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Panel Coordinators:

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Maps of the invisible: memories, narratives and cartography of multiple conflicts

Abstract: This Coordinated Panel aims to bring researchers who have innovatively reflected and promoted experiences on the treatment of geospatial information in an interdisciplinary approach together. Starting from problem-situations in fields of knowledge such as archeology, anthropology, geography, history and economics, we fundamentally discuss how memories and histories of emerging social groups, or even less debated narratives, can be envisaged from the geospatial informational treatment perspective. Thus, this treatment can be through the use of multiple methodologies that, if crossed creatively and coherently, can promote results that broaden epistemological possibilities. The engagement of these discussions is however portrayed in the research examples dealt with in this Coordinated Panel, by the debate on, for example, the visibility of socially and historically marginalized groups, and their claims for fundamental rights – such as the right to territory and memory. On the other hand, the debate is reflected in the multiple possibilities of geospatial registration of these subaltern collectives that, in the contemporary context, have been supported by the protagonism of their narratives, priority themes in their reality, and the production of knowledge by themselves. In this regard, various sources are handled, such as historical cartographs, manuscripts, iconographies and ethnographic data which in contrast to aerial photos, orthophotos or other cartographic records from multiple databases, produce results expounded to enhance the visibility of material and symbolic struggles and issues such as the appreciation of cultural heritage and its patrimonialization policies; identification, delimitation, demarcation and homologation of indigenous land; and social mapping experiments to identify societal structures and the sites thereof.



1 – The study of Geological Slip Risk in Vila Cafezal, Belo Horizonte / Minas Gerais using Cartography and Innovative digital technologies

Abstract: Demand for new housing for low-income families (up to 04 minimum wages, according to IBGE) totals 7.2 million and approximately 80% is concentrated in urban areas, according to the Ministry of Cities. Informal settlements compete with areas neglected by the Real Estate Market, whether due to environmental restrictions and / or constructive restrictions. This results in increasing number of population who takes the slopes, wetlands, or mangroves as appropriate for housing. This research aims to classify buildings subject to the risk of landslides. The study area is the irregular settlement known

as the Cafezal cluster in the Minas Gerais state capital. The study contemplates the innovative technology of laser sensor profiling for digital modeling of the physical surface. A sensor embedded in the aircraft enables significant advances in the knowledge of the behavior of topography compared to aerial photos. Because the shading, chaotic spatial arrangement of buildings, and difficult access are no obstacles that made aerial imagery vulnerable. Initially, the fellows will be taken to the selection of the digital orthophoto collection pertinent to the area of study. A polygon of the area critical to the risk of landslides is drawn in sequence. From the collection of orthophotos of the Cafezal cluster, it highlights the contours and intricacies of buildings, blocks and streets with geoprocessing applications. The measure has the firm purpose of updating the cartographic base of the settlement and, consequently, obtaining the spatial parameter. And in parallel, a routine in the Matlab application platform compares the geographic location of the house with the physical surface model and other important geological parameters for the classification (high, medium or moderate). State-of-the-art techniques in spatial data analysis is the main component for urban management and it is known to be shared across countries

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2 – Historic Cartography and GIS Geoprocessing as Data Analysis Source for the Economics of Culture: the value of heritage before mining activities in the *Quadrilátero Ferrífero-Açuífero* region of Brazil

Abstract: This paper seeks to reflect on the complexity of the local and regional contexts of Miguel Burnier, district of Ouro Preto, Minas Gerais, Brazil, which accounts for 43% of municipal revenue. Located in the Iron-Aquifer Quadrangle, the district is at the center of the contemporary dynamics of expanding the boundaries of neo-extractivism, having production based on one of the largest commodities in Brazil and the world: iron ore. Through the use historic cartography and GIS digital spatial data management tools, we sought to identify the spatial distribution of the collective cultural heritage and its use and relationship with the areas of mining interest, which generates reflections on the future of heritage and their people in view of the mining expansion experienced therein. The treatment of data through geospatial analysis can be an instrument capable of removing the veil of rationality determined by the logic of capital, challenging the hegemonic discourses that influence the canonical form of registration and understanding of the multipurpose experiences in the territory, the possibilities of land use and occupation. Such instruments are important for subsidizing and producing knowledge about the current context of expansion of mining activity in the region called *Quadrilátero Ferrífero-Açuífero* – so far the largest known mineral province in southeastern Brazil, being located in the central portion of the State of Minas Gerais. and covering an area of 700,000ha. – and its consequences related to social and environmental impacts and conflicts. Such confrontations are situated not only at the economic level, but are reflected in the sudden changes in local lifestyles, territorial disputes, changes in the environment, the destruction of cultural heritage, and conflicts of rights to memory.

