group develops multidisciplinary studies with the objective of offering the necessary subsidies and knowledge for the implementation of public policies that generate sustainable local development and encourage the social responsibility of organizations. It also develops studies aimed at training people with a focus on sustainable local development, so that they become multiplying agents.

Lines of Research:

Environmental Aspects and Public Policies with Focus on Sustainable Local Development (DLS)

Building People for Sustainable Local Development

Lead Investigators: Simone Ferreira Teixeira

Ivo Vasconcelos Pedrosa

Contact: ivo.pedrosa@upe.br

- **Study Group on Productive Infrastructure and Logistics for Sustainable Local Development**

This Study Group is aimed at the training of new managers / researchers in local development management, logistics and infrastructure.

Lines of Research:

Public Policies, Logistics and Local Development

Lead Investigators: José Luiz Alves

Contact: luiz.alves@upe.br

- **Nucleus of Research in Economics of the Public Sector (NUPESP)**

The group conducts research on various aspects of the public sector's performance, both in the context of environmental policies and in public spending and revenue aspects. Research on environmental policies at the municipal level has been carried out by NUPESP since 2003, allowing the production of synthetic indexes on environmental conditions and on the use of the management tools used by the most populous municipalities of the State of Pernambuco. The synthetic indexes are: the IPA - Index of Anthropogenic Pressures and the IAPAM Index of Attenuation of Anthropic Pressures by the Municipal Governments. The group's taxation contributions aim to increase the capacity to formulate fiscal policies adjusted to the objectives of international harmonization, lower tax regressivity, lower regional income disparities and greater competitiveness of national and local production.

Lines of Research:

Environmental Aspects and Public Policies with Focus on Sustainable Local Development (DLS)

Planning and IT / IT Management for Government Organizations

Environmental Policies of Municipal Governments

Public Policies and Urban Sustainability

Lead Investigators: Ivo Vasconcelos Pedrosa

Felipe Luiz Lima de Paulo

Contact: ivo@nupep.org

- **NUPOP**

The group NUPOP deals with the improvement of transfer processes, aiming to disseminate information / knowledge in an equitable way so as to reduce its asymmetric effects on the competitiveness of microenterprise entrepreneurs as well as other segments of society (students, workers, retirees). It also seeks to analyze the repercussions of this process on the regional / local income gap.

Lines of Research:

Information Transfer Policies, Spatial Inequalities of Income and Sustainable Development.

Lead Investigators: Adalberto do Rego Maciel Filho

Contact: admaciel@nlink.com.br

ENGINEERING (14)

- **Research Group of Applied Engineering to the Environment (AMBITEC)**

The expectation of the group is that the research developed can serve as a subsidy to urban planning, ensuring a better quality of life for citizens. There is a consensus in society that not only identifying possible environmental problems suffices, but also offering remedy and / or control.

Lines of Research:

Soil and Groundwater Contamination

Performance and Technological Innovation in Construction

Waste Management in Civil Construction

Soil Use and Occupancy Environmental Impacts

Mechanical Properties of Materials Under Pollution Action

Lead Investigators: Alexandre Duarte Gusmão

Stela Fucale

Contact: gusmao.alex@ig.com.br

- **Life Cycle Assessment of Civil Construction Products**

The evaluation of the aspects related to the civil construction product (Engineering works: infrastructure works, residential, commercial and industrial buildings) and the environment stands out as the way for the insertion of the civil construction sector in the principles of sustainable development. Thus, whether through construction materials and / or processes, life cycle

assessment is the most appropriate tool to evaluate qualitatively and quantitatively the environmental aspects of the product or process. The results are new paradigms that define sustainable construction as that which shows a balanced relationship between the consumption of raw materials and energy. This evaluation must start from the exploitation of the raw materials, go through other phases of the product or process - transportation, processing, use and maintenance, until reaching the end of its useful life - that is, from the cradle to the grave, when necessarily it will have to be re-integrated into nature. Thus, the sector plays an important role in the path of sustainable construction, because in addition to contributing to the quality of life of society, it also has a strong concern with environmental issues.

