CONGRESSO DE PÓS-DOUTORANDOS DA USP

Papel e Perspectivas dos Pós-Docs no Brasil (2023)

VOLUME 1

Metrópoles em Transformação: Desafios e Soluções para a Redução das Desigualdades

USP

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Metrópoles em Transformação: Desafios e Soluções para a Redução das Desigualdades

ORGANIZADORES
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Raul Gonzalez

USP

A Universidade de São Paulo (USP)

Fundada em 1934, a Universidade de São Paulo (USP) é uma Instituição reconhecida nacional e internacionalmente graças ao talento e à dedicação de seus mais de 5.500 professores, quase oitenta mil alunos e número de funcionários técnico-administrativos superior a 12 mil.

Desde 2003, a USP é incluída entre as 200 melhores universidades do mundo nos principais *rankings* mundiais que avaliam a qualidade das instituições de ensino superior.

No ensino de graduação, são 332 cursos em todas as áreas do conhecimento, oferecidos a quase 60 mil alunos em suas 43 unidades, distribuídas em oito campi localizados em Bauru, Lorena, Piracicaba, Pirassununga, Ribeirão Preto, São Carlos, Santos e São Paulo.

A qualidade da pesquisa e inovação na USP é comprovada pelas contribuições de grande relevância em todas as áreas do saber e pelo interesse aumentado em parcerias por parte de instituições de prestígio dos cinco continentes. Esta ação é alicerçada nos cerca de 2700 profissionais em seus programas de pós-doutorado. Devem ser mencionados recentes avanços na inclusão e pertencimento na USP, pela criação de uma nova pró-reitoria dedicada ao tema.

O sólido sistema de Pós-Graduação da Universidade é o principal responsável pelo seu desenvolvimento científico. Os 264 programas, em todas as áreas do saber, envolvem mais de 30 mil pós-graduandos.

É preciso destacar, também, a atuação expressiva da USP na difusão da cultura e na extensão universitária, atividades que desenvolve em suas Unidades e Órgãos afins, como os quatro museus, parques, centros, cinema, teatro, duas orquestras, grupos de corais, entre outros, e que congregam, a cada ano, dezenas de milhares de participantes, estreitando os laços com a sociedade em geral.

About USP

Founded in 1934, the University of São Paulo (USP) is a nationally and internationally recognized institution, thanks to the talent and dedication of its more than 5,500 professors, nearly eighty thousand students, and over 12,000 technical and administrative staff. Since 2003, USP has been ranked among the top 200 universities in the world in the main global rankings that evaluate the quality of higher education institutions.

At the undergraduate level, there are 332 programs offered across all areas of knowledge, serving nearly 60,000 students in its 43 schools and institutes, distributed across eight campuses located in Bauru, Lorena, Piracicaba, Pirassununga, Ribeirão Preto, São Carlos, Santos, and São Paulo.

The quality of the research developed at USP is evidenced by its significant contributions across all areas of knowledge and the growing interest from prestigious institutions across five continents in forming partnerships. This initiative is supported by the approximately 2,700 professionals in its postdoctoral programs. Advances in Inclusion and Belonging at USP should be noted, with the creation of a Provost Office dedicated to the subject.

The University's strong graduate system is the main driver of its scientific development. Its 264 programs, spanning all fields of knowledge, involve more than 30,000 graduate students.

It is also important to highlight USP's strong presence in cultural dissemination and university outreach, activities carried out through its Schools and affiliated bodies, including four museums, parks, cultural centers, a cinema, a theater, two orchestras, choir groups, among others, which gather tens of thousands of participants each year, strengthening ties with society at large.

Prefácio

Carlos Gilberto Carlotti Junior, reitor da USP

Tenho muito prazer em fazer o prefácio destas obras, que são resultado dos trabalhos apresentados por nossos pesquisadores durante o congresso "O Papel e as Perspectivas do Pós-Doutorando no Brasil". Estes quatro livros representam registro da importância da colaboração interdisciplinar de nossos pós-doutorandos para enfrentar os desafios globais e promover novas descobertas científicas – tais como as tecnologias de transição energética, incluindo a conversão de etanol em hidrogênio.

Hoje, a USP conta com cerca de 2.700 pós-docs desenvolvendo suas atividades acadêmicas em suas Unidades de Ensino e Pesquisa. O congresso teve como objetivo ampliar a colaboração e promover a integração entre pesquisadores de diferentes áreas, abrindo novos horizontes, fortalecendo projetos em andamento e incentivando o desenvolvimento de novos estudos.

A programação incluiu seis *workshops* dedicados a temas como empreendedorismo, saúde pública e processos de carbono zero, além de palestras de pesquisadores nacionais e internacionais que abordaram assuntos tão variados como "A Crise Contemporânea das Democracias e seu Impacto nas Universidades Públicas", "Invernos e Verões da Inteligência Artificial" e "A USP Contribuindo para a Medicina do Futuro".

Os diversos grupos de pesquisa participantes, formados por pesquisadores e pesquisadoras altamente qualificados, apresentaram 350 comunicações orais e 1.200 pôsteres, organizados em sessões temáticas e multidisciplinares, abordando desafios da humanidade. O evento proporcionou, ainda, importantes desdobramentos, como encontros e interações entre as mais variadas áreas científicas, incluindo agentes políticos públicos e do setor privado.

Merece também ser mencionada a premiação, em oito áreas do conhecimento – Ciências Agrárias, Ciências Biológicas, Ciências Exatas e da Terra, Ciências da Saúde, Engenharias, Ciências Humanas, Linguística, Letras e Artes e Ciências Sociais Aplicadas –, de trabalhos que foram selecionados por três comissões científicas, por meio de um processo em três etapas, sendo a última comissão composta por membros externos à USP.

Com a chegada da economia do conhecimento, as bases do desenvolvimento econômico dos países passaram por uma enorme transformação. Investir em ciência é o caminho que nações desenvolvidas têm seguido na busca por fontes de conhecimento profundo, cujo núcleo se baseia em pesquisa de excelência e inovação. Neste novo cenário, o papel do universo acadêmico como ator imprescindível na geração de conhecimento não pode ser desprezado.

A observação atenta dos ecossistemas de ciência, pesquisa e inovação, por sua vez, revela o enorme potencial dos pós-doutorandos e de seus supervisores para acelerar o desenvolvimento de um país.

O congresso de pós-doutores da USP exemplifica o papel crucial que os pós-docs desempenham no avanço do conhecimento científico e da inovação. A capacidade de tirar o melhor proveito de novas tecnologias depende dos recursos humanos que atuam tanto na academia quanto em setores privados. Um ambiente de apoio e colaboração para os pós-doutorandos beneficia a comunidade acadêmica e contribui significativamente para o desenvolvimento da sociedade.

Ademais, o evento foi uma oportunidade valiosa para reunir pessoas e instituições altamente qualificadas e suas contribuições para o progresso da ciência. A publicação desta coleção diversificada e abrangente de textos científicos vem intensificar o ambiente aberto e estimulante para a condução da ciência em benefício de todos.

Apresentação

Celia R. S. Garcia[1], Raul Gonzalez[2] e Arlindo Philippi[3]

Os ecossistemas da ciência, investigação e inovação são motores essenciais do crescimento de uma nação, estando os pós-doutorados entre os grandes impulsionadores do progresso nestes sistemas. Com a conclusão dos seus estudos de doutoramento, estes indivíduos ocupam uma posição única na intersecção da criação e aplicação de conhecimentos. São os futuros líderes dos mundos acadêmico e empresarial e os pioneiros que avançam sobre os limites do possível. Esse papel vital do Programa de Pós-Doutorado é exemplificado no âmbito da Universidade de São Paulo (USP), uma das principais instituições acadêmicas do Brasil, que em 2023 contava com aproximadamente 2.650 pós-doutores. Estes profissionais compõem a vanguarda da investigação científica, contribuindo significativamente para a reputação da universidade como um centro de inovação e excelência acadêmica.

A importância do Programa de Pós-Doutorado para a produção de pesquisa e para ampliar a vitalidade intelectual da USP foi evidenciada durante um importante congresso realizado de 17 a 19 de outubro de 2023. Intitulado "O Papel e as Perspectivas do Pós-Doutorando no Brasil", o congresso serviu como plataforma para promover, discutir e analisar as contribuições desses acadêmicos para a universidade e para a comunidade científica em geral.

Mais do que um simples encontro de mentes, foi uma demonstração do empenho da universidade para promover um ambiente de pesquisa dinâmico, que prospera com a contribuição desses indivíduos altamente qualificados.

Como resultado do congresso foi gerada uma obra com quatro volumes, cada um deles sintetizando as pesquisas apresentadas durante o evento. Esses volumes trazem a essência de 350 comunicações orais e 1.200 pôsteres, refletindo a amplitude e a profundidade da pesquisa realizada pelos Pós-docs da USP. As apresentações foram organizadas em sessões temáticas e multidisciplinares, cada uma destinada a abordar alguns dos desafios mais urgentes da humanidade. Essa estrutura evidenciou a diversidade da pesquisa na USP e ressaltou a importância das abordagens transdisciplinares nas questões globais complexas. Ao reunir

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[1]. Comissão Executiva do Congresso; Assessora do Gabinete do Reitor.
[2]. Comissão Executiva do Congresso; Pró-Reitor Adjunto de Inovação.
[3]. Conselho de Orientação do Congresso; Chefe do Gabinete do Reitor.

pesquisadores de várias disciplinas, o congresso demonstrou como os esforços de colaboração podem conduzir a soluções de caráter holístico e prático para os problemas contemporâneos mais prementes do mundo.

A conferência proporcionou também a oportunidade de promover interações críticas entre diferentes agentes, ampliando a sua influência para além dos limites da academia. Essas interações incluíram compromissos com agentes políticos dos setores público e privado, essenciais para traduzir as descobertas científicas em políticas públicas eficazes e produtos inovadores.

Esses diálogos são cruciais para garantir que os frutos da pesquisa não fiquem confinados às revistas acadêmicas, mas sejam utilizados para impulsionar o progresso e o desenvolvimento da sociedade.

Um dos principais objetivos do evento foi reforçar a interação, a colaboração e a integração entre pesquisadores de diferentes disciplinas. Este objetivo não consistia apenas em incentivar o trabalho em equipe, mas também em abrir novas vias de investigação, reforçar os projetos existentes e catalisar o desenvolvimento de novos projetos. Numa era em que os desafios que enfrentamos estão cada vez mais interligados e globais, essa colaboração multidisciplinar é essencial. As soluções mais inovadoras nascem da convergência de diversas perspectivas e conhecimentos, cocriação.

O programa da conferência foi rico tanto em conteúdo como em diversidade, apresentando seis *workshops* com tópicos de importância crítica para o futuro. Estes incluem o empreendedorismo, a saúde pública e os processos de carbono zero – áreas que não só estão na vanguarda da investigação atual, como também são cruciais para enfrentar os desafios globais. Os *workshops*, complementados por palestras de pesquisadores nacionais e internacionais, trouxeram para a discussão um vasto leque de perspectivas. Temas como "A Crise Contemporânea das Democracias e seu Impacto nas Universidades Públicas", "Invernos e Verões da Inteligência Artificial" e "A USP Contribuindo para a Medicina do Futuro" proporcionaram aos participantes uma visão profunda sobre os rumos da pesquisa e da inovação. Essas discussões ressaltaram o papel fundamental que instituições como as universidades desempenham no avanço do conhecimento e na formação do futuro das sociedades.

A conferência também celebrou a excelência em todo o espectro acadêmico. Foram entregues prêmios em oito áreas do conhecimento: Ciências Agrárias, Ciências Biológicas, Ciências Exatas e da Terra, Ciências da Saúde, Engenharia, Ciências Humanas, Linguística, Letras e Artes e Ciências Sociais Aplicadas. O rigoroso processo de seleção desses prêmios, que envolveu três comissões científicas – sendo a última composta por membros externos à USP –, garantiu

o reconhecimento das mais destacadas contribuições à ciência e à pesquisa, estabelecendo uma referência para futuros projetos de investigação.

A história da ciência está repleta de estudos científicos básicos que conduziram a aplicações após algum tempo. Para deixar clara a conexão entre ciência e benefício da sociedade, permitam-nos mencionar duas moléculas, a Bergenin e a Aequorin.

Bergenin, uma molécula extraída da planta *Endopleura uchi*, é encontrada em várias espécies nativas da Amazônia e tem usos medicinais. No catálogo da empresa farmacêutica Sigma-Aldrich de 2024, o composto Bergenin é cerca de 4.400 vezes mais caro do que o ouro, em peso. Além disso, a extração de ouro está frequentemente associada a problemas socioambientais na mesma região.

