



“Formando nuevas generaciones con sello de excelencia comprometidos con la **transformación social** de las regiones y un país en paz.”

University of Pamplona

VICERECTORATE OF RESEARCH INSTITUTIONAL
BROCHURE 2026

Knowledge that *transforms*
the territory

The University of Pamplona is a center of research excellence in Norte de Santander, with more than groups recognized by Minciencias in Engineering, Health, and Education, and cutting-edge capabilities in applied Artificial Intelligence.



VICERRECTORÍA DE
INVESTIGACIONES
UNIPAMPLONA

High Quali Institutional Accreditation.
25 Accredited Programs
Ranked #31, U-Sapiens Colombia

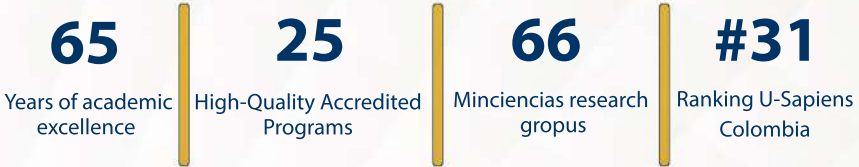
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Pamplona, Norte de Santander, Colombia.

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Institutional indicators

The University of Pamplona holds a leading position in national research rankings, with growing scientific production and A1-category research groups recognized by Minciencias.



Distribution of groups by category Minciencias



Applied AI capabilities

The University of Pamplona has research groups in AI that span engineering, health, and education, with capabilities in agentic systems, intelligent assistants, and applications using large language models (LLMs).

COL0002528 · A Category · Minciencias

CAT. A

Computer Science - CICOM

The CICOM group, director: William Mauricio Rojas Contreras) contributes cutting-edge capabilities in the design and implementation of applied AI systems: from architectures with tool-calling to multi-agent superagents for teaching and research, positioning itself as an institutional benchmark in generative AI and agentic systems

Tool Calling / Superagentes / Academic RAG / Multi-Agent Systems
LLM Integration / Adaptated tutory / Agentic AI / Research assistants

Applications with AI Tool Calls

Design and implementation of software systems that integrate language models (LLMs) with external tools through tool-calling and function-calling patterns: APIs, databases, web services, and computing environments. It enables AI models to act on the real world in a controlled and auditable w

- Tool Calling.
- Function Calling.
- LLM Integration.
- API Gateway.
- Agentic Systems.

AI Assistants for Research

Development of intelligent assistants specialized in supporting scientific research processes: literature search and synthesis, data analysis, hypothesis generation, assisted writing, and research knowledge management. RAG architectures adapted to academic repositories

- RAG
- Knowledge Mgmt
- Literature Review
- AI Research Asst
- Semantic Search

AI Superagents for Teaching and Research:

Architectures of multi-agent systems and superagents capable of orchestrating multiple specialized agents for complex tasks in teaching (adaptive tutoring, automated assessment) and research (data analysis, scientific writing). They incorporate autonomous planning, persistent memory, and inter-agent coordination.

- Multi-Agent.
- Superagents
- Agentic AI
- Autonomous Planning
- Adaptive Tutoring

OTHER LINES OF IA AT THE UNIVERSITY

Line of	Description	Responsible group
Pattern Recognition and Computer Vision	Deep learning algorithms for the analysis of medical images, industrial quality control, and intelligent surveillance systems.	A 1 Multisensory Systems
Robotics and Autonomous Intelligence	Design and control of autonomous robots for manufacturing, exploration, and medical support, integrating AI with multisensory perception systems.	A Automation and Control
Data Intelligence and Mining	Knowledge extraction from large volumes of clinical, industrial, and educational data through machine learning.	C Data Intelligence
Biomedical Signal Processing	AI applied to the analysis of EEG, ECG signals, and medical images for computer-assisted diagnosis and telemedicine.	C GIBUP Biomedical
AI in Educational Processes	Application of language models to personalize learning, automate assessments, and support university teaching.	Institutional Faculty of Education
Intelligent Telematics Systems	Intelligent communication infrastructures for IoT, sensor networks, and connected cities in the border region.	A/C LOGOS & GITENT

Faculty of Engineering and Architecture

We lead the frontier of knowledge in automation, artificial intelligence, multisensory systems, renewable energies and biomedical engineering, with groups categorized A1 by Minciencias.

GRUP	DIRECTOR	CODE	CAT.	RESEARCH LINES
Multisensory Systems and Pattern Recognition	Cristian Manuel Durán Acevedo	COL0061672	A1	<ul style="list-style-type: none"> -Artificial Intelligence and Statistical Methods. -Computer Vision and Pattern Recognition. -Robotics and Autonomous Systems. -Virtual and Augmented Reality.
Mechanical Engineering GIMUP	Elkin Gregorio Flórez Serrano	COL0050033	A1	<ul style="list-style-type: none"> - Computational Mechanics. - Materials and Manufacturing. - Mobility and Engines.
Computer Science CICOM	William Mauricio Rojas Contreras	COL0002528	A	<ul style="list-style-type: none"> -Applications with Tool-Calling and AI. -AI Assistants for Research (RAG). -Multi-agent Superagents for Teaching -Algorithms and Cybersecurity
Automation and Control	Aldo Pardo García	COL0007739	A	<ul style="list-style-type: none"> -Industrial Control and Automation. -Mechatronic Systems. -Process Simulation. -Industrial Communications.
LOGOS	Diego Armando Mejía Bugallo	COL0047869	A	<ul style="list-style-type: none"> -Knowledge Management and Pedagogy. -Optoelectronics and Semiconductors. -Telematic Systems and Telemetry.
Data Intelligence and Computing	Richard Eliseo Mendoza Gáfaró	COL0198711	C	<ul style="list-style-type: none"> -Data Mining. -Machine Learning. -Big Data Analytics
Biomedical Engineering	Luis Enrique Mendoza	COL0038369	C	<ul style="list-style-type: none"> -Biomedical Instrumentation. -Signal and Image Processing. -Telemedicine.
Energy Systems	Jorge Luis Díaz Rodríguez	COL0118588	B	<ul style="list-style-type: none"> -Renewable Energy. -Hybrid Energy Systems. -Power Distribution and Quality.