Lines of Research:

Life Cycle Assessment

Environmental Management

Construction Materials and Components

Lead Investigators: Arnaldo Cardim de Carvalho Filho

Fátima Maria Miranda Brayner

Contact: cardim@poli.br

- **Coordination of Environmental Studies**

In these new times, mankind organizes itself for the great challenge of managing non-renewable resources that will become increasingly scarce in the

face of their increasing demand. More than the management of non-renewable resources per se, the need and the need to do so within the framework of sustainable development substantially increases this responsibility. However, one cannot forget that, directly or indirectly, in a specifically technical or more generic way, man is the ultimate object of science and, therefore, so is his relationship with the environment. Thus, in some way, several areas of science address the socio-environmental issue and this points to a satisfactory management of the social-environmental issue. Environmental quality, environmental risks and CSR - Corporate Social Responsibility are one of the most important concerns of modern society, including the corporate sector. The motivating factors for this prioritization are the potential impact of technological development and lifestyle changes as well as increased awareness of health and safety hazards. In this context, this research group proposes to generate and multiply knowledge in the area of Environmental Management, studying and proposing improvements in environmental risk management methodologies and developing mathematical models and environmental indicators for the constant improvement of the environmental performance of the SGA - Environmental Management Systems. In addition, we intend to work on issues related to Sustainability indicators, including the ISE - BOVESPA Corporate Sustainability Index and the Dow Jones Sustainability Index. These actions also have positive impacts on the financial health of companies.

Lines of Research:

Socio-environmental Sustainability Evaluation for an Electric Sector Company

Training of Sustainability Engineers

Environmental Quality Management

Responsible Social and Environmental Management: New Paradigm of Sustainability in the Brazilian Electricity Sector

Mathematical Models and Statistical Indices in Environmental Stems

Radiation of Electromagnetic Waves of Cellular Telephony

Environmental Risks

Lead Investigators: Francisco José Costa Araújo

Contact: paco51@uol.com.br

- **Secure Development and Sustainable Development (DESS)**

The aim of this group is to develop studies taking the holistic aspects of sustainability as applied to the areas of transport and civil construction into account, emphasizing not only aspects of the environmental dimension, but also of the social and economic dimensions and safety as a transversal element of the three dimensions. The research lines were created to meet a regional demand aligned with the research lines of the Master in Civil Engineering of UPE (PEC). It is believed that new research beginning to be developed in this area can contribute to the growth and maturation of this

program and expand the exchange networks that have been established in recent years with the several renowned foreign universities (eg Technion and CSU) . It is hoped that the work of this group encourages and promotes a safe and sustainable regional development while alerting the main actors to the safety issues and solutions applied to the sector.

Lines of Research:

Water Conservation in Buildings

Inclusive Education and Diversity

Safe and Sustainable Mobility

Sustainability Applied To Buildings

Lead Investigators: Emilia Rahnemay Kohlman Rabbani

Contact: emilia.rabbani@upe.br

- **Ergonomics, Hygiene and Safety at Work**

The research group Ergonomics, Hygiene and Occupational Safety, represented by the Nucleus of Occupational Health and Safety, is coordinated by Professor Béda Barkokébas Junior and vice-coordinated by Professor Bianca Vasconcelos and occupies the physical space of the Labor Safety and Hygiene Laboratory of the University of Pernambuco - LSHT / UPE. Currently, they have undergraduate, specialization, masters and doctoral students in their team, as well as faculty and professors. The lines of research are associated to research projects and publications linked to the Post-Graduate

Program in Civil Engineering. Through technical and scientific research, the NSHT has worked with the private and public sectors, with national and international partnerships. With an investment of more than R\$ 2,000,000.00 (two million), the LSHT has a total physical area of 95 m², which incorporates an amphitheater for 50 people, a computerized work area, a library, and measuring equipment.

Lines of Research:

Integral Accessibility

Ergonomics

Occupational Safety and Health Management - GSST

Occupational Hygiene - HO

Prevention thought Design - PtD

Electrical Risks

Work Safety in Construction - STCC

Integral Security (home, leisure, transit, and so on)

Lead Investigators: Béda Barkokébas Junior

Bianca Maria Vasconcelos Valério

Contact: beda.jr@upe.br

- **Applied Physics and Computational Mathematics (FAMAC)**

The group conducts research activities in the areas of climate and water resources, soil physics, environmental modeling and monitoring and also in

development of new engineering materials with a view to the development of sensors. Students participate in applied research projects in the areas of energy, environment, soil and water.

