

Characterization of research groups and seedbeds of Higher Education Institutions affiliated with the District of Medellin



Object

To identify characteristics of the research groups and seedbeds of the HEIs, in aspects like their conformation, the Minciencias classification in the knowledge areas where they are attached the products they generate and the networks and scenarios in which they participate, in the period between 2012-2022.

Research groups and seedbeds



126 Seeds in the 3 HEIs

Group of students who, with the guidance of a teacher or tutor, develops actions to promote the interest in knowledge and research capacity



24 Groups in the 3 HEIs

Group of people interacting to research, generate and share knowledge products on specific topics

Purposes

- Facilitating the generational replacement of teachers and researchers
- Promote and develop processes of formative research
- Promoting interest in knowledge and facilitating interaction with other academic communities.
- Promoting interdisciplinary dialogue

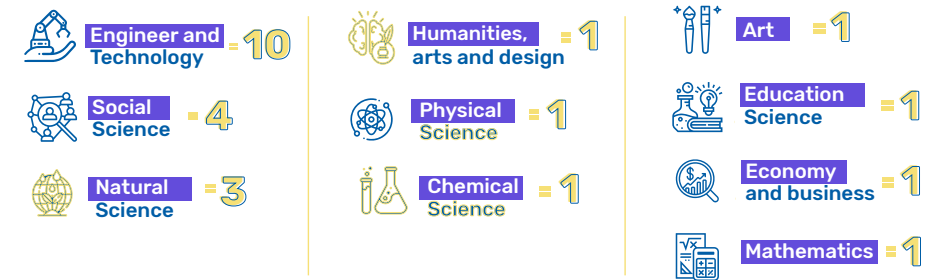
Purposes

- Generate knowledge in specific areas of knowledge
- Contribute to the strengthening of academic programs
- To provide elements to understand social and business problems in order to build alternative solutions
- Contribute to the consolidation of the research culture and to give visibility to the institution in local, national and international contexts.
- Contribute to the processes of renewal of registration and high-quality accreditation processes

Sex of the researchers

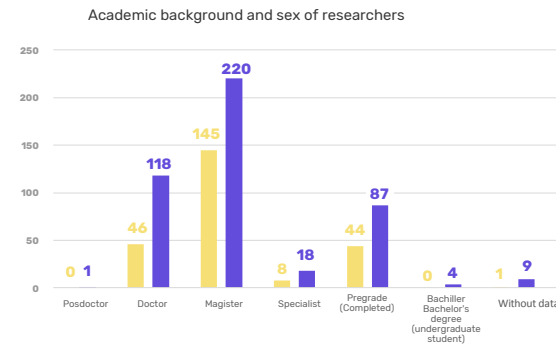
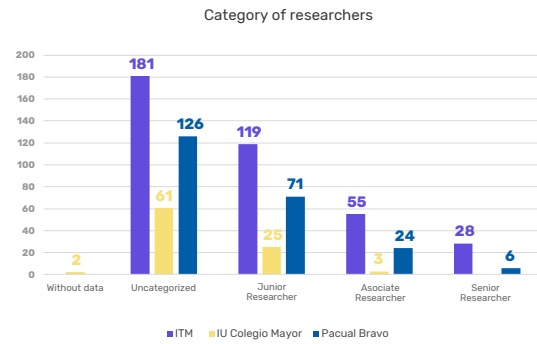
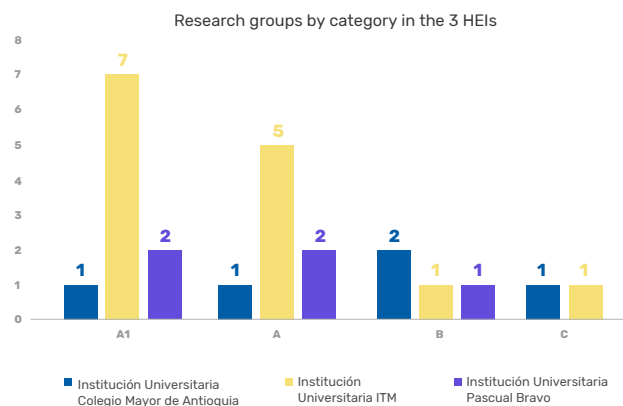