As contribuições de Osamu Shimomura, Martin Chalfie e Roger Tsien foram reconhecidas por meio do Prêmio Nobel de Química de 2008. Nos Estados Unidos, na década de 1960, Osamu Shimomura dedicou-se a estudar o fenômeno da bioluminescência na medusa *Aequorea victoria*. Depois de purificar os extratos desses animais marinhos, isolou uma proteína chamada "aequorina". Shimomura também descobriu outra proteína que exibia fluorescência verde, a Green Fluorescent Protein (GFP). A aequorina, por si só, emite luz azul, mas se a GFP estiver presente, é produzida luz verde. Douglas Prasher mostrou que a proteína era fluorescente no nematoide *Caenorhabditis elegans* e na bactéria *Escherichia coli*. A GFP pode ser vista como um farol de luz, abrindo caminho para várias aplicações dessa proteína como marcador biológico. A GFP pode rastrear múltiplos processos moleculares e celulares quando ligada a diferentes proteínas e expressa nas células. Consequentemente, a GFP tem sido utilizada em milhares de estudos que fazem avançar as ciências biológicas e médicas. Roger Tsien e o seu grupo descreveram a estrutura da GFP, desenvolveram proteínas fluorescentes de cores diferentes e várias ferramentas para monitorar funções celulares.

À medida que as nações se esforçam para alcançar a sustentabilidade do desenvolvimento e enfrentar os desafios globais, as contribuições destes pesquisadores, com seus respectivos supervisores, demonstram a relevância deles para moldar um futuro mais brilhante e inovador.

O Compromisso da USP com os Jovens Pesquisadores

Celia R. S. Garcia, Raul Gonzalez e Arlindo Philippi

O Congresso de Pós-Doutorandos da Universidade de São Paulo (USP) é um evento importante que reúne estudiosos de várias disciplinas acadêmicas. Com 1.233 participantes inscritos, esse congresso foi um fórum vital para o intercâmbio acadêmico, permitindo aos investigadores de pós-doutoramento apresentar os seus resultados, colaborar com os seus pares e participar em discussões multidisciplinares. As seções seguintes apresentam uma análise dos dados demográficos dos participantes, do enfoque temático e dos resultados notáveis do congresso.

O congresso contou com a participação de várias unidades da USP, tanto dos *campi* da capital quanto do interior. A Faculdade de Filosofia, Letras e Ciências Humanas (FFLCH) teve o maior número de inscritos, 158 participantes. A Faculdade de Medicina (FM) e a Escola Politécnica (EP) vieram em seguida, com 72 e 67 participantes, respetivamente.

Outras unidades com representação significativa foram o Instituto de Ciências Biomédicas (ICB) e o Instituto de Estudos Avançados (IEA), com 59 participantes cada (Figura 1).

Figura 1 – Percentual de distribuição do cadastro de Pós-docs por Escolas da USP.

Dos 1.233 inscritos, 627 eram mulheres e 580 eram homens, o que revela uma representação de gênero relativamente equilibrada entre os investigadores pós–doutorados presentes no congresso (Figura 2).
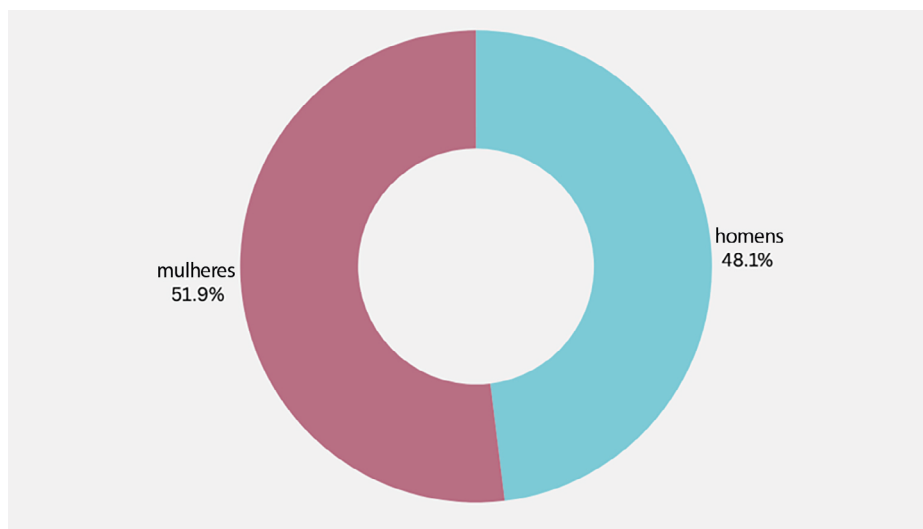

Figura 2 – Percentagem de Pós-Doutorados por gênero dos inscritos.

Para garantir a participação de pesquisadores de fora de São Paulo no congresso, a universidade disponibilizou auxílio financeiro para viagem e hospedagem. Dos 143 indivíduos que solicitaram auxílio para viagem, 108 foram contemplados. A maioria dos participantes (925) era proveniente dos *campi* da capital da USP, sendo 308 dos *campi* do interior. Dezenove participantes se identificaram como pessoas com deficiência ou com mobilidade reduzida, e a organização do evento disponibilizou os serviços de apoio necessários a todos os participantes.

O congresso atraiu investigadores das mais diversas áreas acadêmicas. A área das Ciências da Saúde foi a que registou maior participação, com 374 inscritos, seguida das Ciências Exatas, com 205 apresentações; das Humanidades, com 204 apresentações; das Ciências do Ambiente, com 190; e da Cultura e das Artes, com 136. Destacam-se ainda as Ciências Sociais (166), as Engenharias (108) e as Ciências Biológicas (155) (Figura 3).
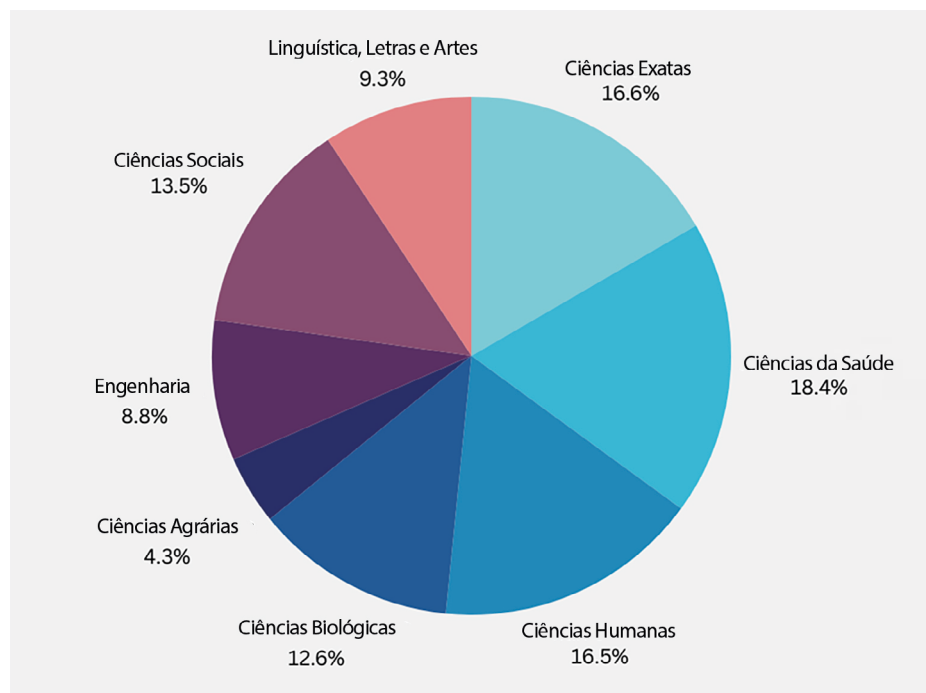

Figura 3 – Distribuição dos inscritos em pós-doutoramento por área.

As apresentações foram agrupadas em torno de desafios globais atuais e revelaram a interdisciplinaridade dos temas e da pesquisa realizada na USP. Foram selecionados 383 resumos para apresentações orais. Esses trabalhos foram divididos entre as diversas disciplinas, com destaque para as Ciências Exatas (65) e Ciências Humanas (64). Ciências da Saúde, Ciências Biológicas e Ciências Sociais também tiveram forte presença, com 61, 51 e 47 apresentações orais, respectivamente (Figura 4).
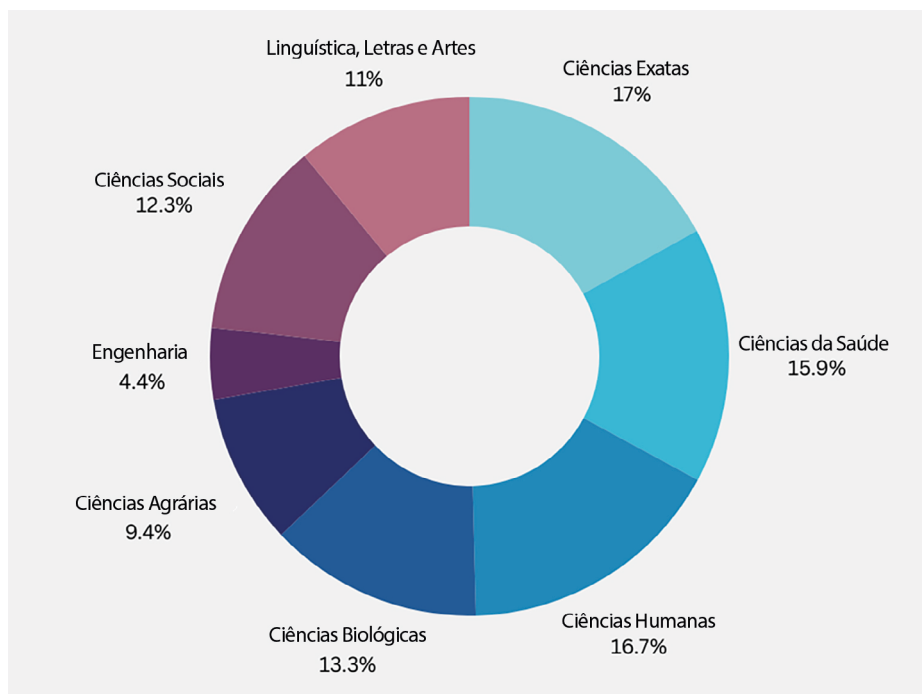

Figura 4 – Distribuição percentual das apresentações orais pelos diferentes domínios.

Oito investigadores em pós-doutoramento foram reconhecidos pelas suas contribuições excepcionais nos seus respectivos domínios. Estes indivíduos foram agraciados com o Prêmio de Pós-Doutoramento. Os premiados foram selecionados entre oito áreas que refletem o vasto âmbito da investigação de excelência no congresso. Na área de **Ciências Agrárias**: Flávia de Oliveira Scarpino Van Cleef, pelo seu trabalho sobre a redução da produção de metano pelos ruminantes. **Ciências Biológicas**: Mateus Vidigal Castro, pela sua investigação sobre a resistência natural à COVID-19. **Ciências da Saúde**: Marlón Juliano Romero Aliberti, pelo seu estudo sobre os efeitos a longo prazo da COVID-19 em idosos. **Ciências Exatas**: Hugo Luiz Oliveira, pelo seu trabalho sobre a modelação matemática da válvula cardíaca Wheatley. **Ciências Humanas**: Fabiana Barbi

Seleguim, por sua pesquisa sobre governança climática e direitos humanos. **Ciências Sociais**: Joana D'Arc de Oliveira, por seu estudo sobre memórias negras e justiça social. **Engenharia**: Raissa Antonelli, por sua pesquisa sobre purificação de água usando reatores eletroquímicos. **Linguística, Letras e Artes**: Cynthia Agra de Brito Neves, pela pesquisa sobre letramento literário em *slams* escolares.

Na mesma linha, a USP apoia diversas bolsas de pós-doutorado: o Programa de Formação em Gestão Acadêmica, com 35 bolsas; o Programa de Eixos Temáticos, 16 bolsas; o Escritório de Gestão Ambiental, 36 bolsas; e o Programa de Gestão da Inovação, nove bolsas em dois programas-chave. Um total de 96 bolsas, com rendimentos mensais compatíveis com os valores das bolsas de pós-doutorado da Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), foram apoiadas financeiramente pela universidade. Esses pesquisadores foram selecionados por meio de um edital bastante competitivo. Tais iniciativas evidenciam o investimento que a Universidade está a fazer nos jovens investigadores.

A USP dedica-se a promover as carreiras de jovens investigadores. Por meio de iniciativas como o Congresso de Pós-Doutoramento, a USP proporciona uma plataforma dinâmica para a colaboração interdisciplinar e o reconhecimento da excelência da investigação. Com mais de 1.200 participantes, o congresso incentivou a troca de conhecimentos em diversas áreas acadêmicas e premiou os investigadores de pós-doutoramento que se destacaram pelas suas realizações. Além disso, a atribuição de bolsas com valores competitivos em programas pela USP demonstra o seu apoio a jovens investigadores. Entre as iniciativas de longa data, a Universidade incluiu esses pesquisadores nos seus comitês de investigação, ou seja, deu-lhes direito a voto. Estas iniciativas evidenciam o compromisso da USP para capacitar os investigadores emergentes, reforçando o seu papel como catalisadora do crescimento acadêmico e científico e promovendo a próxima geração de líderes científicos e educativos.