Lines of Research:

Statistical Analysis and Modeling

Structural and Morphological Analysis of Materials

Instrumentation Applied to the Study of the Environment

Applied Numerical and Computational Methods

Lead Investigators: Irami Buarque do Amazonas

Damocles Aurelio Nascimento da Silva Alves

Contact: irami.amazonas@upe.br

- **Industrial Maintenance Study Group**

This group aims at conducting technical and scientific work in the life cycle of mechanical equipment involving tribology, fracture mechanics and RISK - Risk Based Inspection. The research will be carried out in the Thematic Network GRIPEG - RISK MANAGEMENT IN INDUSTRIAL ENGINEERING OF THE P & G SECTOR, structured in CEERMA (Center for Studies and Testing in Risk and Environmental Modeling), which is a multidisciplinary research and development center of the Federal University of Pernambuco (UFPE) supported by professionals from the departments of Production Engineering,, Oceanography, Mechanical Engineering, Statistics, Civil Engineering, Well Engineering, Environment, and from other Higher Education and research

institutions such as UPE and the Technological Institute of Pernambuco (ITEP-OS). CEERMA has the knowledge and experience of PhDs linked to UFPE that assist in the coordination and execution of research projects and in the training of Doctoral and Master's students and Cientific Initiation students.

Lines of Research:

Industrial Automation

Risk Based Inspection

Industrial Maintenance

Robotics

Tribology and Management

Lead Investigators: Francisco Ilo Bezerra Cardoso

Luís Antônio de Andrade Ferreira

Contact: cpg@poli.br

• **The Renewable Energy Research Group (GPER)**

The Renewable Energy Group includes the areas of engineering which relate renewable energy to chemical processes for the production of hydrogen (H₂), CO₂ removal by adsorption (PSA technique). Currently the developed works have focused on the following topics: Modeling Comparative mathematics of the adsorptive storage of natural gas, biogas and hydrogen, Thermodynamic study of hydrogen adsorption storage process.

Lines of Research:

Application of Nanotechnology to Three-Phase Low-iteration reactors

Biofuel

Renewable Energies (Solar Energy)

Alternative Energy Sources

Mathematical Modeling and Computational Simulation of Processes for Biomass Energy Utilization (Gasification Process)

Mathematical Modeling, Computational Simulation and Optimization of Tar Reform in Biphasic and Three-Phase Fixed Bed Chemical Reactors

Mathematical Modeling, Computational Simulation and Optimization of Pollutant Gases Resulting from the Combustion and Gasification Processes in Fluidized Bed and Fixed Bed Gasifiers

Mathematical Modeling, Computational Simulation and Optimization of the Drying Processes, Pyrolysis, Combustion and Gasification Processes in Fluidized Bed and Fixed Bed Gasifiers

Oil and Gas

Lead Investigators: Jornandes Dias da Silva

Contact: jornandesdias@poli.br

• **Network Protocol Research Group (GPPR)**

The group meets systematically on Monday afternoons to discuss general and specific aspects and concepts in computer networks, wireless networks, and protocols.

Lines of Research:

Internet of Things - IoT

Computer Network Protocols

Wireless Networks

Simulators

Software Defined Networking

Lead Investigators: Edison de Queiroz Albuquerque

Carmelo José Albanez Bastos Filho

Contact: edison@ecomp.poli.br

- **Network and Communications Research Group (GPRC)**

The results of this group's research cover theoretical and practical contributions in the area of networks and communications. Main topics researched are: Ad Hoc Networks, Information Theory, Optical Networks, Digital Signal Processing and Computational Intelligence Applications in Networks and Communications. The group has collaborated with several network and telecommunications companies, such as Alcatel-Lucent, Ericsson, PADTEC, FITec, etc.

