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Keynote Speakers:

Maria da Glória Motta Garcia, Associate Professor, University of São Paulo
Geoconservation in the Amazon: challenges, opportunities and community involvement
Day: *Wednesday* Time: *14:00* GMT

Nathan Fox, Schmidt AI in Science Fellow, University of Michigan
Artificial Intelligence for Geodiversity Research and Practice: Innovations, Applications, and Challenges
Day: *Tuesday* Time: *16:20* GMT

A DIALOGUE BETWEEN SPIRITUAL AND GEO-SOCIAL SCIENCES KNOWLEDGE FOR OTHER UNDERSTANDINGS OF CLIMATE CHANGE AT THE RANCHERIA RIVER BASIN, COLOMBIA

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Time: *14:55 GMT*

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ABSTRACT

The Rancheria River is their source of life and spiritual power of Wayuu indigenous peoples. It represents the veins of mother earth, a fabric of fabrics allowing a dialogue between nature and culture. The persistent water scarcity, increased by the climate variability and the detrimental impacts of intensive coal mining exploitation, have severely undermined the region's ecological balance and traditional ways of life. This vulnerability is compounded by socio-political factors that marginalize local populations, rendering the Rancheria River Basin a paradigmatic example of territorial vulnerability.

In response, this research initiative co-defined with a Wayuu leader, adopts a multidisciplinary and participatory approach, merging modern scientific methodologies with the ancestral wisdom of the Wayuu peoples. The project aims to generate robust and actionable data on the geo-bio-cultural characteristics of the Rancheria River Basin, using remote sensing, statistical modeling, and participatory methods such as participatory mapping or the co-construction of a Wayuu Calendar. This integrated dataset will serve as the foundation for co-define sustainable strategies tailored to the needs and challenges of this vulnerable territory.

The proposed methodology divided in five processes, is an adaptation of the one used to analyze Geoparks processes (Gonzalez Tejada, 2019).

1. Identification and inclusion of actors, for the engagement of nontraditional actors.
2. Heritage stage, for the selection and justification of the geo-bio-cultural heritage.
3. Creation stage, for the collective intelligence to define a common reference.
4. Visionary stage, for the identification and definition of different scenarios, strategies, actions and tools.
5. Dissemination and communication, for awareness raising, evaluation and feedback.

In conclusion, this project seeks to redefine territorial management by demonstrating that the fusion of modern science with indigenous wisdom can produce sustainable solutions that are culturally resonant and contextually relevant. Additionally, by establishing a framework of science diplomacy, the initiative seeks to expand the lessons learned, contributing not only to the academic discourse on environmental governance and climate actions but also to the empowerment of local communities, ensuring that their voices and traditional practices play a central role in shaping the future of their territory.