Preface

Carlos Gilberto Carlotti Junior, rector of USP

It is my pleasure to write the foreword for these works, which are the result presented by our researchers during the conference "The Role and Perspectives of Postdoctoral Research in Brazil." These four books represent a record of the importance of interdisciplinary collaboration among our postdoctoral fellows in addressing global challenges and fostering new scientific discoveries–such as energy transition technologies, including the conversion of ethanol to hydrogen.

Today, USP has approximately 2,700 postdoctoral researchers pursuing academic activities in its Teaching and Research Units. The conference aimed to expand collaboration and promote integration among researchers from different fields, opening new horizons, strengthening ongoing projects, and encouraging the development of new studies.

Four books, the result of 350 oral communications and 1,200 posters, were presented at the congress, organized into thematic and multidisciplinary sessions, and addressed the challenges of humanity. Thus, the congress drew attention to the multidisciplinarity of research groups formed by highly qualified researchers. The event led to meetings and interactions among various scientific areas, including public and private sector policy makers.

The event aimed to promote greater collaboration and integration between researchers from different areas, open new horizons, strengthen ongoing projects, and encourage the development of new ones.

The program included six workshops dedicated to topics such as entrepreneurship, public health, and zero-carbon processes, as well as lectures by national and international researchers who addressed various topics, such as: "The Contemporary Crisis of Democracies and its Impact on Public Universities", 'Winters and Summers of Artificial Intelligence' and 'USP Contributing to the Medicine of the Future'.

The participating research groups, comprised of highly qualified researchers, presented 350 oral presentations and 1,200 posters, organized into thematic and multidisciplinary sessions, addressing challenges facing humanity. The event also provided important opportunities, such as meetings and interactions between a wide range of scientific fields, including public and private sector policymakers.

Also worthy of mention is the awarding of prizes in eight areas of knowledge – Agricultural Sciences, Biological Sciences, Exact and Earth Sciences, Health Sciences, Engineering, Human Sciences, Linguistics, Literature and Arts, and Applied Social Sciences – for works that were selected by three scientific committees, through a three-stage process, with the last committee being composed of members outside USP.

With the advent of the knowledge economy, the foundations of countries' economic development have undergone a profound transformation. Investing in science is the path developed nations have followed in their search for sources of deep knowledge, whose core is based on excellent research and innovation. In this new scenario, the role of academia as an essential actor in knowledge generation cannot be overlooked.

Close observation of science, research, and innovation ecosystems, in turn, reveals the enormous potential of postdoctoral researchers and their supervisors to accelerate a country's development.

The USP Postdoctoral Congress exemplifies the crucial role that postdoctoral researchers play in advancing scientific knowledge and innovation. The ability to take full advantage of new technologies depends on the human resources working in both academia and the private sector. A supportive and collaborative environment for postdoctoral researchers benefits the academic community and significantly contributes to the development of society.

Furthermore, the event was a valuable opportunity to bring together highly qualified individuals and institutions and their contributions to the advancement of science. The publication of this diverse and comprehensive collection of scientific texts strengthens the open and stimulating environment for conducting science for the benefit of all.

Presentation

Celia R. S. Garcia[1], Raul Gonzalez[2] and Arlindo Philippi[3]

Science, research, and innovation ecosystems are essential drivers of a nation's growth, and postdoctoral fellows are among the major drivers of progress in these systems. With the completion of their doctoral studies, these individuals occupy a unique position at the intersection of knowledge creation and application. They are the future leaders of the academic and business worlds and the pioneers who push the boundaries of what is possible. This vital role of the postdoctoral programs becomes visible at the University of São Paulo (USP), one of Brazil's leading academic institutions, which in 2023 had around 2,650 postdoctoral fellows. These professionals make up the vanguard of scientific research, contributing significantly to the university's reputation as a center of innovation and academic excellence.

The importance of the Post–Doctoral Program for research production and for expanding USP's intellectual vitality was highlighted during an important congress held from October 17 to 19, 2023. Entitled "O Papel e as Perspectivas do Pós-Doutorando no Brasil", the congress served as a platform to promote, discuss, and analyze the contributions of these academics to the university and the scientific community in general.

More than just a meeting of minds, it was a demonstration of the university's commitment to promoting a dynamic research environment that thrives on the contribution of these highly qualified individuals.

As a result of the congress, a four-volume book was produced, each summarizing the research presented during the event. These volumes contain the essence of 350 oral presentations and 1,200 posters, reflecting the breadth and depth of the research carried out by USP's Postdocs. The presentations were organized into thematic and multidisciplinary sessions, each designed to address some of humanity's most pressing challenges. This structure highlighted the diversity of research at USP and underscored the importance of multidisciplinary approaches to complex global issues. By bringing together researchers from various disciplines, the conference demonstrated how collaborative efforts

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1. Congress Organizing Executive Committee; Advisor to the Rector's Office.
2. Congress Organizing Executive Committee; Deputy Provost on Innovation.
3. Congress Advisory Council; Head of the Rector's Office.

can lead to holistic and practical solutions to the world's most pressing contemporary problems.

The conference also provided the opportunity to promote critical interactions between different stakeholders, extending their influence beyond the confines of academia. These interactions included engagements with political agents from the public and private sectors, essential for translating scientific discoveries into effective public policies and innovative products. These dialogues are crucial to ensure that the fruits of research are not confined to academic journals, but are used to drive progress and development in society.

One of the main objectives of the event was to strengthen interaction, collaboration and integration between researchers from different disciplines. This goal was not only to encourage teamwork, but also to open up new avenues of research, improving existing projects and catalyze the development of new ones. In an age when the challenges we face are increasingly interconnected and global, this interdisciplinary collaboration is essential. The most innovative solutions are born from the convergence of diverse perspectives and knowledge, through co-creation.

The conference program was rich in both content and diversity, featuring six workshops on topics of critical importance for the future. These included entrepreneurship, public health, and zero-carbon processes – areas that are not only at the forefront of current research, but are also crucial to tackling global challenges. The workshops, complemented by lectures from national and international researchers, brought a wide range of perspectives to the discussion. Topics such as "The Contemporary Crisis of Democracies and its Impact on Public Universities", "Winters and Summers of Artificial Intelligence," and "USP Contributing to the Medicine of the Future" provided participants with an in-depth insight into the direction of research and innovation. These discussions highlighted the fundamental role that institutions such as universities play in advancing knowledge and shaping the future of societies.

The conference also celebrated excellence across the academic spectrum. Awards were presented in eight areas of knowledge: Agricultural Sciences, Biological Sciences, Exact and Earth Sciences, Health Sciences, Engineering, Human Sciences, Linguistics, Letters and Arts and Applied Social Sciences. The rigorous selection process for these awards, which involved three scientific committees, the last one was formed by members from outside USP - ensured that the most outstanding contributions to science and research were recognized.

The history of science is full of fundamental scientific studies that have led to practical applications over time. To make clear the connection between science

and societal benefit, let us mention the discovery of two molecules, Bergenin and Aequorin.

Bergenin, a molecule extracted from the *Endopleura uchi* plant, is found in several species native to the Amazon and has medicinal uses. The compound Bergenin is approximately 4,400 times more expensive than gold by weight, according to the Sigma–Aldrich catalog in 2024. Besides, gold extraction is often associated with socio–environmental issues in the same region.

The contributions of Osamu Shimomura, Martin Chalfie, and Roger Tsien were recognized with the 2008 Nobel Prize in Chemistry. In the United States, in the 1960s, Osamu Shimomura dedicated himself to studying the phenomenon of bioluminescence in the jellyfish *Aequorea victoria*. After purifying the extracts from these marine animals, he isolated a protein called "aequorin". Shimomura also discovered another protein that exhibited green fluorescence, Green Fluorescent Protein (GFP). Aequorin emits blue light, but if GFP is present, green light is produced. Douglas Prasher showed that the protein was fluorescent in the nematode *Caenorhabditis elegans* and the bacterium *Escherichia coli*. GFP can be seen as a light source, supporting various applications of GFP as a biological marker. GFP can track multiple molecular and cellular processes when linked to different proteins and expressed in cells. Consequently, GFP has been used in thousands of advanced biological and medical sciences studies. Roger Tsien's group described the structure of GFP, developed fluorescent proteins of different colors, and developed several tools to monitor cellular functions.

As nations strive to achieve sustainable development and tackle global challenges, the contributions of these researchers, with their respective supervisors, demonstrate their relevance to shaping a brighter and more innovative future. The event served as a reminder of the transformative power of research and the need to continually support and nurture the ecosystems that make this progress possible.

USP's Commitment to Young Researchers

Celia R. S. Garcia, Raul Gonzalez, and Arlindo Philippi

The Postdoctoral Congress at the University of São Paulo (USP) is a relevant event that brings together scholars from various academic disciplines. With 1,233 registered participants, this congress was a vital forum for academic exchange, allowing postdoctoral researchers to present their findings, collaborate with peers, and engage in interdisciplinary discussions. The following sections provide a breakdown of participant demographics, thematic focus, and notable achievements from the congress.

The congress saw participation from various units across USP, both from the capital and interior campuses. The Faculty of Philosophy, Letters, and Human Sciences (FFLCH) had the highest number of registrants, 158 participants. The School of Medicine (FM) and the Polytechnic School (EP) followed with 72 and 67 participants, respectively. Other units with significant representation included the Institute of Biomedical Sciences (ICB) and the Institute of Advanced Studies (IEA), with 59 participants each (Figure 1).
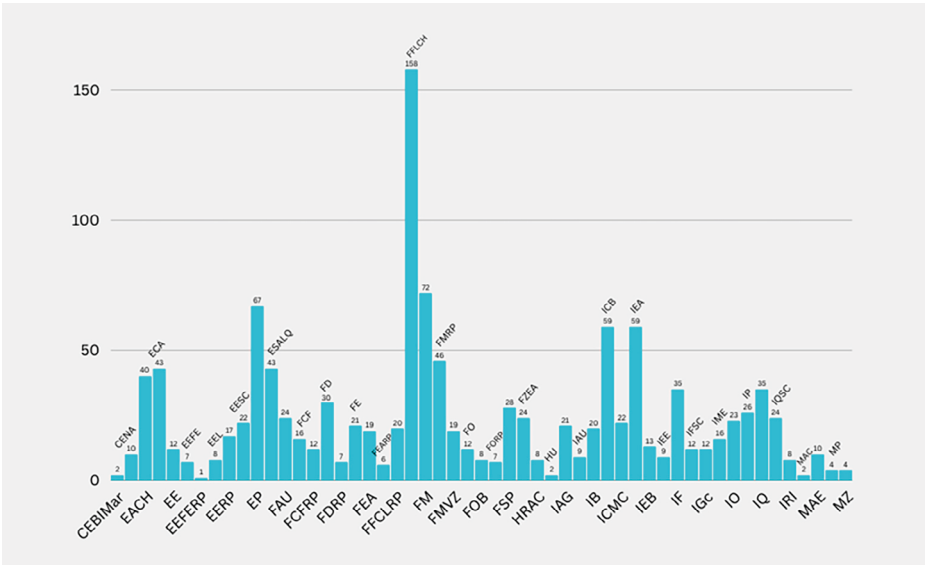

Figure 1 – Percentage of distribution of Postdocs registration per USP Schools.

Of the 1,233 registrants, 627 were women, and 580 were men, highlighting a relatively balanced gender representation among postdoctoral researchers at the congress (Figure 2).
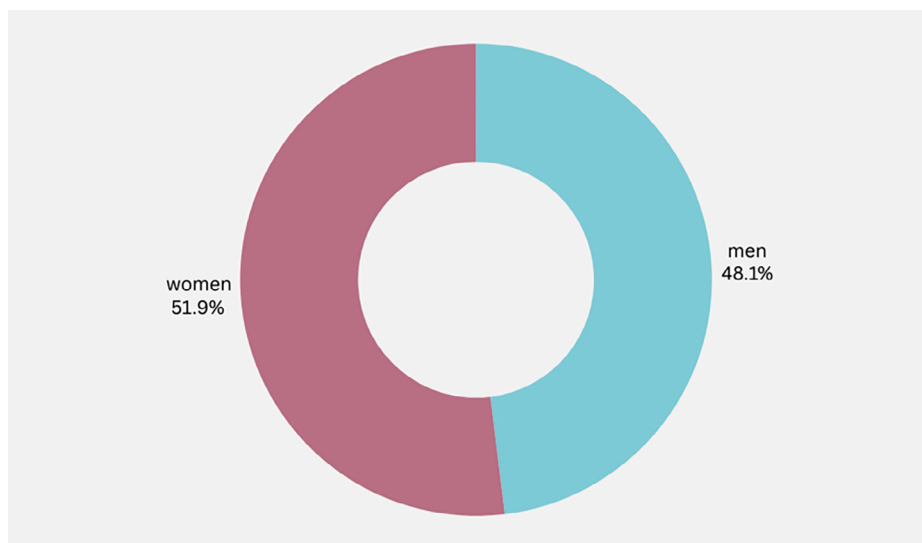

Figure 2 – Percentage of Postdocs by gender distribution of registrants.

To ensure that researchers from outside São Paulo could attend the congress, the university provided financial assistance for travel and accommodation. Of the 143 individuals who applied for travel assistance, 108 were granted. Most participants (925) came from USP's capital campi, with 308 from the interior campi. Nineteen participants identified themselves as having disabilities or reduced mobility, and the event organizers made necessary support services available to all participants.