Lines of Research:

Optical Amplifiers

Multiple Access Channels Using Turbo Codes

Error Correction and Digital Transmission Codes

Internet of Things and Network Protocols

Digital Information Processing and Transmission

Complex Networks

Wireless Networks and Ad Hoc Networks

Optical Networks

Information Theory

Lead Investigators: Carmelo Jose Albanez Bastos Filho

Francisco Madeiro Bernardino Junior

Contact: carmelofilho@poli.br

- **Public Policies for Accessibility, Inclusion and Assistive Technologies**

1. To develop a network of support and guidance for the care of families with children with hearing impairment in the state of Pernambuco and across Brazil;
2. To understand the reality of family care and visual -gestural needs inherent to the newborn with a diagnosis of deafness from the following specific objectives;
3. Identify in the Family Health Units families with children who failed the Hearing Test while screening, and with children who failed Bera Test and were definitively diagnosed or suspected of hearing impairment;
4. To adapt the production and supply of educational material in different medias;

5. To develop studies and provide bilingual informational and educational material in the area of deafness and deaf /blindness.

- **Lines of Research:**

Development of Assistive and Inclusive Educational and Communication Strategies

Accessibility Studies with Production of Assistive Technology Innovations

Inclusive Vocational Training and Education for the Deaf

GEBESS - Bilingual Study Groups on Deaf Education and Deafblind Education

Identification and Registration of Libras Signals in Different Areas of Knowledge

Playfulness, Educational Technologies and the Production of Educational Materials in Libras

Public Inclusion and Accessibility Policies

Lead Investigators: Luiz Albérico Barbosa Falcão

João Marcelo Xavier Natario Teixeira

Contact: prof.luizalberico@gmail.com

- **Biotechnological Processes and Products**

The Group of Processes and Biotechnological Products of UPE seeks to bring together different lines of research ranging from the study of fermentative process dynamics in bioreactors aimed at the production of products

of industrial interest until the application of mycorrhizae in the production of phytochemicals of pharmacological interest passing through studies of genomics and plant proteomics. As repercussions of the group deserve to be highlighted: - Development of a process for 1,3-propanediol production in bioreactors from residual glycerol from the production of biodiesel; - Development of a process for the production and purification of alkaline protease for the detergent industry; - Pretreatment and enzymatic hydrolysis of sugarcane bagasse for the production of bioethanol; - Improvement of sugarcane making it suitable for the production of bioethanol; - Increased production of phenolic compounds with pharmacological application stimulated by the action of mycorrhizae.

Lines of Research:

Development of nanostructured polysaccharide-based systems for controlled drug release

Microbiology of fermentation for the production of alcohol and sugar cane liquor

Molecular nanoscience

Production of 1,3-propanediol from Glycerol

Production of Biofuels

Enzymes production and purification

Production, purification and application of Levan

Plant differential proteomics in response to stress factors

Mycorrhizal technology

Lead Investigators: Irapuan Oliveira Pinheiro

Fábio Sérgio Barbosa da Silva

Contact: irapuan.pinheiro@upe.br

- **Welding Maintenance and Automation Welding**

This group aims at the accomplishment of technical-scientific work in processes and automation in welding.

Lines of Research:

Research lines:

Automation

Inspection and END

Modeling and Simulation of Mechanical Systems

Welding

Welding Maintenance

Lead Investigators: Francisco Ilo Bezerra Cardoso

Francisco Arnaldo de Oliveira Rufino

Contact: ilo@poli.br

- **Building Construction Technology and Management (POLITECH)**

The research group POLITECH - Building Construction Technology and Management is made up of professionals and professors who interact with each other in order to foster the broad knowledge domain on construction management and technological development, committed to the construction performance. The rational use of environmental resources and the well-being of society.

Lines of Research:

Technological Development of Construction

Construction Management

Pathology and Durability of Buildings

Lead Investigators: Alberto Casado Lordsleem Júnior

Eliana Cristina Barreto Monteiro

Contact: acasado@poli.br

LINGUISTICS, LITERATURE AND ARTS (03)

- **Center for Linguistic and Literary Studies of UPE (CELLUPE)**

In 2006, CELLUPE was created to support undergraduate students in literature who sought academic support for the development of their individual projects and to expand, guide, manage, organize and systematize studies and research that cover linguistics and literature and their relation to language teaching - both the mother tongue and the foreign language. As of

