



## VISION

A world class research and translation centre in global health working towards a world in which all people can enjoy health



## MISSION

To improve global health and promote health equity, through excellence in research, translation and application of knowledge



## VALUES

1. Excellence
2. Commitment to global public health
3. Independence
4. Respect for diversity
5. Highest ethical standards
6. Creativity in a friendly work environment
7. Fairness, accountability and transparency
8. We work because work can be fun, fulfilling and exciting

## OUR DIFFERENTIAL VALUE

To respond in an interdisciplinary and integrated manner to health problems that transcend geographical, social or political boundaries, focusing on communicable and non-communicable diseases and the impact of climate and environment on disease, with special emphasis on the health of the most vulnerable

## CONTEXT

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| <p><b>External</b></p> <ul style="list-style-type: none"> <li>– SDGs, Planetary health</li> <li>– Global impact of the climate crises on health</li> <li>– Moving towards universal health coverage</li> <li>– Geopolitical and energy crises: global impact on society</li> </ul> | <ul style="list-style-type: none"> <li>– Adjusting power balances for equitable partnerships</li> <li>– Science-based decisions / policy link and engagement with citizens and society</li> <li>– Migration, refugees and expanding urbanisation</li> </ul> | <p><b>Internal</b></p> <ul style="list-style-type: none"> <li>– Science strongly aligned with current and future global health challenges</li> <li>– Institutional environment in our local and national context</li> <li>– Generational renewal</li> <li>– Sustainability and growth</li> <li>– Evolving institutional culture</li> <li>– Regulatory environment</li> </ul> |
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## SCIENCE

### Climate, Air Pollution, Nature and Urban Health

**AIM** To strengthen the evidence, base on the health effects of climate change and urban exposures, and to assess the health co-benefits of climate action.

**FOCUS** on exposures such as noise, air pollution, temperature and green spaces on outcomes such as premature mortality, cardiovascular and respiratory health and cognitive function, and on computational modelling of global climate variation, tipping points, climate-sensitive infections and their impact on health.

**ULTIMATE GOAL** is to support healthy living, and to predict and mitigate the health impacts of climate change.

**METHODS** geographic information systems, satellite data, smartphone technology and participatory citizen science for exposure assessment, health impact assessment, computational modelling, and forecasting.

### Maternal, Child and Reproductive Health

**AIM** To develop and validate clinical and community interventions for the most prevalent health problems of women and children living in low- and middle-income countries (LMICs), and support evidence-based policy-making.

**FOCUS** on barriers to quality obstetric and child care, on the leading causes of maternal and child mortality, namely HIV/AIDS, malaria, respiratory and diarrheal diseases, and on maternal immunisation.

**ULTIMATE GOAL** of reducing mortality and improving the health of women and children living in LMICs.

**METHODS** encompassing clinical trials, epidemiology, social sciences and implementation research in infection control strategies. We embed capacity building and dissemination at all levels of research.

### Environment and Health over the Lifecourse

**AIM** To expand knowledge on the causes and mechanisms of non-communicable diseases (NCDs).

**FOCUS** on environmental, radiation, occupational, lifestyle, infections, and genetic risk factors throughout the lifecourse, from prenatal to late adult life. Key outcomes include respiratory health, neurodevelopment, cardiovascular and cancer.

**ULTIMATE GOAL** is to prevent and control NCDs, in line with the SDGs.

**METHODS** build on networks of longitudinal population-based cohorts and case-control studies as powerful platforms for aetiological research, incorporating innovative approaches such as the exposome, omics biomarkers, imaging, and data science.

### Global Viral and Bacterial Infections

**AIM** To improve the understanding of the physiopathology of and immunity to viral and bacterial infections in vulnerable populations, and to develop tools for screening, diagnosis, treatment and clinical management.

**FOCUS** on tuberculosis, antimicrobial resistant bacteria, HIV, viral hepatitis, neglected or emerging viral infections, infections of global reach such as influenza and cytomegalovirus, and syndromic approaches to infant febrile illnesses, diarrheal diseases, and respiratory infections.

**ULTIMATE GOAL** is to reduce the disease burden of viral and bacterial infections that affect vulnerable populations and/or are of global concern.

**METHODS** molecular biology and immunology, clinical epidemiology, mathematical modelling and implementation and operational research.

### Malaria and Neglected Parasitic Diseases

**AIM** To support evidence-based policy-making at all levels for the reduction of malaria and other parasitic diseases in high-burden areas, and to advance our current scientific understanding of the pathogenesis of major parasitic diseases affecting humans and their host-vector interactions.

**FOCUS** on malaria, Chagas and neglected tropical parasitic diseases such as soil-transmitted helminths and leishmania.

**ULTIMATE GOAL** is to progress towards disease elimination wherever feasible.

**METHODS** epidemiology, intervention trials with drugs, vaccines and diagnostic tools and basic molecular biology and immunology.

## TRANSLATION

### Creating and maximising the impact of ISGlobal's research

- Advance doctoral/postdoctoral capabilities through innovative models of training, supervision, mentoring and support.
- Expand breadth and reach online international trainings.
- Pursue an open innovation approach: training, growth and impact.
- Grow our preparedness, response, recovery and resilience activities.
- Stimulate and nurture our long-standing collaborations in LMICs & alliances with translation organisations.
- Expand communication, open science and citizen science approaches throughout our portfolio of activities.

## INTEGRATIVE AND INTERDISCIPLINARY APPROACH

### Connecting infections, non-communicable diseases, and the environment for impact

1. **To investigate** host-pathogen interactions at the single-cell level coupled to multi-omics, multidimensional and deep immune profiling to understand key biological processes underlying infectious diseases (IDs) pathogenesis and host responses, and evaluate the impact of NCDs and environment.
2. **To elucidate** the multidimensional causal pathways of NCDs through holistic exposome studies integrating research areas on environmental risk factors, IDs and NCDs with multi-omic characterisation of biological pathways.
3. **To develop** novel early warning systems, predictive models, and field-deployable tools for real-world applications to respond to existing and emerging health threats and to improve surveillance and events prediction of IDs and NCDs.
4. **To quantify** the health implications of climate change adaptation and mitigation through modelling and impact assessment of interventions and policies.
5. **To enhance** approaches to connect research and innovation to society and generate impact.