The congress attracted researchers from a wide range of academic areas. The Health Sciences field saw the highest participation, with 374 registrants, followed by the Exact Sciences with 205 presentations, Humanities with 204 presentations, Environmental Sciences with 190, and Culture and the Arts with 136. Other notable fields included social sciences (166), engineering (108), and biological sciences (155) (Figure 3).
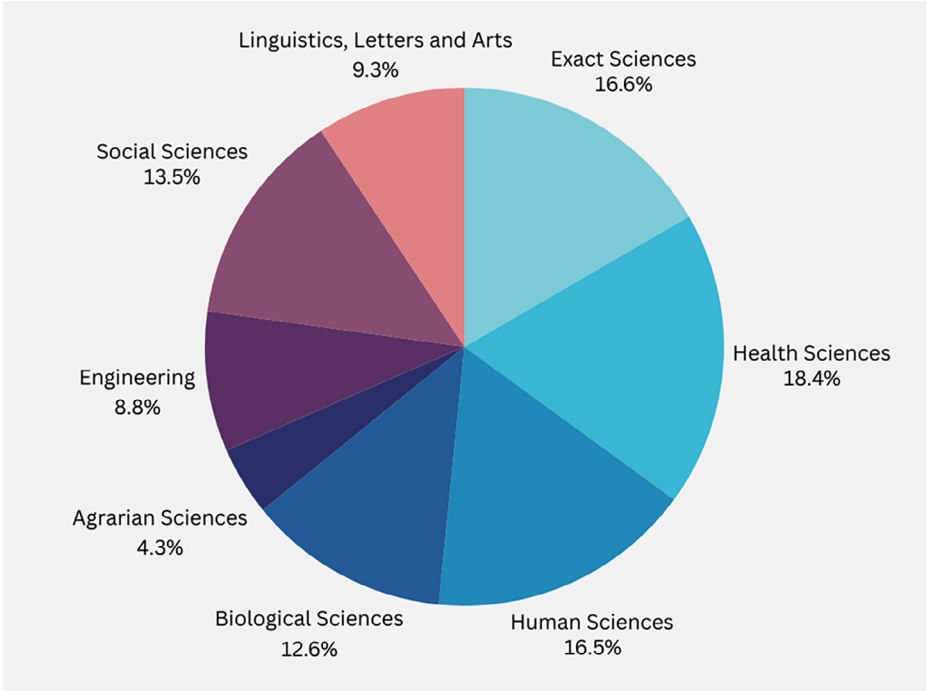

Figure 3 – Distribution of postdoc registrants by area.

The presentations were clustered around current global challenges and revealed the interdisciplinary nature of the themes and the research conducted at USP. A total of 383 abstracts were selected for oral presentations. These works were divided among the various disciplines, with the Exact Sciences (65) and the Humanities (64) leading the way. Health Sciences, Biological Sciences, and Social Sciences also had a strong presence, with 61, 51, and 47 oral presentations, respectively (Figure 4).
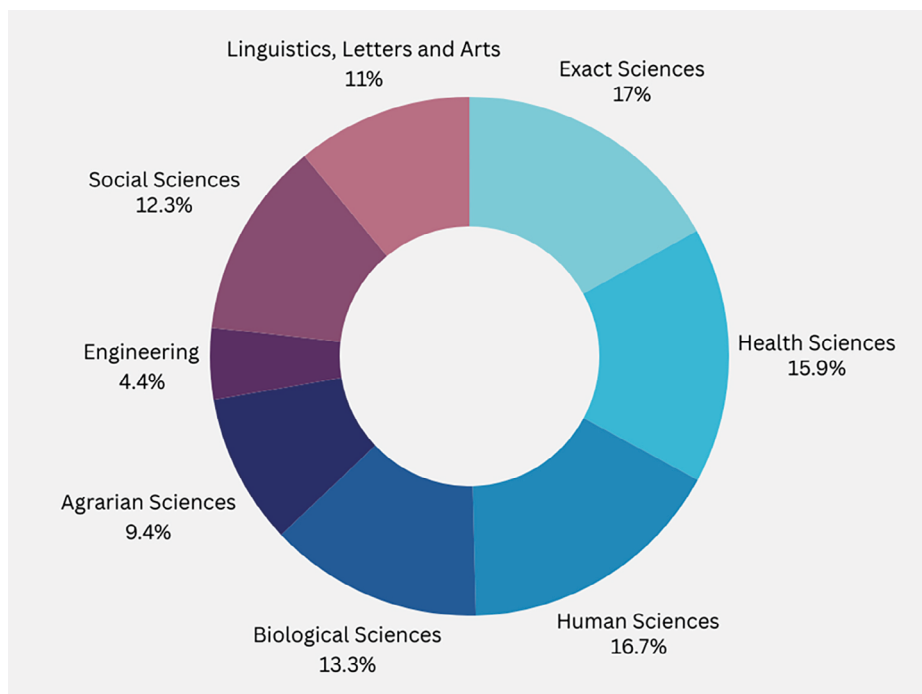

Figure 4 – Percentage distribution of oral presentations across different fields.

Eight postdoctoral researchers were recognized for their outstanding contributions to their respective fields. These individuals were awarded the Postdoctoral Prize. The awardees were selected from eight areas that reflect the broad scope of research excellence at the congress. The awardee was **Agrarian Sciences**: Flávia de Oliveira Scarpino Van Cleef for her work on reducing methane production from ruminants. **Biological Sciences**: Mateus Vidigal Castro, for his research on natural resistance to COVID-19. **Health Sciences**: Marlón Juliano Romero Aliberti, for his study on the long-term effects of COVID-19 in older adults. **Exact Sciences**: Hugo Luiz Oliveira, for his work on the mathematical modeling of the Wheatley heart valve. **Human Sciences**: Fabiana Barbi Seleguim, for her research on climate governance and human rights. **Social Sciences**: Joana D'Arc

de Oliveira, for her study on black memories and social justice. **Engineering**: Raissa Antonelli, for her research on water purification using electrochemical reactors. **Linguistics, Letters, and Arts**: Cynthia Agra de Brito Neves, for her research on literary literacy in school slams.

On the same line, USP supports several postdoc fellowships: the Academic Management Formation Program, 35 fellowships; Thematic Axis Program, 16 fellowships; Environmental Management Office, 36 scholarships; and the Program for Managing Innovation, nine fellowships in two key programs. A total of 96 scholarships, with monthly incomes compatible with FAPESP postdocs fellowships values, were financially supported by the university. These researchers were selected through a very competitive call for applications. These initiatives highlight the investment that the University is considering the young researchers.

The University of São Paulo (USP) is dedicated to advancing the careers of young researchers. Through initiatives like the Postdoctoral Congress, USP provides a dynamic platform for interdisciplinary collaboration and recognition of research excellence. With over 1,200 participants, the congress encouraged knowledge exchange across diverse academic fields and awarded outstanding postdoctoral researchers for their achievements. Moreover, USP's allocation of competitive fellowships across programs demonstrates its support for young researchers. Among long-standing initiatives, USP included them in university research committees, giving them voting rights. These initiatives highlight USP's commitment to empowering emerging researchers, reinforcing its role as a catalyst for academic and scientific growth, and fostering the next generation of scientific and educational leaders.

Sumário

CIDADES

Effectiveness in public purchases: implementation of e-marketplace through accreditation

Alisson C. de Alencar[1]

and Luciano V. de Araújo[1]; Ana C. Bliacheriene[1]

The present work defends the use of accreditation in public procurement through the implementation of an e-marketplace system in Public Administration. This possibility is built from the innovations promoted by the New Bidding Law, notably regarding the regulation of accreditation and the creation of the National Public Procurement Portal (PNCP). To this end, thetheoretical, legal and judicial foundations that authorize this hypothesis will be investigated, as well as (i) the advantages provided and (ii) any obstacles that this model could provide in terms of efficiency and economy of acquisitions in administrative bodies and entities.

1. Escola de Artes, Ciências e Humanidades da USP.

Parque dos Ferroviários: from landscape design to public use

Lucas M. de Oliveira

and Reinaldo T. B. Pacheco

The research intends to develop an investigation about the process of creation of the Parque dos Ferroviários, in Araguari-MG. It is based on an international comparative perspective is based on an international comparative perspective. So far, two cases that are similar to Parque dos Ferroviários have been identified: McCormick-Stillman Railroad Park (Scottsdale, USA) and Magyar Vasúttörténeti Park (Budapest, Hungary), whose analyzes are in progress. The first, McCormick-Stillman Railroad Park, was created in 1975 as a railway-themed amusement park with train rides set in the "Old West". The second, Magyar Vasúttörténeti Park, loosely translated to Hungarian Railway Park, consists of an area that was originally deactivated, comprising a maneuvering yard and workshops, currently museum spaces, especially for locomotives. Reflection on the city based on a theme park perspective leads directly to the idea of the theme park and the sociological concept of "disneyzation or disneyfication" (BRYMAN, 2004). The theme park, whose theme here is history, offers a new modality to solve places considered degraded. It is questioned whether tourism promotion actions aimed at consumption tend to transform the value of public spaces into exchange value, surpassing the use value of promoting citizenship. Transformation resulting from the scaring away of local residents and the crowding of tourists capable of consuming what is on offer. The railroad was the characterizing element of the space, which, however, no longer depends on it. The creation of Parque dos Ferroviários seeks strategies for the continuity of the space, now as urban heritage. Upon finding its current vocation, leisure and tourism are structural for its survival. Railway history, when used as a basis for a theme park, is a strategy that must be meticulously worked on, in order to contemplate the current expectations of society, which finds points of contact with everyday and immaterial interests. The preservation of architecture in itself does not guarantee everyone's interest, no matter how significant the existing examples are.

Touristic communication practiced by the public authorities: convergences, strengthening hospitality, and enhancement of intelligences

Moabe B. F. Costa

The research advocates for tourism communication as a public policy to promote sustainability and foster collaboration among governments, businesses, and citizens. This requires content and strategies focused on promoting a healthy quality of life, socioeconomic development, responsible use of nature, tourist satisfaction, and attracting investors. These are signs of hospitality. When being mediatized, they stimulate thoughts and consciousness, producing new knowledge that, when converted into actions, enhances local intelligences, creating a self-poietic system. Pursuant to subsection XXXIII of Article 5 of the Brazilian Constitution (which deals with access to information), we reflect on public tourism communication as a fundamental right that should be regulated. Therefore, our objective was to draft a bill that "Establishes conditions and requirements for the creation of the Tourism Communication System in the State of São Paulo". The SCT-SP bill addresses content, languages, implementation conditions, functions of the state government, destinations, and service providers adhering to the system. To validate our thesis, we developed the Paranapiacaba Sociodigital – an operational plan for the implementation of the bill in the village of Santo André municipality. The plan is connected to the Touristic Regions Map of the State of São Paulo and involves informative, advertising, educational, and interactive actions in digital, printed, electronic, alternative, and social environments. To demonstrate the SCT as a promoter of sustainability, we included it in a governance process that articulates socioeconomic development with responsible use of nature, following the UN's 2030 Agenda. The effort resulted in the Hospitality Trails Project, which is interdependent with the Paranapiacaba Sociodigital. We worked in a transmethodological manner, involving students from the Leisure and Tourism course at EACH-USP, meetings with managers, studying the environment through the analysis of tourism memory, documentary and bibliographic research, and relating theories of hospitality and communication. The research defines six dimensions of public tourism communication – institutional, political, internal, social, technological, and market-oriented – recognizing it as a fundamental, uninterrupted, and legalized service. The system interfaces with state and federal devices, contributing to the development of a smart destination and fostering tourism citizenship.

IDEIAGOV: análise de uma experiência prática

Ralfe O. Romero

and Ana C. Bliacheriene

A Lei Complementar n. 182/2021, também conhecida como Marco Legal das Startups e do Empreendedorismo inovador consagra em seu artigo 3º, inciso VI, como um dos seus princípios e diretrizes o aperfeiçoamento de políticas públicas e dos instrumentos de fomento ao empreendedorismo inovador. Ocorre que passados quase dois anos de sua promulgação a Lei é muito pouco ou subutilizada. Esta investigação tem como objetivo realizar um estudo de caso do IdeiaGov, Hub de inovação aberta do Governo do Estado de São Paulo, promotor do maior programa de inovação em Governo no Brasil e maior programa em inovação aberta da América Latina, que promove Programas de Aceleração de Negócios de Impacto como Cidades Inteligentes, Sustentáveis e Humanas, os municípios participantes do Programa bem como as trinta startups participantes do último ciclo de aceleração. O desafio é identificar as razões, bem como os motivos, dos entes públicos não utilizarem a referida Lei para a Contratação Pública de Soluções Inovadores, acarretando um grande desperdício de tempo e dinheiro de todos atores do processo, sejam startups, governo, academia, empresas, mentores stakeholders eis que os programas não atingem seu fim, se tornando sem efeito prático, sem a implantação das soluções inovadoras no governo que é o objetivo principal. Além disso, construir, testar e validar instrumentos que permitam que a administração pública possa contratar pessoas físicas ou jurídicas, isoladamente ou em consórcio, para o teste de soluções inovadoras por elas desenvolvidas ou a serem desenvolvidas em conjunto ou separadamente com ou sem risco tecnológico por meio de licitação na modalidade especial prevista na Lei Complementar nº 182/2021 ou seja o Marco Legal das Startups.