2007, the group started to act more strongly as a teacher-training resource; to this end, it promoted monthly meetings open with seminars, workshops and mini-courses focused on teaching, research and extension for undergraduate students, FFPNM former students and school teachers. Currently, CELLUPE includes projects related to three laboratories: LINUS - Language Lab (gem) in use in social contexts (laboratory articulated with the international project SAL - Systemic Across Languages under the coordination of PUCSP and Polytechnic University of Hong Kong); LEL-Laboratory of Literary Studies; LED - Teaching Laboratory, both articulated with NELUPE - UPE's Education and Language Center and PROFLETRAS - Professional Master of Arts. CELLUPE has also been a space for discussion of Final Course Assignments (TCC) and contemplates three lines of research: Language, Education and Technology; Language, Literature and Culture; and Language (gem) in Use and Society.

Lines of Research:

Reading and Textual Production: Social Diversity and Teaching Practices

Language, Education and Technology

Language, Literature and Culture

Literature and Teaching

Language in Use and Society

Theories of Language and Teaching

Lead Investigators: Maria do Rosário da Silva Albuquerque Barbosa

Amara Cristina de Barros e Silva Botelho

Contact: mariadorosariobarbosa@yahoo.com.br

- **Discursive Practices, Social Interaction and Teaching (DISCENS)**

This group brings together researches on discursive practices seen from a social interactional perspective whether applying or not to teaching. Most of the research developed by the DISCENS Group adopts the sciences of language, especially Linguistics, as a reference to dialogue with the areas of Literature, Social Sciences and Humanities in various approaches. The Group is thus marked by conducting highly interdisciplinary or transdisciplinary research. The intention is to gather a wide range of research interests that covers, among other possible topics genres ("textual" or "discursive"), linguistic variation, teaching and new information and communication technologies, considered in written and oral modalities. It also covers the study of possible connections between discursive practices and group behavior.

Lines of Research:

Education and Language

Teaching Portuguese Language, its Literatures and the New Technologies

Textual Genres and Discursive Practices

Discursive Practices and Human Behavior

Sociolinguistics and Variation

Lead Investigators:

Contact: benedito.bezerra@upe.br

• **Research Group on Comparative Studies between Literature and Interdisciplinarity (GRUPEC)**

The group's objectives are: to problematize Portuguese-language literatures (Brazilian, Portuguese, Galician, Indigenous and African literatures); to work on literature based on notions of interculturality, identity, human rights and gender; to discuss the interdisciplinary relationship between literature, history, geography (environment), education and other related areas; to reflect on human rights, history, memory, heritage (material and immaterial), displacements and identity issues. The idea is also to encourage the production of texts aimed at literary criticism and contribute to the understanding of the problem of teaching /learning literature from a comparative perspective.

Lines of Research:

Research Group Intercultural Perception and Representation - Pri / UFPE

II Journey of Literary Criticism: Ecocriticism: Studies on the Nature of the Group of Studies in Contemporary Brazilian Literature

Institute of Latin American Studies

Professional Master's in Literature - Profletras

Indigenous Cultures Documentation Project - Indian Museum-FUNAI

Lead Investigators:

Maria das Graças Ferreira Graúna

Magdalena Maria de Almeida

Contact: g.grauna@upe.br

TECHNOLOGICAL INNOVATION AND TECHNOLOGICAL QUALIFICATION

In 2015, PROPEGE became PROPEGI - Pro-Rectorate for Graduate Programs, Research and Innovation- so that the new strategic vision of the University of Pernambuco would be reflected in its name. The generation of innovative ideas, processes and products, as well as the development of modern concepts of technological innovation among its staff, researchers, faculty and students became an aim.

One of the actions of the Innovation axis aims to restructure and streamline the Technological Innovation Center – NIT - with the purpose of providing guidelines for protection of inventions generated within UPE as well as assist in the transfer process of this knowledge and products to the productive sector.

UPE is also on the verge of creating the Institute for Technological Innovation (IIT), which is to be based on Parqtel (Electrical - Electronic Park

and Related Technologies of Pernambuco State Government). The IIT aims at creating laboratories for development of innovative products and processes via association of UPE with Institutes of Science and Technology and/or Companies. It also aims at fostering new ideas that might result in patents.

