



International Collaboration for the Global advance in Renewable Energy



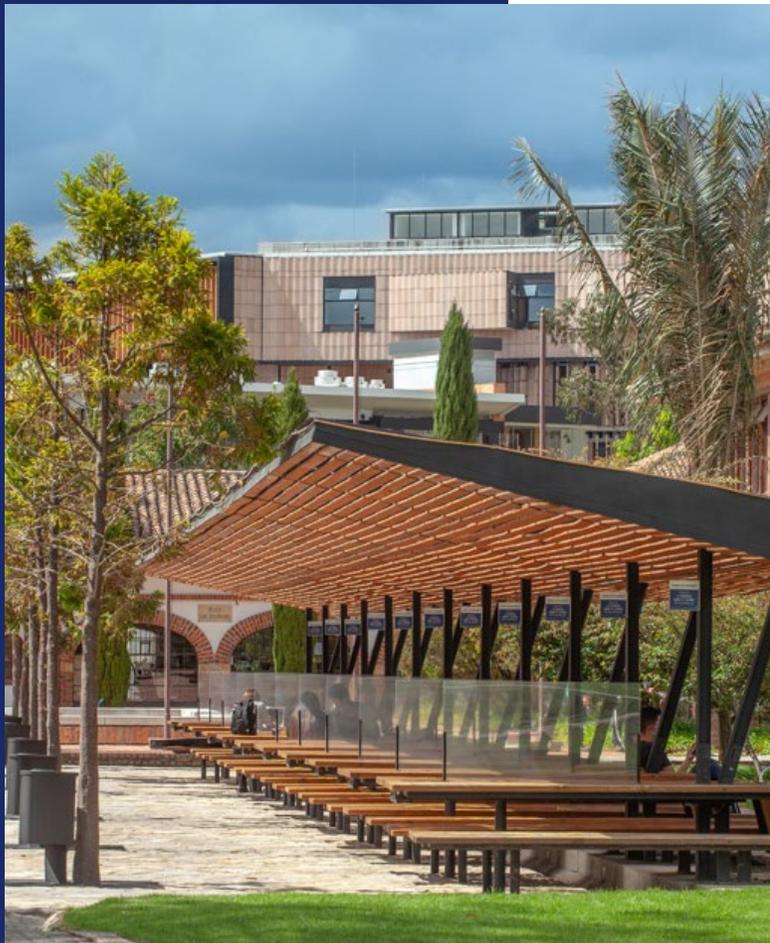
Universidad de
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- Full Professor and Dean of the Faculty of Engineering at the Universidad de La Sabana.
- Researcher of the Energy, Materials and Environmental Laboratory.
- In 2022, I was designated as a member of the National Scientific Board as a counselor in Sustainable Energies.

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Enhancing Internationalization in Colombia



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International Collaboration Models



International
partnerships



International
research
networks
with tangible
results



International
funding



Faculty and
student
exchange



Internationali
zation of the
curriculum



Articulation
models
(double
degrees and
cotutelle)



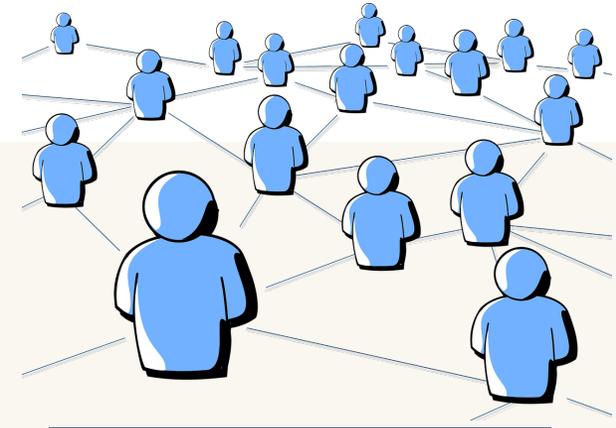
Enhancing Internationalization in Colombia



**Strengthening
Institutional
Processes**



**Raising Global
Visibility**



**Fostering
Research
Networks**

Expanding Australia-Colombia Partnerships



Joint Research Programs

Joint research programs and centers focused on addressing global challenges



Student and Faculty Exchange

Increased exchange of students, researchers, and faculty

Foster cross-cultural understanding



Collaborative Platforms

Shape project ideas

Institutional support policies for research cooperation

Overcoming Collaboration Challenges



Harmonizing Policies

Differences in research and intellectual property policies



Fostering Cross-Cultural Understanding

Ensuring cross-cultural communication and understanding



Securing Sustainable Funding

Create institutional funding mechanisms to support and provide continuity to partnerships