Socio-territorial aspects associated with the organisation of the Paris 2024 Olympic and Paralympic Games in *Seine-Saint-Denis*

Roberto P. Vico[1]

and Ricardo R. Uvinha[1]; Thiago Allis[1]

The proposal addresses the planning of Sport Mega-Events, with emphasis on the preparation of the Paris 2024 Olympic and Paralympic Games. It aims to analyse how the organisation and planning phase (pre-event) responds to the creation of value for the territory and society, in terms of impacts, future legacies and socio-territorial benefits related to the main social transformations and the urban and sports infrastructure on the occasion of the mega event, in particular in *Seine-Saint-Denis*. The relevance of this territory lies in the fact that *Seine-Saint-Denis* is the central locus of the infrastructure facilities where the games will take place, but this territory is historically marked by deep contradictions and paradoxes. The methodology fundamentally consisted of an analysis of information concerning the organization of the mega event. The research was of qualitative nature and sought to understand a panorama of opportunities and risks, limits and disadvantages relative to the Paris Olympic Games. Thus, the study presupposes a combination of bibliographical, documental and field approaches, with data derived from semi-structured interviews with professionals aligned to the event, as well as leaders of *Seine-Saint-Denis* neighbourhood associations.

1. Escola de Artes, Ciências e Humanidades da USP.

Opportunities and challenges for the location of SDGs in Brazil: an experience of environmental policy decentralization

Rodrigo F. Mancini[1]

and Sonia R. Paulino

Incorporating SDGs into municipal plans and actions is not simply a matter of their inclusion of the colored logos pertaining to the 17 goals. The undertaking is more complex and the review of a number of stages in this process is essential for the improvement of the tools, the methodologies, and consequently, the reach, of the 2030 Agenda. In this In research, we analyze a practical experience of the environmental policy and location decentralization of SDG 6, from the Verde Azul (Green-and-Blue) Municipality Program, in the Greater ABC region, São Paulo State. The set of municipalities studied is located within the Metropolitan Region of São Paulo, in an area of many springs, which are extremely important for the water supply of a considerable portion of the population. Conversely, it also possesses an automobile industry presence as well as that of the Petrochemical Pole, both having a heavy environmental impact. The results point to the importance of a restructuring of the municipal public administration, in order to implement global agendas at the local level.

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1. Escola de Artes, Ciências e Humanidades da USP.

New narratives of organizational communication in a digital society: challenges and opportunities for the implementation of public policies for primary prevention in the area of public safety

Ricardo S. Barreto[1]

and Paulo R. N. de Oliveira

The research project aims to analyze Organizational Communication, the barriers of Organizational Communication, and advance contributions on the perceptions of communication narratives in the dissemination of primary prevention within the context of public policies in the area of Public Security. The asymmetry between the growing demands of social aspirations and the lack of resources from the State in providing services leads to the study of the construction and application of new Communication narratives on the potential of primary prevention for reducing conducive conditions or precursor factors of harm to human life and physical integrity, property, and the environment. The methodology involves a descriptive study to examine the level of perception, opinions, attitudes, and beliefs of the target audience, with a Hypothetical-deductive method, using as data collection techniques the bibliographic research of the main authors in the field of communication and field research with Survey to obtain quantitative information on the perceptions of military police and community leaders, available on the Google Forms platform. The research has the potential to bring a new perspective to break paradigms and inspire public policy actions that promote a better, more conscious, and empowered society.

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Data analytics' contributions to resilient and sustainable urban mobility

Camila M. Nakata-Osaki[1]

and Antônio N. R. da Silva[2]

This study aimed to investigate how data analytics is applied in studies on resilience and sustainability in urban mobility. We identified 24 resilience indicators in the mobility studies reviewed. These indicators were classified according to data analytics types (i.e., descriptive, diagnostic, predictive, or prescriptive) and the domains of sustainable urban mobility (i.e., accessibility, environmental aspects, social aspects, political aspects, transport infrastructure, non-motorized modes, integrated planning, public transport and traffic and urban circulation). The results showed that the domains "Environmental Aspects" and "Public Transport" were associated with various resilience indicators. Prescriptive data analytics was the predominant type, followed by predictive. In addition to describing and diagnosing a given situation, predicting a scenario and suggesting a course of action are common concerns of the reviewed studies. However, to achieve the sustainability of urban mobility, other sustainability domains have to be further explored in this type of study.

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A network of traffic lights for a more humane São Paulo

Edison de O. V. Junior

Cities need mobility for everyday tasks, so they need to move quickly and safely, guaranteed by the urban mobility management and signaling system, whose most active devices are traffic lights and their networks, their synchronization and ability to predict and adapt to new traffic demands. With pedestrian times more humane, more accessible and inclusive. The challenges for the traffic light network in the city of São Paulo are basically: 1. management that allows maintenance agility, low cost and real-time monitoring of equipment status, with a system that operates in redundancy; 2. power, electrical source, with UPS, utilities and solar panels; and 3. communication, in fiber, metallic pair or wireless network, such as LoRa system or cellular telephony; 4. and the biggest challenge, which is to coordinate vehicle traffic with that of pedestrians, cyclists and people with disabilities, giving priority to public transport, such as buses, and access to the subway and trains. But for that, it is necessary to describe the city's traffic lights through mathematical models that represent their operation, implementation and state, which adds knowledge and familiarity to technicians and operators of city traffic to these equipment and their demand, including the human being changing the priority for public transport and active modes. The basis of the modeling is Webster's models, which were published in 1958, allowing the ability of the equipment and the road to be related, and the distribution of times at the intersection, from there traffic research was merged with traffic light studies, such as the Greenshields model, which relates speed and traffic density, and regressions, Markov chains and queuing theory. But it is also possible to apply fuzzy logic, neural networks, artificial intelligence, and Big Data from data from the speed control system, which has at least 1300 sensors in the city. This work intends to propose studies of the systemic architecture of traffic lights, with energy, communication and mathematical modeling for coordination and adjustments of traffic lights networks in fixed time and in real time, through a review of historical references to the most recent articles, to raise which the most appropriate approaches to the city, its scale and its parameters, proposing a new approach to support the subsequent construction of algorithms and solutions to the problem posed in São Paulo of crossing times for pedestrians and cyclists, prioritizing collective and active modes.

Standardized indicators for sustainable, smart and resilient cities: an approach for data-driven government support

Iara Negreiros

and Alex Abiko

Numerous global agreements for sustainable development have emerged in recent years, led by the so-called Agenda 2030 and its Sustainable Development Goals – SDGs, which entails greater responsibility for cities to know themselves better in order to make appropriate diagnostic and management decisions. Technological solutions and the effective use of data are providing city leadership with new tools and opportunities for effective change. The ability to collect more and more data using low-cost devices enabled by the Internet of Things (IoT) provides the opportunity for data-driven government. Currently city data and indicator systems are presented by some cities around the world in the form of urban observatories, defined as institutions whose role is specifically focused on knowledge about urban settlements, playing an explicit monitoring role in terms of keeping a regular record of a range of urban issues. Therefore, the general objective of the postdoctoral research is to analyse the applicability of urban indicators standardized by ISO 37120:2018 – "Sustainable cities and communities – Indicators for city services and quality of life", ISO 37122:2019 – "Indicators for smart cities" and ISO 37123:2019 – "Indicators for resilient cities" in Brazilian cities, with a perspective to their use in urban diagnostics and observatories, aligned with premises of data-driven government. Using the methods of bibliographic review and bibliometric analysis, comparative analysis and case studies, the main result of the research is the dissemination of the ISO 371xx series Standards in Brazilian cities. This dissemination and practical application of the Standards in the country provides an important alignment of Brazilian cities with the international discussion and vanguardism on the subject.

Guidelines for sustainable university buildings

Mayara R. Munaro[1]

and Vanderley M. John

The objective of these projects is to transform the University of São Paulo (USP) into a model of sustainable development for society, generating fair, equitable and scalable processes and solutions to respond to the climate challenges of a changing planet. This study seeks to promote a collaborative process that involves and elevates a diverse set of concepts and people to promote operational, educational, research, and innovation excellence on USP campuses. The guidelines raised here aim to establish USP as a national leader and international reference in the development of high-performance sustainable buildings, in line with the University's Sustainability Policy and with the vision focused on creating a healthier campus in line with the premises current decarbonization processes. These guidelines are also key tools for reducing greenhouse gas emissions associated with building operations, as they are applicable to both new and existing buildings. Buildings at USP must guarantee accessibility, well-being and safety to all users; adopt constructive systems and technologies that provide efficient use of resources and minimization of waste; associated with a justified cost, which considers the stages of the life cycle of the building. Sustainable buildings at USP will contribute to people's quality of life, to the quality of teaching and research at the University, and consequently, to the formation of a more sustainable society. This project presents a theoretical and conceptual framework of requirements that must be considered in the design and construction of sustainable buildings. The assumptions and requirements adopted include discussions by a Multidisciplinary Technical Committee of the Polytechnic School of USP. The requirements are not conclusive and are far from covering the necessary technical detail, however, they are sufficient to provide an overview of sustainability in buildings. Based on this framework, it is expected to provide further discussions on the subject, aiming at the formation of specialized committees and a Sustainability Plan aimed at USP buildings.

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A People-Centre Life Cycle Approach

Construction costs
Operation costs
Maintenance costs
Adaptation costs
End-of-life / deconstruction

Belonging
Accessibility
Functionality
Well-being
Safety
Health

Is the new building the best solution?
Concurrent project
CO_2
Energy
Water
Waste
Toxicity
Circularity
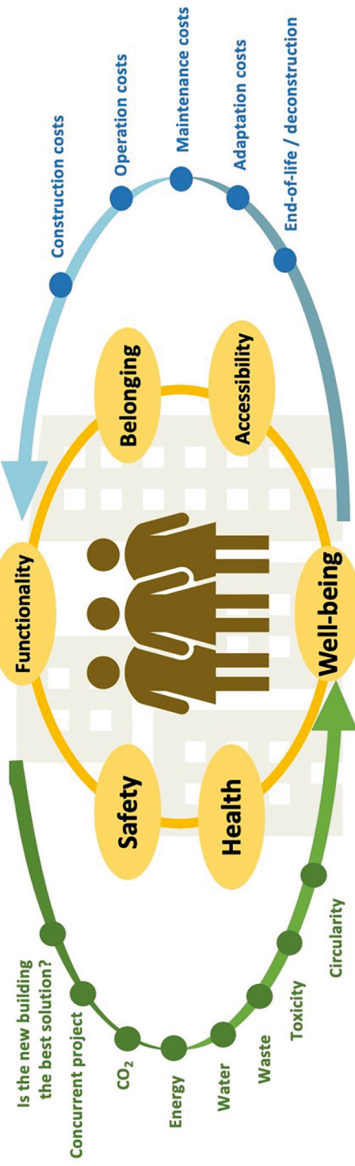
Innovation in concepts

1. Construction impacts environment: Minimize new construction
2. Buildings are made for people
3. Environmental impacts and costs must be minimized
4. Buildings are opportunities to demonstrate "USP solutions".

Process innovation

1. Establish environmental goals and guidelines for building design
2. Procedure to establish building requirements
3. Adopt simultaneous design & multidisciplinary team
4. Contract design and construction with a techno-commercial bid

Big Data Analytics aplicado aos parâmetros de vagão instrumentado e carro controle no apoio da gestão de manutenção de via permanente

Osvaldo G. Sobrinho[1]

and Liedi L. B Bernucci[1]; Pedro L. P. Corrêa[1]; Rosângela Motta[1]; Wellingthon D. de Queiroz[1]; Jeaneth Machicao[1]; Angelo S. Junqueira[1]; Thales C. G. de M. e Silva[1]; Luciano Oliveira[2]; Luciano Cassaro[2]

A pesquisa objetivou a implementação de ferramentas de *Big Data Analytics* (BDA) para a análise dos dados obtidos na via permanente da Estrada de Ferro Vitória–Minas (EFVM), operada pela Vale S.A., visando à otimização da gestão de inspeção e manutenção da via. A metodologia envolveu a análise do grande volume de dados obtidos pelo Carro Controle (CC) e Vagão Instrumentado (VI), veículos que percorrem regularmente a EFVM. Com um conjunto de sensores, coletam dados que refletem a dinâmica veicular em função das condições da via (VI) e sua geometria (CC). Utilizaram-se ferramentas de BDA e inteligência artificial para identificação de pontos que demandem ações de manutenção preventiva. Utilizou-se o método de clusterização dos resultados obtidos, por meio do algoritmo *k-means*. Em paralelo, buscou-se correlacionar a evolução dos *clusters* com o registro de eventos de maior severidade anotados pelas equipes de manutenção da Vale. Este registro é preenchido manualmente e apresenta incorreções gramaticais e falta de homogeneidade. Um *software*, baseado em processamento de linguagem natural (NLP), desenvolvido pela equipe tornou a classificação dos registros satisfatória, o que permitiu a geração de índices de severidade atribuídos aos pontos da via. Em paralelo, desenvolveu-se um *framework* para armazenamento, gerenciamento, administração e visualização dos dados.