LATO SENSU COURSES

BENFICA CAMPUS

PERNAMBUCO BUSINESS ADMINISTRATION SCHOOL (FCAP)

SPECIALIZATION COURSES

- Financial Management
- Management of Human Capacity in Organizations
- Organizational Planning and Management
- Business Management
- MBA in Marketing
- MBA in People Management
- MBA in Cost Management and Control
- MBA in Cost Management and Control II
- MBA in Healthcare Services and Hospital Management
- MBA in Business Logistics

- MBA in Organizational Planning and Management
- MBA in Public Prosecutor's Office Management
- Public Planning and Management

BENFICA CAMPUS

ENGINEERING SCHOOL (POLI)

SPECIALIZATION COURSES

- Technology and Construction Management of Buildings
- Quality and Productivity Management
- Safety at Work Engineering
- Embedded Systems
- Software Engineering
- Construction and Assembly Work in Engineering
- Welding Engineering
- Renewable Energy
- Inspection, Management and Recovery of Structures

CAMARAGIBE CAMPUS

PERNAMBUCO DENTAL SCHOOL (FOP)

SPECIALIZATION COURSES

- Surgery and Oral & Maxillofacial Trauma
- Dentistry

- Dental Implant

RESIDENCY

- Surgery and Oral & Maxillofacial Trauma (HUOC)
- Surgery and Oral & Maxillofacial Trauma (HR)
- Surgery and Oral & Maxillofacial Trauma(HGV)
- Surgery and Oral & Maxillofacial Trauma(HRA)

GARANHUNS CAMPUS

SPECIALIZATION COURSES

- Teaching of Portuguese Language and its Literatures
- Psychopedagogy
- Public Health
- School Supervision and Educational Management
- Mental Health and Psychosocial Intervention
- Biology Teaching

MATA NORTE CAMPUS

SPECIALIZATION COURSES

- Applied Linguistics to Portuguese Language Teaching
- General Microbiology
- Psychopedagogy

PETROLINA CAMPUS

SPECIALIZATION COURSES

- Psychopedagogy
- Geography Teaching
- History of Brazil – Culture and Power
- Portuguese Language: A Didactic Perspective
- UPE Intensive Physiotherapy

SANTO AMARO CAMPUS

HIGHER EDUCATION SCHOOL OF PHYSICAL EDUCATION (ESEF)

SPECIALIZATION COURSES

- Cardiopulmonary and Metabolic Rehabilitation
- Physical Activity and Public Health
- Strength Training for Health
- Physical Education at School
- Evaluation of Human Performance
- Sports Training

SANTO AMARO CAMPUS

MEDICAL SCHOOL (FCM)

SPECIALIZATION COURSES

- Cardiac Arrhythmias
- Cardiology
- Gastroenterology
- Geriatrics
- Hemodynamics and Interventional Cardiology

RESIDENCY PROGRAMS

- Anesthesiology
- Neurology
- Dermatology
- Clinical Medicine
- Thoracic Surgery
- Clinical Oncology
- Surgical Oncology
- General Surgery
- Laparoscopy
- Infectious Diseases
- Gastroenterology
- Geriatrics
- Family and Community Medicine
- Pediatric Neurology

- Pediatrics
- Urology
- Mastology
- Obstetrics and Gynecology
- Cardiovascular Surgery
- Invasive Electrophysiology
- Hemodynamics
- Cardiology
- Echocardiography
- Multi-professional Residency in Collective Health
- Integrated Multi-professional Residency in Family Health
- Multi-professional Residency in Mental Health

SANTO AMARO CAMPUS

NOSSA SENHORA DAS GRAÇAS NURSING SCHOOL (FENSG)

SPECIALIZATION COURSES

- Nursing Nephrology
- Women's Health
- Public Health – Management of Systems and Health Actions
- Nursing at Advanced Life Support: Emergency and ICU

RESIDENCY PROGRAMS

- Psychiatric Nursing
- Nursing in Prehospital Care
- Nursing in Cardiology at Agamenon Magalhães Hospital
- Infectious Diseases Nursing
- Nursing in Oncology
- Women's Health at Amaury de Medeiros Integrated Health Center (CISAM)
- Women's Health at Agamenon Magalhães Hospital
- Restoration Hospital Surgical Center (RH)
- Nursing in Specialized Cardiacare at the University of Pernambuco
Cardiologic Emergency Hospital - (PROCAPE)
- Restoration Hospital General Emergency (RH)
- Neurology / Neurosurgery at Restoration Hospital - (HR)
- Intensive Care Unit at Restoration Hospital (RH)
- Cardiac Nursing at the University of Pernambuco Cardiologic Emergency
Hospital - (PROCAPE)
- Nursing in Hematology and Hemotherapy at HEMOPE Foundation Hospital