Knowledge areas of the research groups

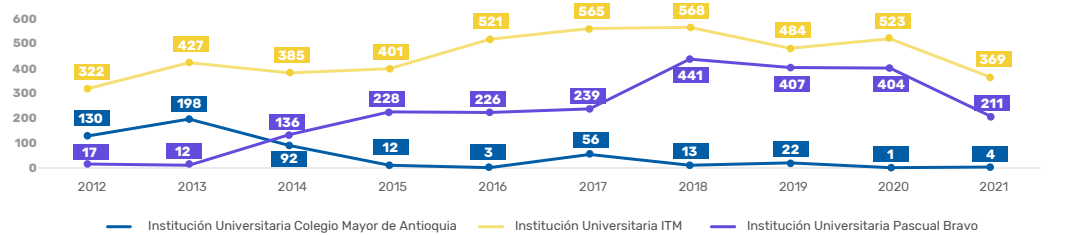


Classification of the research groups

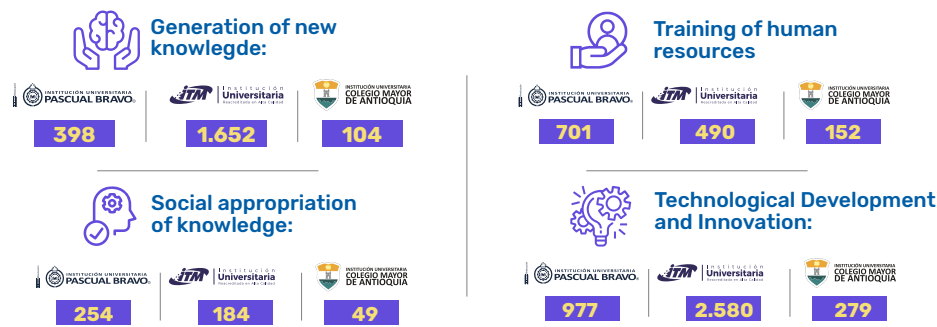
The National Ministry of Science, Technology and Innovation -Minciencias has defined a classification of research groups, according to criteria such as scientific production, characteristics of the researchers, compliance with different types of indicators, trajectory, among others. The highest classification is A1 and the lowest is C.



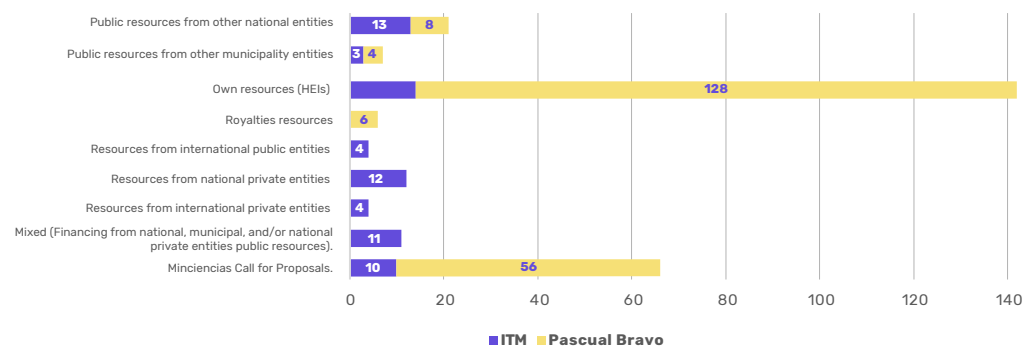
Publications of the groups



Products of the research groups of the 3 HEIs.



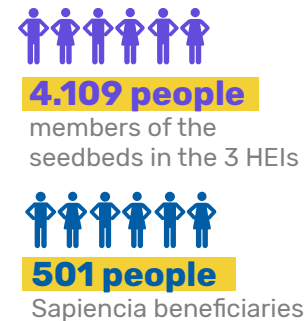
Research projects by source of financing (ITM and Institución Universitaria Pascual Bravo)



Research seedbeds

The seedbed is the place where seeds are cared and fed to germinate; likewise, in the research processes, seedbeds are the place where the young spirits are enhance the interest in knowledge and the development of competencies for the research activity.