1. Escola Politécnica da USP.
2. Vale S.A.

New architectures and technologies for Sistema Autenticador e Transmissor

Vidal A. Z. C. Melo[1]

Conceived by Vidal Augusto Zapparoli Castro Melo in his doctoral thesis, the Authenticator and Transmitter System (SAT) is a technological model of automation and process control for smart cities, guaranteeing the authenticity and integrity of fiscal documents, regardless of network instabilities. Its concepts were adopted by the fiscal authorities of São Paulo and Ceará, simplifying the electronic registration process by retailers and contributing to the stimulation of fiscal citizenship. The SAT began to be used by Federated Units, legitimizing the Electronic Fiscal Coupon issued by it as a nationally valid fiscal document. Since 2014, it generates more than 15 million transactions daily just in São Paulo. Over the years, SAT has proven to provide security to the Treasury, accumulating more than 20 billion transactions and demonstrating to be a model capable of handling infrastructure instabilities. Transparency and fiscal security impact society, allowing policies to identify tax evasion and promote a fair market. SAT was thus born in academia, went through a maturation process, and materialized in practical implementations. Its developments were made available in the public domain, without restrictions. Despite eight years of practical application, the research still generates academic and market interest. In the last edition of the Mobile World Congress (2022), the need for open standards to address cybersecurity issues was pointed out, something that SAT does. In addition, the application of its concepts has resulted in significant publications. However, since its launch, the technical implementation of SAT has not evolved. New technological fronts like Blockchain, Post-quantum Cryptography, and 5G, can transform existing implementations. Post-doctoral research aims to propose and analyze new architectures and technologies for SAT, aiming to update its model and broaden its benefits to society.

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1. Escola Politécnica da USP.

Social and economic Piracicaba Metro Observatory: production of indicators and data analysis

Cristiane Feltre[1]

and Eliana T. Terci[1]

The objectives of this post-doctoral project are to analyze the demands of Piracicaba Metro considering the public functions of common interest, construct a discussion and analysis group of public policies, and, as a consequence, propose public policies according to the characteristics of the region. The production of the observatory is located on the website of the group (Piracicaba Metro Observatory – https://sites.usp.br/oes-rpm/) in the form of scientific and technical papers, data, and indicators. The main topics studied by the researchers are related to social vulnerability, employment, trade balance, companies opening and closing, urban mobility, and others. All the bibliographic production has been shared with regional media, municipal secretaries, public managers, and mayors. The collection, organization, and processing of the economic and social data of the cities that are part of Piracicaba Metro have been a great informative tool to public managers and also to the future Piracicaba Metro agency in the discussion on public policy decision-making. The observatory is also o source of information for regional media, students, researchers, and organizations of private interest, such as syndicates and associations.

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Cartographies of the pandemic

Aluízio Marino[1]

and Raquel Rolnik[1]

This project is connected to a research trajectory initiated in March 2020, which consisted of mapping the "space-time spread" of the pandemic developed by LabCidade - FAU USP. Maps are instruments that have been used for a long time in the fight against epidemics and public health problems, as well as in studies that relate health to the city, taking into account that the impacts of the same disease are different in the territories, relating to the existing socio-spatial conditions. With the development of computing and digital mapping technologies, cartography has acquired other functionalities and potentials and can be used to monitor a large number of territories in an even more agile way and subsidize just-in-time actions that directly affect the places where the situation, in at a given moment, it is more serious or deserves special attention. The territories in the city react differently to the pandemic, not only due to the existing infrastructure and physical resources, but also to the socio-spatial organization of the populations that inhabit them. During the pandemic, community organizations, movements and collectives began to organize and implement protection and care actions based on solidarity networks. Including mobilizing their own cartographies to question official data and fill gaps in State action Taking into account the power of cartography to face epidemic outbreaks in cities. The main objective of the postdoctoral fellow is the consolidation of a cartographic methodology from a multiscale perspective that mobilizes geographic information tools and experimental or community methods, such as collective mapping and social cartography. This methodology can be used by public institutions and local organizations: (i) to monitor and support prevention and control strategies for new waves of COVID-19 or new epidemic outbreaks; (ii) to identify territorialized impacts of the health crisis and thus subsidize the design of recovery policies and actions that dialogue and influence more effectively with those affected; (iii) to subsidize the design of territorialized public policies and actions, in a participatory way, that respond to heterogeneous needs.

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[1]. Faculdade de Arquitetura e Urbanismo da USP.

Urban rehabilitation for housing needs: building bridges through the lens of sustainability and co-production

Julia A. Moretti[1]

and João S. W. Ferreira

The proposed research plan aims to analyze public policies for the renovation of old buildings in the context of urban areas of large cities that are undergoing a process of degradation, exploring the public policies adopted in Brazil and Portugal, with emphasis on the actions adopted in the cities of São Paulo and Porto. It is intended to investigate the convergence of two legal regimes, urban rehabilitation and housing, guided by the principle of urban sustainability, which is one of the main objectives of actions adhering to the new international urban agenda, and from the perspective of co-production. For this purpose, the investigation combines two dimensions, one of a more normative nature, to understand the differences in the legal regime of rehabilitation in its intersection with the specific intention of housing, in particular regarding the strategies that have been adopted in both countries. On another front of analysis, the investigation will seek to understand the concrete results obtained in serving the most vulnerable population in large cities, valuing social capital and existing social technology. In this regard, the intention is to look at rehabilitation as part of an effort to improve security and access to housing, analyzing the capacity of public policies to build solutions that can reduce vulnerabilities and overcome inequalities while legitimizing collective actions and practices in concerted dialogues with the most vulnerable population, its technical and legal assistance and with the University, through the development of common projects and in a cooperation regime.

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1. Faculdade de Arquitetura e Urbanismo da USP.

Collective housing, urban form and evaluation

Marcos L. Rosa[1]

and Leandro Medrano

In recent years in Brazil, an unprecedented amount of housing units have been deployed as a result of the Program *Minha Casa, Minha Vida*. The context of a real estate boom and accelerated economic growth allowed the federal government to implement programs of great magnitude, directing unprecedented volume of housing subsidies for the lowest-income population group. However, this increase in housing construction has raised concerns as the quality of projects and their integration into urban areas were not given priority, leading to criticism from the specialized literature. The investments largely overlooked the need for improvement in ongoing spatial socio-political processes that have been organized for decades since the redemocratization and urban reform. Consequently, the adopted dominant approaches became the very cause of significant impact in the city, characterized by the absence of a coherent urban vision and project, as well as the low quality of architecture. This has resulted in spaces lacking social significance and territorial integration. In this context, the issues related to collective housing in Brazil highlight the necessity to reconsider the prevailing modes of spatial configurations, presenting an opportunity for intervention in the urban space to address the social, political, and economic realities associated with their production and utilization. Therefore, this research has undertaken a mapping of diverse experiences and an analysis of a selected set of five collective housing projects in the national scene that offer alternative solutions to the prevailing trend of housing segregation in the country. By comparing these experiences, the study aims to identify theoretical and methodological convergences among them. Consequently, by focusing on their social and spatial practices, we contend that this study reveals new perspectives and disciplinary paradigms for understanding and intervening in Brazilian cities, contributing to the improvement of housing architecture and its urban spaces, to overcome structural problems.

[1.] Faculdade de Arquitetura e Urbanismo da USP.

Identification and analysis of counter-hegemonic projects

Mariana M. W. Chagas[1]

and Luiz Recaman

The research aims to develop investigative methodologies and tools to identify counter-hegemonic content in architectural production, whether in conceptual and disciplinary structuring, design strategies, or spatial patterns resulting from these actions in the territory. The work has resulted in two distinct fronts so far: 1) a theoretical-methodological framework that is critically being examined to identify axes for analyzing the relationship between architecture and socio-spatial processes; 2) a set of Latin American case studies, allowing for a comparative perspective on projects that address social and urban issues that demand highly complex responses from Architecture and Urbanism (A&U). The development of the research required an investigation into the "meaning of the possibilities of counter-hegemony in architecture." This reflection led to an article with this title, published in Vírus magazine, issue no. 24 (2022), presenting the foundation for the development of parameters to investigate the critical-theoretical and practical possibilities of formulating strategies in Architecture and Urbanism that enable "reacting at different levels to the impositions of the destructive social logics of the contemporary world." The case studies, which will serve as the basis for a spatial analysis of empirical objects, have already undergone an initial effort of systematization with the assistance of undergraduate research assistants. A survey of publications and digital platforms on contemporary architectural production was conducted in Brazil, Colombia, Mexico, Chile, and Argentina. Over 1000 projects were reviewed to select and produce approximately 50 technical profiles for those considered most significant for the purposes of this study in the five analyzed countries.

1. Faculdade de Arquitetura e Urbanismo da USP.

Bem comum: alternativas e possibilidades para a cidade e a habitação brasileira do século 21

Ana R. C. Cavalcanti[1]

Este artigo apresenta alternativas e possibilidades para a construção da cidade e da habitação com o bem comum (e com bens comuns), para abordar a crise urbana das cidades brasileiras do século 21: acometidas pela escassez de recursos naturais, pelo decrescimento econômico, pelas desigualdades sociais, e pela falta de moradia digna e vida coletiva, a partir da reflexão crítica e análise do material didático produzido e ensinado durante o curso "Aprendendo com os Bens Comuns: Habitação para uma Revolução Social Urbana" e das suas atividades didáticas, que foram decorrentes do programa de Atração e Retenção de Talentos da USP, e ensinado durante os anos de 2021 e 2022 – uma iniciativa pioneira de ensino interdisciplinar sobre o tema, na Universidade de São Paulo, decorrente desta pesquisa.

Experimental chromatic design methodology for renewable urban areas using Augmented Reality technology

Anamaria A. Rezende[1]

and Clice T. S. Mazzilli[1]

Color, in addition to complementing the set of information captured by the eye and informing us about the spatial organization of the environment through the play of contrasts, values, saturation, tones, masses, and proportions, is one of the forms of expressive identity in the urban public space (Lenclos (1982, 2004); Boeri (2011), Petit., Siret. et Simonnot (2018)). The aim is to present and discuss the methods used to arrive at a chromatic palette based on the understanding of these dominant factors and their forms of representation, both for the studies of their application in that space and for the final presentation to the users of the staircase, using Augmented Reality (AR) technology since "AR keeps the user in their physical environment and brings the virtual environment to the user's space, allowing interaction with the virtual world in a more natural way, without the need for training or adaptation" (Kirner & Tori, 2006, p. 29). The methodology will be based on the development of a creative and tactical placemaking project, with the objective of assigning or reclaiming a sense of place and belonging, contributing to the materialization and visibility of its identity. Some authors suggest methods of analysis and interpretation of an urban space in terms of its colors (Lenclos (1982, 2004); Boeri (2011), Petit., Siret. et Simonnot (2018)), to understand the dominant colors of each location. The proposed chromatic intervention – as an experimental project – will take place in a public space in Jardim Ruyce, Diadema, SP/BR, specifically a staircase–passage. This type of action is classified as a creative and tactical placemaking action – "artistic intervention projects that involve the place, the community, the activity, and the meanings involved" (PPS, 2012). The project was structured in 5 phases (HANINGTON, MARTIN, 2012; KUMAR, 2013; FRIIS, 2015), and the first four followed the stages proposed by Friis (2015) in their collection of Co-creation Cards: Collection, Understanding, Concept, and Creation. Finally, a fifth phase, Verification, was included, which involves the prototyping (HANINGTON, MARTIN, 2012) of the chromatic project in Augmented Reality.

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1. Faculdade de Arquitetura e Urbanismo da USP.

Remote sensing in urban areas: linking urban warming with city life

Daniela R. Werneck[1]

and Denise Duarte

Cities are at the center of the discussion about the global climate emergency, since they concentrate more than half of the world's population, making urgent plans for mitigation and adaptation to climate change, in the current and future scenarios. The combination of extreme events of larger scales (such as heat waves), with phenomena related to urban climate affects people's health and well-being, productivity, and energy consumption. To this end, the objective of this proposal is to relate patterns of urban morphology in the City of São Paulo with spectral indices obtained by remote sensing, including land surface temperature, vegetation index, and humidity index to support climate adaptation actions at the scale of urban design. Thus, it is expected to capture the different climatic responses in the intra-urban space through exploratory analyses of spatial data to understand the negative consequences of the effects of urban warming concerning city life, especially in open public spaces such as the axes of active mobility. Thematic mappings of the exploratory analysis and the distribution of the values of the spectral indices in the urban area were produced. As the urbanization process continues to expand, it is important to understand itssocio-environmental impacts and the role that spatial planning strategies and theregulatory framework can play in this realm.