SANTO AMARO CAMPUS

BIOLOGICAL SCIENCES INSTITUTE (ICB)

SPECIALIZATION COURSES

- Molecular Biology
- Clinical Microbiology
- Expertise, Audit and Environmental Management

- Health of the Elderly
- Biology Education (EAD)
- Hematology
- Clinical Pathology

RESIDENCY PROGRAMS

- Psychology: Mental Health
- Clinical Nutrition at the University of Pernambuco Cardiologic Emergency Hospital - (PROCAPE)
- Clinical Nutrition at Oswaldo Cruz University Hospital - HUOC
- Urgent Care, Emergency and Trauma at Getulio Vargas Hospital - HGV
- HEMOPE Foundation Pharmacy
- Restoration Hospital Pharmacy

STRICTO SENSU PROGRAMS

- Master and Ph.D. in Cell Biology
- Master and Ph.D. in Health Sciences
- Ph.D. in Biotechnology (RENORBIO)
- Master and Ph.D. in Nursing
- Master and Ph.D. in Dentistry
- Master and Ph.D. in Physical Education

- Professional Master in Surveillance and Health
- Master in Forensic Skills
- Professional Master in Psychology – Practices and Innovation in Mental Health
- Master in Hebiatrics
- Professional Master in Education
- Master in Language Studies
- Professional Master of Arts – PROFLETRAS
- Faculty Graduation Program and Interdisciplinary Practices
- Master in Civil Engineering
- Master in Computer Engineering
- Master in Systems Engineering
- Master in Management of Sustainable Local Development
- Master in PowerTechnology

PROGRAMS

ACADEMIC ENHANCEMENT PROGRAM (PFA)

The Academic Enhancement Program (PFA) was created in 2009 with the goal of raising the quality level of academic activities in teaching, research and extension in UPE. Initially, over R\$ 1.2 million was invested.

Today, that number rose to nearly R\$ 2.7 million, resulting in an increase of 125%.

For the first time, UPE was able to design an Academic Enhancement Program based on transparency and selection through public notices. The program's main pillars are designed to support students, faculty, research, and extension activities.

INSTITUTIONAL SCIENTIFIC INITIATION SCHOLARSHIP PROGRAM (PIBIC)

The Institutional Scientific Initiation Scholarship Program (PIBIC) aims to support the Scientific Initiation policy developed in the Institutions of Education and / or Research through the granting of Scientific Initiation Scholarships (IC) to undergraduate students. The subsidy (IC) is directly bestowed to the institutions responsible for selecting research projects submitted by faculty members interested in participating in the program. Students become fellows from the statement of the faculty research advisors.

The PIBIC - AF program is a partnership between Affirmative Action Policies of the Special Secretariat for the Promotion of Racial Equality of the Presidency (SUBPAA / SEPPIR-PR) and the National Council of Scientific and Technological Development of the Ministry of Science and Technology (CNPq / MCT) whose aim is to broaden the opportunity for technical and

scientific training of higher education students who have entered the university through affirmative action policy. They contribute to making UPE a Centre of Excellence in the production of scientific knowledge.

INSTITUTIONAL SCHOLARSHIP PROGRAM TO FACULTY TRAINING (PIBID)

The PIBID is an initiative for the improvement and enhancement of the Faculty Training Course for basic education. The program provides grants to undergraduate teacher training course students who participate in Initiation to Faculty Training Projects developed by higher education institutions (IES) in partnership with elementary public schools. Projects should promote the integration of these undergraduate students in the context of public schools from the beginning of their academic training so that they develop didactic and educational activities under the guidance of a faculty member and a school teacher.