The seedbeds are therefore fertile ground for formative research and for the generational replacement of teachers and researchers in the institutions.



Some data on participation in internships and of research awards

HEI	National	International
ITM	Cartagena, Manizales, Bogotá, Caquetá, Popayán, Santander, Quindío	México, Spain, United States, Germany, Argentina, Puerto Rico, Brazil
PASCUAL BRAVO	Barranquilla, Chigorodó	Brazil, México, Chile
COLEGIO MAYOR DE ANTIOQUIA	Bogotá, Cartagena	Argentina, Bolivia, Canadá, Spain, México, Uruguay, Brazil, Spain

Acknowledgments

- A methodology for optimizing the cost matrix in cost sensitive learning models applied to prediction of molecular functions in embryophyta plants, 2015
- Winner of the OPEN ESTUDIO call, 2020
- Medellin Investiga. Undergraduate students distinguished for their involvement in research, 2018, 2020, 2021.
- Feature extraction schemes for BCI systems, 2015

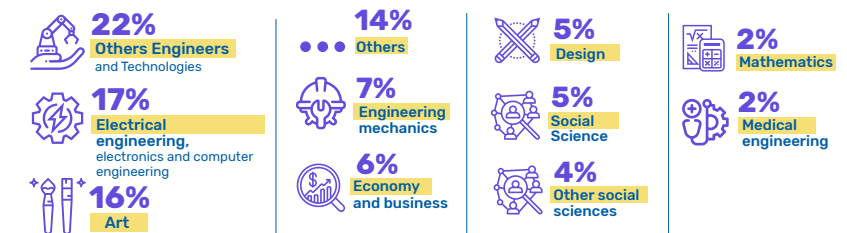
Acknowledgments

- Doctoral thesis with Laureate qualification, Universidad Nacional de Colombia, 2018
- Magna Cum Laude Distinction for Doctoral Thesis, Universidad de Antioquia, 2019
- Certificate of Academic Excellence, Ministry of of Science, Technology and Innovation, 2009
- Winner of INNGENIO contest - Innovation projects, Ruta N, 2012

Acknowledgments

- Summa Cum Laude Distinction for doctoral dissertation, 2021
- Research Award José Félix Patiño 2019
- Colegio Nacional de Bacteriología CNB-COLOMBIA 2018 - Second place in poster modality in the Junior category.
- Universidad Roosevelt First place in professional work 2013
- Universidad de Huancayo Franklin Roosevelt, 2015

Areas of knowledge where the seedbeds are affiliated



Concluding remarks

- It highlights the potential that qualified research personnel represents for the city, as a possibility to drive social and technological innovation processes, which result in the well-being of the inhabitants of the District and contribute to the consolidation of the Science, Technology and Innovation District.
- Building knowledge from diverse areas and perspectives is an opportunity to understand and transform the complex realities of the city, the region and the country. The district's HEIs are moving in this direction
- 41.6% of the total number of research groups in the 3 HEIs are in A1, the highest category defined by Minciencias. This is a highly significant achievement for the city, as it demonstrates the maturity of the groups and their capacity for high quality scientific production.
- Through the allocation of resources to finance research projects in HEIs (\$ 2,676,605,811 colombian pesos between 2015 and 2022) and through the project to amend Agreement 060 (Premios Fomento a la Investigación Alcaldía de Medellín), Sapiencia is committed to strengthening the substantive function of research.
- The HEIs have obtained 16 invention patents, which demonstrates the rigorosity of their scientific activity.
- This characterization exercise provides a glimpse of the potentialities of HEIs and the challenges they face in developing collaborative knowledge building processes, in order to advance in equity among researchers, and to contribute, from the scientific production, to the configuration of the Science, Technology and Innovation District.

For more information on this study, please see the full report at:

www.sapiencia.gov.co/observatorio-informes/

Note: this study, conducted for the first time by Sapiencia, seeks to share with the public some aspects of the research activity of the HEIs affiliated to the District, in this sense; it is not intended to evaluate the research work of the institutions, nor to establish comparisons between them, since each one has its own particularities and trajectories.