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1. Universidade de São Paulo.

A political economy of the Large Urban Projects

Laisa E. M. Stroher[1]

The investigation is based on a critical analysis of a set of emerging urban instruments in the city of São Paulo aimed at promoting Large Urban Projects (LUPs), through the Urban Intervention Projects (UIPs), an urban restructuring mechanism approved in 2014 by the Master Plan of São Paulo. The aim of the study was to elaborate a political economy of these initiatives, based on the study of their modeling (urban and financial) and the roles played by the State, real estate and financial agents. The research pointed to the existence of 17 UIPs at different levels of elaboration, and indicated the presence of new private actors different from those who traditionally promoted LUPs in previous periods, including international agents unrelated to the real estate sector, an increase in the types of roles fulfilled by the private initiative in the implementation of these interventions, a greater involvement of supra-municipal levels of government and a diversification of state institutions as proponents of the LUPs (with the presence of agencies unrelated to urban planning), in addition to a diversification of public goods used as attractions for the private initiative to carry out the intended real estate transformations. This scenario points to a complexification of trends of commodification and financialization of the social production of space through urban planning, increasing the challenges of thinking about an urban agenda guided by the use value of the city.

1. Faculdade de Arquitetura e Urbanismo da USP.

Society and form: thinking and project for social housing

Lizete M. Rubano

The perspective that has structured our investigation, has been to rescue some of the questions posed by the thesis (Project culture. A study of the ideas and proposals for collective housing, presented to FAUUSP at 2001) plus those that formed the first project presented to this postdoctoral stage. In the doctorate cited, what was put was the recognition that theoretical conceptions, design practices (project praxis) and the way in which housing territories are realized in cities, would conform – considering the historical density – what we called "project culture" or a set of knowledge incorporated in the design proposition in which all the previous production appears as a stage and moment of a possibility or criticism in face of the contemporary issues. At the initial research project, presented to the post–doc, we pointed out the interest at architect Héctor Vigliecca work, considering the field of collective housing, as a possible way of working in the search for a meaningful relationship (with meaning) between the "social content and the spatial forms" (SANTOS: 2012, p. 109). In addition to the so–called "project culture", we are now interested in how the theses – theoretical and spatial – were constituted since housing was seen as a right and demand of public policies until today, when many of the experiences can already be seen as references and it is already possible to identify where we advance with the theoretical contribution and with the design making. The moments of inflection, in which advances were perceived, analyzed, and recorded by the bibliography, form a referential panel that goes beyond the so – called "good practices", pointing to structural themes of the confrontation between space, aesthetic dimension and social impasse (ARANTES:2000, p.14). In this sense, the history of social housing in Brazil could be punctuated by some of these moments, which will be better qualified throughout the research. To these "inflections" must be added others in which one can advance, from the disciplinary point of view, in the conception of housing, touching on what MARICATO:2011 will announce as an exceptionality: "Critical thinking about precarious housing was one of the rare moments of intellectual adherence to the urban reality in Brazil. In this sense, it was original, changed paradigms, nurtured the utopia of building an inclusive and innovative urban policy. (MARICATO: 2011, 163)."

Method for the design of natural ventilation systems with focus on thermal comfort and energy consumption reduction for Brazilian residences – VentConBR

Luciano C. de Faria[1]

and Marcelo de A. Roméro

This research evaluates the potential for natural ventilation (NV) systems for thermal comfort in residences for the different Brazilian climatic zones. The strategies combine personalized sizing of openings for NV single and assisted by a low-energy consumption mechanical fan operating in mixed mode (NV+) can provide thermal comfort and reduce hours with air conditioning (AC). The research methods comprised the use of both thermodynamic and computational fluid dynamics simulations coupled to a model for predicting the human thermal sensation, a tool (excel file) developed in this research, and literature review, and was carried out in a series of interrelated activities organized in six stages. To conclude, the use of the proposed solutions for NV+ presented in this work has the potential to increase the hours per year with natural ventilation and, consequently, impact on the reduction of hours with mechanical cooling in Brazilian residences, thus delivering neutral thermal comfort. In addition, the developed methodology and the demonstrated potential can be applied in other places in the world with similar hot and humid climates, promoting real socioeconomic impacts and on the health and well-being of individuals. Some results of this research were published in two indexed international journals, with two manuscripts being prepared for submission in 2023, and presented at two international seminars.

1. Faculdade de Arquitetura e Urbanismo da USP.

Climate governance, disaster risks and human rights in Brazilian cities

Fabiana B. Seleguim[1]

and Patrícia Iglecias[1]

Prêmio Pós-Doc USP

Changes in the Earth's climate and their adverse effects have brought economic, social, cultural and environmental consequences and have negative, direct and indirect implications for the effective promotion and protection of human rights and for the achievement of the 2030 Agenda for sustainable development, especially in the cities. The configured climate crisis and the risks arising from it threaten a series of human rights, including the rights to life, water and sanitation, food, health, housing, self-determination, culture, development and a healthy environment. In this article, we discuss it is not climate change itself that threatens human rights, but the lack of adequate political actions or their failure, mainly those aimed at mitigating greenhouse gas emissions, at increasing the capacity to adapt to the effects of climate change, as well as at building the resilience of vulnerable social groups. Our objective is to show how political adaptation measures can contribute to guarantee the effective promotion and protection of human rights in Brazilian cities, from a perspective of multilevel, multisectoral, multidimensional, multiactor and multicentric governance of climate risks. First, we explore aspects of governance to deal with climate risks as a guarantee of human rights. Next, we present how Brazilian cities have been acting regarding climate change adaptation and resilience. Finally, we deepen some relevant cases to think about human rights linked to climate risks in cities, in their potentialities and gaps. The presented results showed that in the Brazilian case, there is a lack of a convergent and articulated agenda for climate change between the different government levels. The cases presented show that international cooperation, mainly through transnational networks of municipalities, brought the climate issue to the municipal political agenda and boosted the climate change governance capacity of Brazilian local governments. Although the analyzed initiatives are of great relevance, they have a normative character, without a follow-up of social policies, that is, they lack to deal with the climate crisis in its multidimensionality.

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1. Faculdade de Direito da USP.

Connect Kant's Categorical Imperative with Rawls's Justice as fairness through the changing of moral defended by Durkheim

Raphael M. Rangel

This brief essay sought to construct the understanding that Kant's Categorical Imperative is much closer to Rawls's Justice as Fairness than most of the studies are to portray, and this is justified by the mutability of morality advocated by Durkheim. The research operates through the analysis of the Categorical Imperative, concept of Kant's philosophy found in the work Critique of Pure Reason, with the concept of Justice as Fairness, found in Rawls's Theory of Justice, through the mutability of morality defended by Durkheim. For this research the different understandings of Kant and Rawls's free will and the way of absorbing the sensuous impulses of the human being stem from their historical context, since Kant portrays the moral concept of the 1780s, Rawls portrays of the 1960s. In this sense, Kant's Categorical Imperative does not in its essence diverge from Rawls's Justice as Fairness, so its differences stem from the moral realm rather than from separate conceptions of free will.

The elaboration of the socio-spatial segregation index of the city of Ribeirão Preto-SP

Reinaldo A. B. Filho[1]

and Cláudia S. Passador[2]

This work aims to analyze the urban space of city of Ribeirão Preto-SP, based on the elaboration of an index of socio-spatial segregation (ISSE). Bibliographic research will be used to survey of theoretical material on the concept of segregation sociospatial. In addition, the ISSE elaboration model will be used carried out by Bastos Filho et al. in 2019 in the City of Viçosa-MG and in the city of Passos-MG in 2022. A documentary research will also be carried out (secondary data) on the indicators selected and acquired from city hall, public bodies, in general and websites, which will enable the elaboration of the ISSE. It is hoped that this research will shed light on the importance of elaboration of this index, as a tool for management and analysis of the space city of Ribeirão Preto-SP, since it makes it possible to reveal in objective form the state of the phenomenon.

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[2]. Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto (USP).

Unveiling the beginnings of beer in Brazil (Rio de Janeiro, 1808-1888)

Gabriel F. Gurian[1]

The research currently in development aims to investigate aspects concerning the production and consumption of beer in nineteenth-century Rio de Janeiro, then the capital and main city of Brazil. The objective is to analyze the context prior to the main immigration flows of those Europeans who were traditional consumers of the beverage, especially the Germans, and to the large-scale industrialization of national production, marked by the development of the Brahma and Antarctica companies from the end of the 1880s onwards. That was an important turning point regarding the volume and regularity, in standardization and frequency, of the products offered to the market, especially in the national capital and in São Paulo, where the two companies were, respectively, headquartered. As for the role of German immigrants, usually treated as central in the process of dissemination of breweries in the south and southeast regions of the country during the second half of the 19th century, it is one of the main points put in question. Mobilizing miscellaneous documentation, from periodical titles and mercantile and industrial almanacs to travel literature and recipe books, the goal is to examine factors of importance in the development of Brazilian habits, particularly in Rio de Janeiro, around beers and ales, as well as the influences of different foreign cultures, marked by the importation of products and the emulation of techniques and customs, notably after the opening of the ports with the relocation of the Portuguese court to Brazil. Possible local factors of influence on the taste for the beverage, leading to the establishment of manufacturers and the adherence of consumers to such drinking practices, are also being investigated.

1. Faculdade de Filosofia, Letras e Ciências Humanas da USP.

Urban space and digital platforms: commuting journeys and working conditions of bicycle delivery workers in the metropolis of São Paulo

Lívia Fioravanti[1]

The recent spread of digital platforms has provoked new dynamics of the relationship between work and city. This research examines the imbrication between urban space and work by digital platforms in the metropolis of São Paulo, Brazil. Focusing on commuting journeys and the working conditions of iFood delivery workers who use bicycles, interviews and field observations were carried out as research techniques, complemented by cartographic material and bibliographic and documentary research. The results show the long-distance and time-consuming travels made by these workers between the various peripheries of the metropolis and some centralities with high potential for making deliveries. We seek to discuss the production of urban circuits and conformation of work territories along with a work that is spatialized under the centralized management of platform companies. From the study of the dwelling places and urban flows of 210 bicycle delivery workers, the ways in which spatial inequality manifests and reproduces itself in the commuting patterns of the deliverers are then evidenced, reaffirming the center-periphery relationship. We argue that the dispersion of these workers throughout the metropolis is only realized by an incisive control of time, territory and work itself, and by the intense vulnerability of workers. By unveiling the working and living conditions of bicycle delivery workers, the articulation between ultra-precarious forms of platform work and urban space is made explicit.

1. Faculdade de Filosofia, Letras e Ciências Humanas da USP.

Greek expansion in the Adriatic Sea: mobility, insularity and cultural contact in Central Dalmatia in the Classical and Hellenistic periods

Lilian de A. Laky[1]

and Julio C. M. de Oliveira; Norberto L. Guarinello

In my postdoctoral research, I studied the means of territorial use and occupation of the Greek cities founded on the coast of Central Dalmatia (coast of Croatia) in the Classical and Hellenistic periods. Through the survey, analysis, and interpretation of various types of available Greek archaeological evidence and Illyrian settlements, I aimed to understand how the hinterland of Pharos, Issa and Korcula (on islands) and Tragyrion and Epetion (on the coast on the mainland) was characterized. Ultimately, how the boundaries of the *poleis* in the mainland and island areas were configured in relation to the Illyrians. The major contributions of the research are related to 1-) how the Greeks shared with local populations the insular space on islands between 90 and 300 km² (Dalmatia offers a unique situation in the Greek world), 2-) the study of this phenomenon in a period underestimated by historiography in the study of Greek colonization or expansion, 3-) the various levels of cultural interaction between Greeks and Illyrians and 4-) the introduction of a new area of research in history and archaeology of Classical Antiquity in Brazil – the archaeology of Croatia and the studies of insularity.

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1. Faculdade de Filosofia, Letras e Ciências Humanas da USP.

Youth experiences in the metropolis of São Paulo: perspectives from Geography

Danilo M. de Alcantara[1]

The city of São Paulo has undergone significant transformations in the last century, which intensified as the city grew and expanded territorially, with relevant changes in the makeup of different neighborhoods that form the urban space. The concept of youth also took shape in the country during this period, as societal changes contributed to the emergence of a "youth condition" experienced unequally among young people from different social strata. In this context, we turn our attention to a specific fragment of the peripheries of São Paulo: the northwest portion, mainly comprised of the districts of Pirituba, Jaraguá, Anhanguera, and Perus, as well as neighboring municipalities. This analysis seeks to understand how the youth residing in these areas spatially express their experiences, how they navigate the city, and what use they make of public spaces, taking into consideration the different issues related to these matters, such as challenges in urban mobility and manifestations of violence, as well as how the school has contributed to shaping their perceptions. The focus here corresponds to the residential areas of a significant number of high school students at IFSP Campus Pirituba, who experience diverse realities and perceptions that reinforce the conception of heterogeneity in São Paulo's peripheries in the contemporary period, as we observed during data collection with the students of said school. The methodology employed primarily consists of qualitative research procedures, with a particular emphasis on forming focal groups, aiming to gather information on the research topics through interactions among groups of first and third-year students at the mentioned school.

