



## INTOSAI Centre for Advanced Studies Call for Proposals – Researchers and Supervisors

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### 1. Context and Purpose

The [INTOSAI Centre for Advanced Studies](#) is a scientific initiative within the INTOSAI Supervisory Committee on Emerging Issues (SCEI). It aims to contribute to the strengthening of the global voice of INTOSAI by creating an academic space that carries out applied scientific research on external control, public audit and related themes to support Supreme Audit Institutions (SAIs). It is intended to be a locus for research and debate, a link between the SAIs and the academy, establishing networks of researchers and partner institutions.

### 2. Scope

This call for proposals is being launched to select academics worldwide to carry out **6 projects** for short-term research funding (**3 months**). The studies will be centred on periodically selected global issues and cross-cutting themes, research based on SAIs' work, and under-studied areas of external control and public audit. For this edition, the prioritized themes are:

#### 1. IMPACTS OF ARTIFICIAL INTELLIGENCE FOR THE SAIs (2 projects)

##### THEME 1:

###### Context

The expansion of Artificial Intelligence (AI) in various areas of society, from recommendation systems to automated decisions in critical sectors such as health, justice, and finance, raises important questions about transparency, fairness, and accountability. As AI algorithms become more complex and influential, the need for auditing and oversight by Supreme Audit Institutions (SAIs) becomes evident. These institutions, tasked with ensuring the correct application of resources and adherence to legal and ethical norms, face the challenge of understanding and evaluating technologies that are constantly evolving. The lack of transparency in AI models and the difficulty in interpreting their decisions further complicate the task of ensuring that these systems operate in a fair, ethical, and unbiased manner. In this context, the auditing of AI algorithms by SAIs emerges as an urgent need to ensure public trust in these technologies and ensure that they contribute positively to society.

###### Research Problem

Development of effective methods and tools for the auditing of AI algorithms by SAIs, focusing on the analysis of training bases and techniques used in these systems. The research will seek to answer the following central question: "How can SAIs effectively audit AI algorithms, verifying the integrity, fairness, and transparency of the results produced by these systems, through the study of training bases and AI techniques employed?" To this end, aspects such as the identification of biases in training data, the evaluation of the compliance of AI techniques with current ethical and legal principles,



and the development of auditing frameworks that allow a systematic and in-depth analysis of AI systems will be explored.

## **THEME 2:**

### **Context**

SAIs play a crucial role in overseeing the use of public resources and promoting transparency and accountability. The complex and diverse nature of the tasks performed by these institutions often requires a high level of expertise and knowledge. Large Language Models (LLMs), such as GPT-3, have the potential to automate some of these tasks, but the effective utilisation of these models by auditors and other SAI specialists who lack knowledge in information technology (IT) remains a challenge.

### **Research Problem**

Development of a prompting engineering methodology for decomposing complex tasks into simple subtasks for automation through Large Language Models (LLMs) for SAIs. For example, an audit is a comprehensive process that include capabilities across several pillars, including institutional requirements, inputs, resources, processes, products, and quality control. In this sense, AI could be a of great importance, at least, in three areas:

- a. Automated Document Analysis: AI can process and analyse vast amounts of text data from audit reports, IT assessments, and other relevant documents more efficiently than humans.
- b. Enhanced Data Collection and Profiling: LLMs can assist in gathering data from various sources by scraping websites, reading documents, and compiling relevant information.
- c. Decision Support: LLMs can be used as decision support tools, for instance, by supporting auditing public purchases. It could be useful by utilizing advanced data analysis techniques and AI to identify patterns and anomalies indicative of potential risks.

## **2. AUDITING CLIMATE FINANCING (2 projects)**

## **THEME 3:**

### **Context**

Climate financing is a global challenge to address climate action and consists of one of the axes of the ClimateScanner tool.

### **Research Problem**

Identify the main challenges and gaps that the governments face to address tracking, monitoring, and reporting on climate financing.

## **THEME 4:**

### **Context**

The uncontrolled emission of greenhouse gases by most countries has been the great challenge in definitively addressing the problem of global climate change. In this sense, externalities involving this issue are extreme, that is, the impact of one country's polluting actions is felt in other countries, especially in those more vulnerable.

Therefore, the best way to seek the effectiveness of actions to reduce emitted gases and mitigate impacts is through coordinated action over public policies in different countries, such as the Climate Scanner Project.

### **Research Problem**

Investigate how Supreme Audit Institutions (SAIs) can enhance the performance of countries in coordinating actions to combat, mitigate, and alleviate the effects of climate change. This involves exploring the role of SAIs in improving the financing mechanisms for climate change initiatives. The research could address, as examples:

- a. Understanding the current status of the Kyoto Protocol among its signatory countries and determining how SAIs can facilitate its advancement. The Kyoto Protocol, as a sophisticated mechanism that enables financing between countries, plays a crucial role in global climate change efforts. Therefore, it is essential to assess its implementation status across different countries and explore how SAIs can contribute to its progress.
- b. Investigating the impacts of climate change on global food security, with a particular focus on the role of oceans. Oceans, as the largest consumer of CO<sub>2</sub> and a significant source of food, are critical to addressing climate change and ensuring future food security.
- c. Exploring how governments can collaborate with major private actors to decarbonize the economy. Major private actors, such as big tech companies and electric car manufacturers, have significant influence over technologies and can play a crucial role in reducing greenhouse gas emissions. Therefore, it is important to understand how governments and these private actors can coordinate their efforts to change the structure of production and move towards a low-carbon economy.

