



Our project aims to strengthen South America's response to insecticide resistance and reduce its public health impact, contributing to regional efforts for controlling and eliminating vector-borne diseases by 2030.

The WINSA network

Strengthening Research and Training on Insecticide Resistance in Arthropod Vectors in South America

Coordinators

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What is it ?

The **WINSA** network, established jointly by FIOCRUZ and IRD with support from the US-CDC VecNet initiative and WHO-TDR, **coordinates research on insecticide resistance in arthropod vectors in South America**. WINSA brings together subject matter experts from leading research institutions to foster collaboration, identify research gaps and priorities, and provide support to countries to address the growing threat of insecticide resistance.



Why it's innovative

WINSA is the first research network in South America dedicated to advancing research and monitoring efforts on insecticide resistance in arthropod vectors. It is structured around 4 action pillars (figure below) to foster collaboration, address knowledge gaps, and strengthen research and training capacities in vector resistance surveillance and management. By bringing together academic partners and national programmes, it will enhance and sustain regional capacity to detect, understand, and respond to the growing threat of insecticide resistance, thus improving vector-borne disease prevention and control in the region.



How it's organised

WINSA brings together leading research institutions and agencies from **14 countries located in South America, USA and France**, to maximise impact on research and innovation.



Why it matters

WINSA addresses an urgent need for a coordinated regional approach to vector resistance research in South America. Vector control in the region relies heavily on insecticides; however, their extensive use—an increase of 120% over the past 20 years—has accelerated the development of insecticide resistance. All 13 countries and territories in the region have reported insecticide resistance in at least one vector species. Coordinated efforts are required to address knowledge gaps related to the distribution, mechanisms, and impact of insecticide resistance, as well as the factors driving selection.

13

South American Countries

To raise awareness, foster information-sharing and promote international and multidisciplinary collaborations

11

Academic Partners

To advance scientific expertise and knowledge to propose adequate resistance mitigation strategies

4

Public Agencies

To translate research into policy and action for vector control and surveillance



Supporting research

Regular partner meetings are held to **identify gaps, set priorities, and support collaborative research projects**. As research opportunities arise, WINSA members can work together to develop proposals that address shared regional priorities. The WINSA will also provide a platform to share resources, exchange information and create a centralized repository for insecticide resistance information for South America.



Scientific event

The WINSA plans to organize **biennial conferences** to raise awareness, foster innovation, and support translational research, engaging scientists, students, stakeholders, and international organizations.



Capacity building

The WINSA will coordinate training workshops on vector resistance:

- **The 1st workshop** will be organized in Colombia and will aim to provide participants with the knowledge and practical skills to conduct basic resistance bioassays following WHO/CDC methodologies.
- **The 2nd workshop** will be organized in Brazil and will aim to train partners on the molecular detection of resistance using new genetic and genomic approaches.



Kick off meeting, FIOCRUZ,
May 19-20, 2023



Training session on WHO test procedures,
FIOCRUZ, July 01-05, 2023



Promoting scientific exchanges

WINSA will support students and postdoctoral researchers to visit foreign laboratories to acquire new skills and techniques, promote career development, and stimulate research collaborations across various disciplines. Beyond the qualifications and motivation of the applicants, the promotion of gender equality will be taken into consideration.



Partnerships

WINSA unites 15 institutions conducting insecticide resistance research in South America, USA, and France, to advance research and monitoring of insecticide resistance in arthropod vectors.

WINSA will work closely with key national and regional stakeholders involved in vector-borne disease control, including PAHO, to enable maximum reach and impact of its activities.

Network Partners

- > FIOCRUZ-Instituto Oswaldo Cruz, **Brasil**
- > Centro de Investigaciones de Plagas e Insecticidas (CIPEIN) **Argentina**
- > Instituto Nacional de Laboratorios de Salud (INLASA) **Bolivia**
- > Universidad Metropolitana de Ciencias de la Educación (UMCE) **Chile**
- > Universidad Nacional de Colombia (UNAL) **Colombia**
- > Instituto Nacional de Investigación en Salud Pública (INSPI) **Ecuador**
- > Institut de Recherche pour le Développement, **França**
- > Institut Pasteur de Guyane (IPG) **Guiana Francesa**
- > Ministry of Health (MoH) **Guiana**
- > Universidad Nacional de Asunción (UNA), **Paraguay**
- > National Institute of Health (INS), **Peru**
- > Universidade Anton de Kom (AdeKUS), **Suriname**
- > Ministerio da Salud Publica (MSP) – **Uruguai**
- > US. Center for Disease Prevention and Control CDC, **EUA**
- > Insituto de Altos Estudios (IAE), – **Venezuela**



Main funding partners



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