SCIENCE WITHOUT BORDERS (CSF)

Science without Borders is a Brazilian Government scholarship program that seeks to promote the consolidation, expansion and internationalization of science and technology through exchange and international mobility programs, as well as innovation and Brazilian competitiveness. The initiative is the result of joint efforts of the Ministries of Science, Technology and Innovation (MCTI) and the Ministry of Education (MEC), through their

respective funding agencies - CNPq and Capes - and the Higher Education and Technological Education Departments of MEC.

CONTINUING EDUCATION PROGRAM OF SCHOOL MANAGERS IN PERNAMBUCO (PROGEPE)

The Continuing Education Program of School Managers in Pernambuco has three phases: Professional Improvement, Specialization and Masters.

Computer and Languages Program (PROLINFO)

PROLINFO - as part of the University of Pernambuco (UPE) extension program - was established in 2002 in order to offer language (English, Spanish and Portuguese) and computing courses not only to the academic community of UPE, but also to society as a whole. The program also contributes to the teacher training program of undergraduate students. Students of Literature and Informatics, closely guided by a team of coordinators, act as teachers for the courses.

National Basic Education Teacher Training Plan (PARFOR)

The PARFOR on-site program, implemented by CAPES, is aimed at collaborating with the State, Federal District and Municipal Education Departments as well as with Higher Education Institutions (HEIs) to strengthen

the demand for free higher education by teachers working at public basic education as required by the National Education Bases and Guidelines Law.

COIMBRA GROUP OF BRAZILIAN UNIVERSITIES (GCUB)

The Coimbra Group of Brazilian Universities (GCUB) was formally established as an association of university leaders in 2008. The GCUB consists of national federal, state, religious and community universities who recognize the Coimbra institution as alma mater. Its mission is to promote inter-agency and international integration through faculty and student mobility programs.

Confucius Institute

The Confucius Institute is a nonprofit educational institute. It aims to support and promote the teaching of the Chinese language and culture, as well as enhance bilateral understanding and friendship among peoples; strengthen cooperation and exchange in educational and cultural area; develop friendly relations between China and foreign countries and stimulate multi-polarization and multiculturalism in order to build a more harmonious world.

The Confucius Institute comes to Recife as a result of an agreement between UPE and the Headquarters of Confucius Institute (Hanban), in partnership with the Central University of Finance and Economics in Beijing. It

aims to teach the Chinese language, train Chinese language teachers, provide books and teaching materials, conduct the HSK examination and certification, provide consultation service on Chinese education and culture, organize Chinese festive and cultural activities and perform linguistic and cultural exchange between China and Brazil. The Confucius Institute at UPE, first in Northeast Brazil, is a key platform for the teaching of Chinese language and culture in this region.

University of Pernambuco – UPE

President: Pedro Henrique de Barros Falcão

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Vice-President for Undergraduate Education: Luiz Alberto Ribeiro Rodrigues

Vice-President for Graduate Studies and Research: Maria Tereza Cartaxo Muniz

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Institutional Relations Advisor: Norma Gouveia

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Dean: Vera Lúcia Samico Rocha

Business Administration School (FCAP)

Dean: Marcos Aurélio de Souza Meira

School of Medical Sciences (FCM)

Dean: Dione Tavares Maciel

Nossa Senhora Das Graças Nursing School (FENSG)

Dean: Viviane Tannuri F. Lima Falcão

UPE Garanhuns Campus

Dean: Prof. Clóvis Gomes da Silva Jr.

UPE Mata Norte Campus - UPE Mata Sul Campus

Dean: Maria Auxiliadora Leal Campos

UPE Petrolina Campus

Dean: Moisés Almeida

Dental School (FOP)

Dean: Emanuel Sávio de Souza Andrade

Biological Sciences Institute (ICB)

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Engineering School (POLI)

Dean: José Roberto de Souza Cavalcanti

Oswaldo Cruz University Hospital (HUOC)

Director: Izabel Christina de Avelar Silva

Amaury de Medeiros Integrated Health Center - CISAM

Director: Olímpio Barbosa de Moraes Filho

Pernambuco University Cardiologic Emergency Hospital - PROCAPE

Director: Sérgio Tavares Montenegro

NUCLEUS OF DISTANCE EDUCATION (NEAD): Renato Medeiros de Moraes

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Research Coordinator

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Technological Innovation Coordinator

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