Leveraging Digital Collaboration

Investing in scalable digital collaboration platforms is vital for dispersed teams to work seamlessly



Faculty of Engineering



Formal programs



ABET (Accreditation Board for Engineering and Technology) high quality accredited program



CNA (National Accreditation Council) high quality accredited program

Level	Hands On Programs	Minds On Programs
DOCTORATE	 D. in Biosciences CNA (2009)	 D. in Engineering (2018)
MASTER	 M.Sc. in Process Design and Management CNA (2006)	 D. in Logistics and Supply Chain Management (2015)
UNDERGRAUDATE	 Civil Eng. (2015)	 Mechanical Eng. (2016)
	 Bioproduction Eng. CNA (1989)	 Industrial Eng. CNA (1997)
	 Chemical Eng. CNA (2008)	 Informatics Eng. CNA (2003)
		 Data Science (2024)
		 Design and Innovation Eng. (2024)

Faculty of Engineering

Student Exchange



Faculty Exchange



International Funding



International Events



Faculty Research and Internationalization Statistics

Year	Publications with International Co-authors	Projects with international partners	Projects with external funding	Faculty Exchange and other international activities	Student Exchange and other international activities
2023	55% (38 of 69 products)	31% (21 of 67 projects)	31% (21 of 67 projects)	Inbound: 5 Outbound: 41	Inbound: 28 Outbound: 70
2022	48% (39 of 81 products)	31% (24 of 77 projects)	52% (40 of 77 projects)	Inbound: 28 Outbound: 37	Inbound: 11 Outbound: 92
2021	53% (44 of 86 products)	28% (24 of 83 projects)	49% (41 of 83 projects)	Inbound: 26 Outbound: NM	Inbound: NM Outbound: 34

*NM: Not Measured

Project Name	Partner Institutions	Start Year	Source (Amount)
Bio-PtX: Development of sustainable biorefineries for the generation of high-value-added products in Colombia	TUHH (Hamburg University of Technology) Université Paris-Saclay University of Udine	2024	MSCA and Minciencias (2,5 MUSD)
HUMLog Action Lab	Oklahoma State University Universidad Tecnológica de Bolívar EICEA (Universidad de La Sabana)	2023	100K Strong for the Americas (142.000 USD)
Collaborative Online Learning for the improvement of the Cacao Value Chain in Colombia (CATCHI)	San Diego State University	2023	100K Strong for the Americas (25.000 USD)
Optimization models for the design of physical internet networks	IMT Atlantique	2022	IMT (76.000 USD)
ePIcenter: Enhanced Physical Internet-Compatible Earth-Friendly freight Transportation Answer	28 institutions (European Union's Horizon 2020)	2020	European Union's Horizon 2020 (159.000 USD)
Nanoencapsulation and microencapsulation of high oleic palm oil as new technologies for agricultural development	CAF –development bank of Latin America	2016	CAF (75.000 USD)

Doctoral Cotutelle as Internationalization Strategy



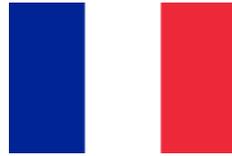
13 cotutelle doctoral thesis



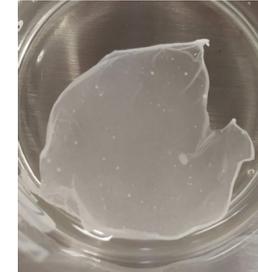
5 in Spanish HEI



8 in French HEI



2. 5 papers/thesis



Milk Whey Membrane

3 patent request



4 finished

Universitat Politecnica de Catalunya
Universitat Oberta de Catalunya
Universitat d'Alicant
Universitat de Barcelona

9 in progress

Kedge Business School
Univ. Technologie de Troyes
INSA Lyon – Univ. Lyon
Univ. Jean Monnet
IMT: IMT Atlantique, Mines Saint-Etienne



Waste Management
Volume 147, 15 June 2022, Pages 48-59



Country report

Integration of steam gasification and catalytic reforming of lignocellulosic biomass as a strategy to improve syngas quality and pollutants removal

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Open Access Feature Paper Article

Urban Logistics through River: A Two-Echelon Distribution Model

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Practical Steps for Collaboration



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Practical Steps for Collaboration

1. Identify Strengths and Complementarity on a selected field



3. Formalize the Partnership and get funding



2. Develop Concrete Project Concepts



4. Engage Broader Ecosystems



Fostering Sustainable Ecosystems

University-Industry Partnerships



Government- Research Partnerships



Community Engagement



Conclusion:

Unlocking the Power of Global Collaboration with Australia!

Leveraging Complementary Strengths

Fostering Cross-Cultural Exchange

Amplifying Research Impact





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