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3 – Little water for many Indians: Ethnoarcheology of the Guató Indigenous Land and its surroundings in the Pantanal region, Corumbá, Mato Grosso do Sul, Brazil

Abstract: The aim of this paper is to present the geoprocessing results related to ethno-archaeological studies on the Guató Indigenous Land, located in the municipality of Corumbá, Mato Grosso do Sul, on the border with the Mato Grosso municipalities of Cáceres and Poconé, along Brazil's border with Bolivia, and its surroundings. The Guató is a homonymous indigenous people, affiliated with the Guató family and the Macro-Jê trunk, historically known as canoe Indians. The process of identifying, delimiting, demarcating and homologating indigenous land began in the 1970s and was completed in the 1990s. Official studies have indicated a portion of land for the community's physical and cultural reproduction, but disregarded vast expanses of water which also the indigenes characterize as their territory, especially permanent dwelling places, temporary camps, hunting, fishing, gathering, agriculture and agroforestry management. These spaces characterize the spatial mobility of indigenous families in a territory marked by the rhythm of the Pantanal waters. All the observed places were georeferenced and described in order to produce thematic maps about the territory, including places where there are conflicts with tourism companies that invaded the area by boats, officials and tourists in search of favorable fishing spots. Among other results, through Cartography and geoprocessing analysis, the research identifies and indicates that traditionally occupied area by the Guató in that part of the Pantanal is much larger than the area regularized by the National State.

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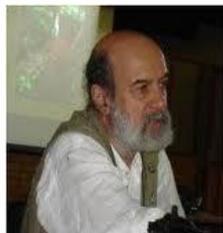




4 – The *Fazenda dos Caldeirões*, The *Fábrica Patriótica*, The *Inconfidência Mineira*: the historic cartography and geoprocessing of the steelmaking territory in Brazil

Abstract: Located along the border between the first three counties of Minas Gerais, Brazil, the *Fazenda dos Caldeirões* matters both to the beginnings of colonial occupation of Minas Gerais and the prominent moment of gold extraction in the Colony. In addition, the farm is connected to an important nationalist movement, the *Inconfidência Mineira*, and individuals from two powerful families, Álvares Maciel and Freire Andrade, directly implicated in the conspiracy and colonial plutocracy. José Álvares Maciel, who provided intellectual support to the conspiracy, believed that Brazil should become a nation independent from Portugal and, needed to develop industry to become economically autonomous. To this end, it could establish a large and first iron industry in his land, which would be located in the *Fazenda dos Caldeirões*. Álvares Maciel was described as having great talents in mineral research, which helped him escape a death sentence in favor of exile to Angola for the exploration of African lands. José Álvares Maciel's Minas Gerais research material was confiscated at the time of his arrest, and the indications of this first ever iron mineral research ever in Brasil led to the belief in the establishment of an iron mill in the land of the Caldeirões Farm. These studies, together with the exchange of information between Maciel and the Crown during their debacle in Africa, certainly led to the promotion of the founding of the plant that would be called *Usina Patriótica* in 1811, in the same region sharing vicinity with the *Fazenda dos Caldeirões*. This communication shares select results of the doctoral research that through the crossing of documentary sources with archaeological vestiges, geoprocessing of geographic information affiliated with historic and social cartography procedures and data consolidated through ethnographic research, also allowed to identify the remains of the *Fazenda dos Caldeirões* Archaeological Complex and promote knowledge about one of the main leaders of *Inconfidência Mineira*, thereby exposing an episode of great relevance to the history of Brazil.

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5 – *Inconfidência Mineira*: The Cartography of an historical movement on a motion.

Authors:

Abstract: This work has the initial objective of rescuing a spatial view of the *Inconfidência Mineira* – an upheaval that occurred in the colony, which for some was intended to promote the independence of Minas Gerais or Brazil at the end of the 18th century – from the geolocation of the movements' actions, participants, identifying them in their life contexts and in their political, economic and social articulations in the colonial territory. This identification also contemplates various social categories of which those involved in the movement were members – such as the military, intellectuals, clergy and farmers - in order to promote a deeper understanding of the relationships of the colonial elite. The movement made by the participants of the sedition, from their displacements, dispersion and meeting places held in different places of the road network, which articulated the regions of Minas Gerais and Rio de Janeiro. The research is methodologically based on the intersection of several sources, such as historical documents (especially documents such as historical cartography and iconography, “*Autos da Devassa da Inconfidência Mineira*”, as well as bibliographic references), forming a database that is geospatially designed, thereby fostering contrasted information with the results of current archaeological surveys conducted by the FAFICH Archeology Laboratory (UFMG). Given the national importance that *Inconfidência Mineira* represents to the history of Brazil and its intellectual elite, the main objective of this presented research is to comprehend and make the history and daily life of the movement known through the movement's data georeferencing to further promote the identification of new archaeological sites in order to increase the corpus of knowledge of the insurgents in the context of *Inconfidência Mineira*.

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Delivered on behalf of himself and co-authors Luana Carla Martins Campos Akinruli and Samuel Ayobami Akinruli (Biographical information above).