## **3. FIGHTING HUNGER AND POVERTY (2 projects)**

### **THEME 5:**

#### **Context**

The Sustainable Development Goals (SDG) Summit has recently declared that "eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development". The most recent projections reveal that 8.4% of the world's population has been living in extreme poverty. This information is alarming as it shows that the sustainable development goals of eradicating poverty by 2030 will not be achieved should current trends continue.

To reverse this scenario and achieve the SDGs targets, governments must strengthen their actions to combat extreme poverty in all its dimensions. However, some countries have not determined an official definition for multidimensional poverty, making it impossible to measure, pursue or achieve this target. This definition would be the first step towards integrated public policies that seek to combat poverty in all its forms, for example, access to water, food, health, education, decent housing, among others.

#### **Research Problem**

The research will seek to answer the following central question: "How can the governments define multidimensional poverty, measure, pursue and achieve the target



of reducing poverty?" It's important to explore how each country defines multidimensional poverty and the indicators adopted to measure the multidimensional poverty.

Develop a methodology for SAIs to assess these integrated public policies to fight poverty in all its forms, for example, access to water, food, health, education, decent housing, among others.

## **THEME 6:**

### **Context**

The Sustainable Development Goals (SDG) Summit has recently declared that "eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development". A report published by Food and Agriculture Organization of the United Nations estimates that 735 million people suffered from hunger in 2022. This information is alarming as it shows that the sustainable development goals of ending hunger by 2030 will not be achieved should current trends continue.

To reverse this scenario and achieve the SDGs targets, governments must strengthen their actions to promote food and nutrition security. In other words, they must guarantee access for all people to safe, nutritious, and sufficient food all year around.

### **Research Problem**

The research will seek to present models adopted by governments to promote food and nutrition security that are efficient in guaranteeing the access to safe, nutritious, and sufficient food the hole year. It is important to mention in the research the public policies adopted to contribute to: the establishment of a social protection system; equal access to economic resources, land ownership and financial services; and greater resilience of the poor and those in vulnerable situation as well as of the food production chain against extreme weather events, disasters, and other economic, social and environmental shocks.

## **3. Eligibility**

### Researcher Profile:

- PhD researchers or professors with notable specialization in the research topics, affiliated with universities that are officially recognized by the governments of their respective countries.
- Employees of SAI are not eligible to apply as researchers. However, they are allowed to serve in the role of academic supervisors.
- Candidates must demonstrate prior research experience in the proposed theme, which includes having published works on the subject.

### Supervisor Profile:

- After the projects have been selected, the Scientific Board will choose the supervisors from among the experts of the SAIs in each theme.



- The supervisor must be able to provide proof of an employment relationship with the SAI and must have received express consent from the institution's head of audit to supervise the research.

Language:

- All the scientific production and communication will be carried out in English.
- The proficiency of the candidates must be equivalent to B2 level of the CEFR (Common European Framework of Reference for Languages).

## 4. Application and Evaluation

Proposal submission (researchers):

- Proposals should be submitted in English, as a single PDF file, filling the form available at the website.
- Research plan (up to 2 pages):
  - Principal researcher and up to 3 co-researchers (*curriculum vitae*)
  - Contact email
  - Abstract
  - Justification
  - Methodology
  - Schedule of activities
  - Source list
  - Previous work in the theme
  - Two letters of recommendation
- Proposals should be submitted by **09 Jun 2024 (18:00 CET)**.
- Applicants will receive an acknowledgement email upon confirmation of receipt.
- Disclosure: selected proposals documentation will be publicly disclosed. If the proposal includes confidential information, it should be clearly highlighted in the submission.

Proposal requirements:

- The purpose of the research project should be objectively assessed in terms of its practical utility and potential for effective implementation in the context of the SAIs.
- The project should provide clear and concise details of the methods and the benefits of the proposed research.
- The proposal should consider regional and global dimensions of the research topic.
- The quality of the proposal will be assessed based on clarity, logical flow, and evaluability of the text.
- Upon receipt, proposals will be initially screened considering the above requirements. Proposals that do not comply with the terms of this Call will not qualify for the Scientific Council analysis.

Evaluation process:

- The Centre is composed by a Scientific Board, which will coordinate the research activities.
- A panel of evaluators, comprising specialists from SAIs in the prioritized themes nominated by the Scientific Board, will be responsible for selecting the proposals.



- The evaluation process is expected to be made by the end of **July 2024**.

## 5. Research Procedures

### Research projects:

- Proposals approved will be converted into short-term research projects (3 months) and receive funding for the research.
- Researchers would also get access to relevant information and key actors from the SAIs.
- The projects will be supervised by SAIs' specialists in the subjects nominated by the Scientific Board.
- Meetings with the Scientific Board will be convened periodically, preferably online.

### Results:

- The research must be original (the main results and conclusions must not have been published or submitted elsewhere).
- The results will be presented for approval of the Scientific Board in the form of an article/discussion paper.
- A seminar will be organized to present the approved results of the project.
- After validation, the papers will be submitted to the SCEI.

### Publications:

- After SCEI approval, the articles must be submitted to publication in a Scopus or JCR (Journal Citation Reports) listed peer reviewed journal (or similar).
- The journal should preferably be open access.
- All the production of the Centre will be catalogued and made available in its virtual library after publication.

## 6. Grant and benefits

### Budget:

- The total budget of this call is limited in USD 96.000 (plus operational costs)
- The researchers with selected projects will receive a scholarship, according to the role:
  - USD 10.500 - Researcher
  - USD 3.600 - Supervisor

### Travel and other expenses

- Travel and publishing expenses are not included in the grant.

## 7. Questions

For additional information about the call for proposals, please contact SAI Brazil ([cast@tcu.gov.br](mailto:cast@tcu.gov.br))