

Candidate for Member-at-Large
(1 July 2026 – 30 June 2030)



Carlos Jaime Barrios Hernández
Full Professor
Universidad Industrial de Santander
Bucaramanga, Colombia

Guest Researcher
LIG/INRIA-Grenoble and INSA-Lyon / CITI Laboratory
France

BIOGRAPHY

Carlos J. Barrios Hernández is a Full Professor at UIS Colombia and head of SC3UIS. A guest researcher at LIG/INRIA and CITI-Lyon, France, his academic background includes a PhD from Université Nice-Sophia Antipolis, an MSc from Grenoble-Alpes, and an HDR from INSA-Lyon (2025).

As a leader in HPC and the computing continuum, he has chaired SCALAC since 2014 and co-founded the CARLA conference and the SC-CAMP School. His scientific work comprises 100+ peer-reviewed publications and several patents, focusing on scalable HPC architectures, hybrid systems, sustainability, scientific computing, and energy efficiency.

He is an ACM Senior Member (2025), chair of the SIGHPC Computing Continuum Chapter, and a Senior Member of the IEEE Computer Society. He bridges global research through scientific cooperation and partnerships, fostering advanced digital and technical exchange for human wellness.

STATEMENT

My research transforms traditional HPC into a **sustainable computing continuum**, integrating multi-scale, hybrid, and non-classical architectures. As AI demand rises, I prioritize energy efficiency and environmental responsibility, optimizing massive parallel processing to support social progress without causing ecological harm.

I propose four key global actions through the ACM:

1. **Global Cooperation:** Solidify partnerships via shared resource-scheduling protocols and joint research calls targeting global crises, shifting from competition to coordination.
2. **Techno-Ecological Responsibility:** Aligning with ACM Principle 1.1, I advocate for "Sustainability Scores" in scientific activities to motivate ethical development and document social impacts.
3. **Open Science & Inclusion:** Bridge the "knowledge gap" by promoting multilingual open-access repositories (Spanish, Portuguese, French) and providing remote regions with access to research platforms.
4. **Ethics & Outreach:** Establish **Global Ethics Task Forces** to advise on data sovereignty and carbon footprints, ensuring advanced computing protects life and fosters inclusion.