RESEARCH GROUPS

Faculty of Health

We generate scientific knowledge in public health, tropical diseases, social psychology, human communication, and biomedical sciences, with a territorial presence in Norte de Santander and the border region.

GRUP	DIRECTOR	CODE	CAT.	RESEARCH LINES
Psychology and Society	Olga Mariela Mogollón Canal	COL0079461	A	-Community Social Psychology. -Mental Health and Well-being. -Human Behavior and Societ.
Human communication	Ginna Viviana Pérez Reyes	COL0031379	A	-Language Disorders. -Community Speech Therapy. -Augmentative and Alternative Communication.
DIDOH – Human Occupational Performance	Magda Milena Contreras Jáuregui	COL0125475	A	-Rehabilitation and Inclusion. -Community Occupational Therapy. -Human Functional Performance.
CARING	Belinda Ines Lee Osorno	COL0076942	B	-Nursing Care. -Community Health.
GIPPAM	Sonia Carolina Mantilla T oloza	COL0055577	B	-Physical Activity and Health. -Sports and Community Physiotherapy.
GIEPATI Parasitic, Tropical, and Infectious Diseases	Omar Geovanny Pérez Ortiz	COL0006026	B	-Clinical Parasitology. -Neglected Tropical Diseases. -Epidemiology of Infectious Diseases.
Epidemiology and Public Health	Raquel Amanda Villamizar Gallardo	COL0122713	C	-Clinical and Molecular Epidemiology. -Epidemiological Surveillance.
VESALIUS Medical-Surgical Sciences	Marcel Leonardo Quintero Contreras	COL0237506	C	-Clinical and Molecular Epidemiology. -Epidemiological Surveillance. -Surgery and Medical Procedures. -Clinical Training
GISAS Simulation in Health Areas	Yezid Vargas Ortegón	COL0236572	Inst.	-High-Fidelity Clinical Simulation. -Simulation-Based Health Education.

RESEARCH GROUPS

Faculty of Educational Sciences

We transform pedagogical and research practice by integrating emerging technologies, artificial intelligence, and action-research approaches for teacher training in diverse context.

GRUP	DIRECTOR	CODE	CAT.	RESEARCH LINES
EDUMATEST Edcation, math and statistics	Élgar Gualdrón Pinto	COL0078839	B	-Didactics of Mathematics. -Mathematical Thinking. -Statistics Education. -ICT in Mathematics Education.
Pegagogic research	Sonia Elizabeth Álzate River	Faculty of Education	Inst.	-Research and Emotional Development (IDEM). -Early Childhood Education. -Teacher Training and Curriculum. -Educational Innovation.
High education AI	Vice rectorate for research	Cross	Inst.	-AI-Assisted Educational Innovation. -Digital Literacy for Teachers. -Adaptive Learning. -Automated Assessment.

ALLIANCES AND RECOGNITION

Scientific cooperation network

The University of Pamplona consolidates national and international alliances to strengthen its research capabilities and its impact on the territory.

Minciencias

Governing body for STI policy in Colombia. Recognition of groups and calls for proposals.

NORTECIENTÍFICO DOCTORAL Alliance

Doctoral network in Norte de Santander for the training of high-level researchers.

Oxford award

International recognition in educational management and quality of institutional processes.

CNA Colombia

National Accreditation Council. 22 programs with current High Quality Accreditation.

Red ASCUN

Colombian Association of Universities. National inter-university cooperation.

MEN

High-Quality Institutional Accreditation. Regulatory framework for educational quality.

CONTACT

Connect with research

The Vice-Rectorate for Research is available for cooperation projects, technology transfer, and national and international academic partnerships.

**Address:**

University City, Pamplona,
Norte de Santander, Colombia

**Phone:**

57 7 568 5303

**Email Research:**

viceinves@unipamplona.edu.co

**Web Portal:**

www.unipamplona.edu.co

Possibilities for collaboration

Joint research projects.
Cooperation agreements international.
Technology transfer and patents.
Seedbeds and young researchers.
Doctoral Training Alliance North scientist).
Scientific Consulting Contracts

**University of Pamplona:**

Higher Education Institution with High Quality Institutional Accreditation.
NIT 8905027561 · SNIES 1790.

Vice-Rectorate for Research:

viceinves@unipamplona.edu.co.
Pamplona, Norte de Santander.

Faculties:

Engineering and Architecture
Health Sciences
Educational Sciences
Basic Sciences

University of Pamplona · Colombia,
2026

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