

MILLENNIUM INSTITUTE FOR SUBATOMIC PHYSICS AT THE HIGH-ENERGY FRONTIER, **SAPHIR**

Impact Area: Physical sciences.

Speciality: Theoretical particle physics, design, manufacturing and technological development of particle detectors.

The SAPHIR Millennium Institute is a scientific research center hosted by the Andrés Bello University, the Pontifical Catholic University of Chile, the Federico Santa María Technical University and the University of La Serena. Scientists work there seeking to unite all research efforts in subatomic physics connected to CERN (the European Organization for Nuclear Research), unraveling the mysteries hidden in the universe smaller than atoms.

Research lines:

- Theoretical physics and particle detectors.
- IT and computing.
- Data analysis.

Millennium Institute



>> SCIENTIFIC PRODUCTIVITY:

ISI-WOS: 106

Scopus: 63

Other publications: 47





>> CONTACT:

Director:
Sergey Kuleshov

Deputy Director:
Francisca Garay

Contact emails:
contacto@institutosaphir.cl

institutosaphir.cl



>> OUTREACH ACTIVITIES:

- Atomics Girls, a workshop that seeks to develop skills in STEM for young people, held its first workshop with the participation of high school girls from different regions of the country. The young women learned the basics of programming in Python and analyzed the data they collected from a muon detector. Masterclass, this international event, is held annually at different universities that collaborate with CERN; Its objective is to bring science and the work carried out by a scientist in the detection of particles at the Large Hadron Collider at CERN.

>> RESEARCHERS:

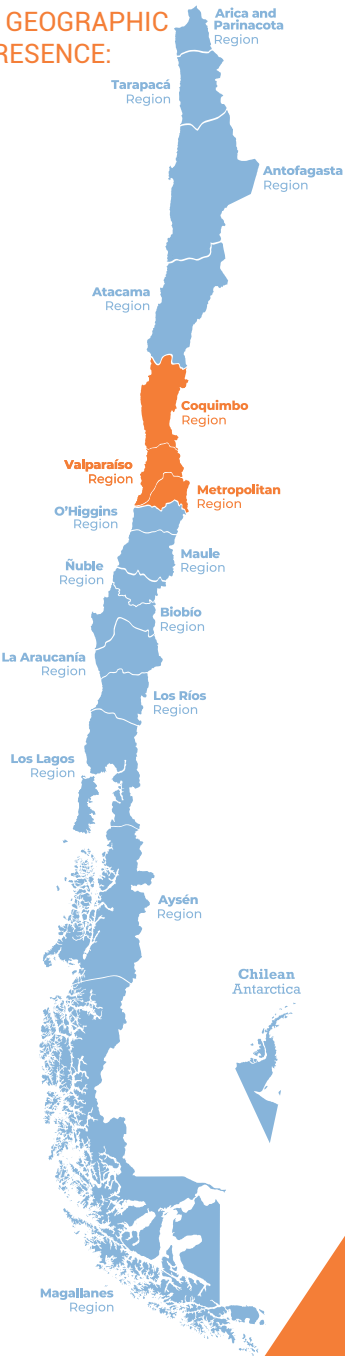
Associate Researchers:
Giovanna Cottin, Jilberto Zamora, Alfonso Zerwekh, William Brooks, Juan Carlos Helo, Marco Aurelio Díaz, Francisco Molina.

Assistant Researchers:
Pablo Ulloa, Valery Lyubovitsky, Yury Ivanov.

Senior Researchers:
Sergey Kovalenko, Boris Kopeliovich, Pedro Ochoa, Farinaldo Queiroz, Ludovico Pontecorvo, David Francis.

Junior Researchers:
Orlando Soto, Juan Antonio Cárcamo, Marco Ayala, Tessio Melo.

>> GEOGRAPHIC PRESENCE:



>> MAIN ACHIEVEMENTS:

- Consolidation of collaboration and participation in experiments led by the European Organization for Nuclear Research (CERN) and The Jiangmen Underground Neutrino Observatory (JUNO). A SAPHIR team is participating in the first active beam discharge experiment (for the search for dark matter) of the CERN NA-64 project.
- Team participation in the SND@LHC project, a new neutrino experiment carried out at CERN. Progress is being made in the installation of laboratories in our host universities UNAB, UC, USM and ULS. Creation of a computer cluster (in UTFSM and PUC) to be part of the ATLAS detector Grid