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1. Instituto Federal de São Paulo.

Methodological studies aimed at research on legitimacy, youth, violence and cities: research from Big Data

Diego de C. Rodrigues

The project aims to develop of a Social Data Analysis Framework, notably mobilizing criminal records and applying descriptive computational techniques, such as: associative algorithms, extraction of decision tree rules, among others. The methods and instruments presented in the work will provide the discovery of patterns, enabling a guided way to identify similarities between recurrent situations in the social sphere, with descriptive techniques and data visualization. The study area was defined as the São Paulo city and the structuring of social data as a central idea, with special attention to the information quality. In light of this, a set of technological tools will be validated through such as a database, Python, ML libraries and tools for results visualization. Among the main deliveries related to technological products and the development of articles with discoveries made in the research stage. The effectiveness and usefulness of the results will depend on studies involving real data and validated both by domain experts and by identifying and comparing the patterns found in this study with other phenomena described in the literature.

Terra Crua under the perspective of Genetic Criticism and the Social History of Language

Hélcius B. Pereira[1]

This research takes as object of analysis the book Terra Crua, observed from the junction of Genetic Criticism and Social History of Language. This book, published in 1961 by Jorge F. Duque Estrada, was the first to discuss the history of Maringá–PR, a city whose construction and foundation dates back to the 1940s. In Maringá, he worked as a lawyer, businessman in the air taxi business, politician and columnist for the nascent Maringa press. The research we carried out started from the comparison between the text published by the author and the Originals of the book Terra Crua, a manuscript donated to the municipality in the 1970s and recently listed as cultural heritage in Maringa in 2021. Our investigation intends to map the production and production processes creation of the work, for which we have the support of Crítica Genetica – Pino and Zular (2007), Salles (2008) and Biasi (2010) – in addition to the location of variable linguistic uses present in the author's text – with the support of Sociolinguistics – Weinreich, Labov and Herzog (2006). For the interpretation and contextualization of the socio–historical framework, we relied on studies by local historians such as Luz (1999) and Tomazi (1999), among others.

1. Universidade Estadual de Maringá.

MIL cities in Latin America: the cases of Cuba and Brazil

Marcio da C. Pereira

My experience as a researcher and coordinator of university extension projects developed in small towns in the State of Sergipe, mainly in the municipality of Laranjeiras, brought to light some concerns related to governance and quality of life of citizens and the impact of these themes on the urban infrastructure of these cities. I have observed the existence of barriers that prevent the realization of social projects in their fullness. One of the barriers is related to the difficulty of accessing quality means of communication and information that undermine the social organization of invisible and economically vulnerable communities. This scenario appears as a worrying cultural barrier in small towns, with direct repercussions on the social organization of communities, urbanism and architecture. In Brazil, the poorest communities face historical and cultural challenges that compromise the confrontation of worrying social and economic indicators. On the other hand, Cuba has very positive social indicators that, in a certain way, differ from economic indicators. The three-month experience in Cuba and the deeper contact with the historical process of the Caribbean island and its current situation in the international political and economic context instilled my concern and leveraged the comparative process between two countries devastated by a colonial and slavery past, with scars profound consequences arising from a devastating civilizing process marked by the exploitation of man by man and by environmental devastation without any humanist vision, but which, at the same time, share a strong presence of popular culture that are the hallmark of their creative and innovative power. In order to understand the repercussion of these cultural barriers in small towns and their role in the urban network, this work proposes to study two Latin American cities, Laranjeiras in Brazil and Regla in Cuba, from the perspective of MIL cities (Midia and Information Literacy, UNESCO 2018). This study takes a look at these cities with regard to public management, urban structure and local culture and their role in the regional, national and perhaps international urban hierarchy, as well as their centralities and activities, with a focus on citizenship and the way of life of these populations in different social regimes and multicultural realities but that fulfill some criteria that somehow bring them together.

Thinking about the Metropolitan West of Rio de Janeiro: delayed modernization and its territories

Marcio R. Silva[1]

This research deals with a proposal for regionalization, particularizing an area in the interior of the current Metropolitan Region of Rio de Janeiro, which we now call Metropolitan West of Rio de Janeiro. Bringing together part of the municipality of Rio de Janeiro and Nova Iguaçu and five other neighboring municipalities (Seropédica, Itaguaí, Paracambi, Japeri and Queimados), this regionalization illuminates, according to our conception, a specific modality of urbanization and metropolization, linked to a process of historical maturation of the local sense of the property. Because this region is crossed by the territories of the former Imperial/ National Farm of Santa Cruz, a myriad of state investments intervened in an urbanization that followed the economic rhythms of this presence, a remarkable web of institutionalities. Finally, it should be noted that this region, considered "peripheral" in the context of the rhythms and flows of the metropolis of Rio de Janeiro, especially when concentrating the known "deficits" concerning this relative position, concentrates today the centrality of some large economic enterprises, such as the Port of Itaguaí and some industrial and logistical centers, poles or complexes, as well as equipment and military territorial devices. In addition, the municipality of Seropédica holds a large part of these equipment, such as UFRRJ and its vast territory, as well as Embrapa Agrobiology and Pesagro, important contemporary presences and remnants of territorial development policies of decades past through agricultural productive enterprises. Based on the concept of "delayed modernization", this presentation will demonstrate that this set of institutions, linked to the explosive precarious urbanization of peripheral metropolitan character in recent decades, was able to produce what we have called "milician form", whose process and result we aim to demonstrate through this research.

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1. Universidade Federal Rural do Rio de Janeiro.

Urban peripheries, urbanization and critical totality

Rinaldo G. Pinho[1]

The work we present here had as its final purpose the research on the transformation in the relation between center and periphery with the critical form of fictitious reproduction of São Paulo metropolis between 1980 and nowadays. We tried to relate the transformation on these internal urban separations on the metropolis from the critique of a theoretical framework developed in Geography and Social Sciences about the so called peripheral spaces. That framework expressed these separations from a class struggle point of view as a material expression of urban space and thought about them as the locus of working class subject. To accomplish such a critique we studied the marxists that discussed capitalistic reproduction from the point of view of the objectivity of crisis related to immanent crises of capital asking about revolutionary subjectivity as the overcoming engine to capitalism. Through these theoretical and general issues we tried to criticize dualistic points of view about the metropolis and also tried to compare them with the debate about such a critical period of fictional reproduction, which creates a critical identity on the reproduction of what is known as center and periphery of São Paulo metropolis. This critical identity was presented from the "democratization" of credit forms, manly between poor people in the metropolis, as a way of living and as the access to consumption in such a way to reproduce exceeding capital on the period. From that, we argue that what is known as periphery is inserted nowadays on the center of critical and fictitious capital reproduction.

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1. Faculdade de Filosofia, Letras e Ciências Humanas da USP.

Space and revolution in the city of Santo Domingo: Chronotopes of the 1965 war

Victor M. C. de Macedo[1]

and João F. Gonçalves

The project will analyze the urban space conformation dynamics in the biggest and most ancient city of the Caribbean, Santo Domingo, Dominican Republic's capital, in the second half of the twentieth century. The point of departure are the events of the 1965 revolution. Examining the different spatial–temporal understandings produced during the conflicts of the urban civil-military war, I will also consider the U.S. military occupation that lasted until 1966. This was the same year that the dictator and main sponsor of the city reforms, Joaquín Balaguer, rose to power. This project has former combatants accounts, the maps of urban traces fabricated in the war strategies and the post-revolution's twelve years of dictatorship vast urbanistic documentation as working materials. The first hypothesis is that the advent of the revolution imposed an axial cut to the city of Santo Domingo that characterized its exclusionary urban growth. The second preliminary hypothesis is that the urban transformations in the last decades of the twentieth century offer understandings about modes of revolution's stories silencing through the erasure of places. The project is based on participant observation, semi-structured interviews, and Dominican archives research. Revolutionary forces ex-combatants accounts, the urban traits maps fabricated in the warfare strategies and the urbanistic documentation of the twelve years period after the revolution are the working materials. The project's products are communications in national and international events, three articles in national journals and the development of the digital project "Visual Chronotopes from the South".

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1. Faculdade de Filosofia, Letras e Ciências Humanas da USP.

Avaliação de risco de infecção por *Toxoplasma gondii* em cortes comerciais de carne do varejo no município de São Paulo

Daniela P. Chiebao[1]

and Marcos Amaku[1]; Julia R. Oliveira[1]; Sueli A. T. Miyagi[1]; Hilda F. J. Pena[1]

Toxoplasma gondii é um parasita zoonótico importante distribuído mundialmente e capaz de infectar todos os animais homeotérmicos. A toxoplasmose é reconhecida pela Organização Mundial de Saúde como uma das enfermidades transmitidas por alimentos mais importantes atualmente. A infecção pode ocorrer através da ingestão de alimento ou água contaminados, pelo consumo de carne mal cozida infectada ou verticalmente, da mãe infectada para o feto. Existe variação geográfica na estrutura populacional de *T. gondii*, com abundância de isolados não arquétipos relatados na América do Sul. No Brasil, a soroprevalência de *T. gondii* em seres humanos pode chegar a 97%, também com casos de toxoplasmose ocular severa sendo mais frequentemente diagnosticados do que na Europa e nos EUA. Da mesma forma, a exposição do rebanho brasileiro é alta (30–100%), porém há escassez de dados sobre o risco relativo de infecção adquirida em humanos por consumo de carne. Essa falta de evidências é preocupante, considerando que o consumo de carne pelo brasileiro é um dos maiores do mundo e cepas potencialmente virulentas de *T. gondii* circulam na região. Este trabalho visa conduzir um estudo de prevalência, viabilidade, diversidade genética e virulência de *T. gondii* em cortes de carne vendidos no varejo para verificar o risco de infecção alimentar para os consumidores da megacidade de São Paulo, Brasil. Até o momento, 629 amostras foram adquiridas e analisadas nas Zonas Oeste, Central, Norte e Leste do município, sendo compostas por 165 peças de acém bovino, 201 de lombo suíno, 236 pares de sobrecoxas de frango, 16 cortes de ovinos e 11 porções de coração de frango. Destas, 54 foram provenientes de feiras livres, 154 de mercados e 421 de açougues. Frações de 50g de cada amostra foram digeridas em pepsina ácida, purificadas e submetidas a extração de DNA, seguido por detecção molecular quantitativa (qPCR) através de marcadores do fragmento de 529bp, para *T. gondii* e de miostatina, como controle endógeno. Amostras positivas estão sendo utilizadas para bioensaio em camundongos para determinar a viabilidade do parasita. Onze amostras (1,75%) foram detectadas positivas, 5 de frango, 3 de bovinos e 3 de suínos, porém sem obtenção do isolamento. Os resultados possibilitarão a rastreabilidade da enfermidade nas diferentes regiões do município e trarão subsídios para a elaboração de programas de controle específicos.

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1. Faculdade de Medicina Veterinária e Zootecnia da USP.

Coping strategies adopted by young people in vulnerable urban territories facing the challenges of the Covid-19 pandemic

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and Leandro L. Giatti[1]

Brazil is a continental country, strongly pervaded by class, race and gender inequality. Vulnerable young people in urban poor settlements are one of the social groups who suffer the most with this historical intersectionality of exclusion. The multiple crisis installed with the pandemic of Covid-19 emerged on unequal conditions of risk, protection, and care in all dimensions of life, which affects young people living in urban vulnerable communities. The PANEX-YOUTH is a two year project (2022-2024) conducted by researchers from the University of São Paulo, in Brazil, the University of Birmingham and the University College London, in the UK, and the University of the Free State, in South Africa. We seek to overlook the complex challenge of the multiple crises provided in vulnerable young people's lives from a nexus approach in order to understand their intertwined participation in adaptation strategies during Covid-19 pandemic, mainly on the scarce access to education, food, and play/leisure. This presentation will be based on the analysis of 30 interviews with Brazilian NGOs, social movements, and public agents, which sought to capture the process of community-based social learning in intergenerational practices that generated positive changes in multiple communities in the city of São Paulo, Brazil. These interviews correspond to one of the stages of the participatory research process that has been developed by the international team. The results revealed the centrality of the challenge of food insecurity for families in the early months, followed by mental health issues among youth in later years. To ensure the survival of the communities, the relevance of networking combining multiple levels of agency with internal and external actors, the use of social media to raise funds and disseminate information, and the dimension of care work and self-care were highlighted.

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1. Faculdade de Saúde Pública da USP.

Improving São Paulo urban greenhouse gas network allowing source-tracking and models application

Lucas G. Domingues

Cities cover only ~3% of the world's surface yet originate 70% to 80% of global CO_2 emissions and are expected to continue growing as urban migration continues and intensifies. Cities are projected to shelter ~70% of world's population by 2050. Managing urban emissions is vital to address the climate crisis and meet the objectives established by the United Nations Framework Convention on Climate Change and the Paris Agreement. To achieve this, we need to not only quantify and monitor emissions, but most importantly, attribute them to specific sources. The current state-of-art-method uses "inverse modelling" to infer emissions through a combination of bottom-up emission inventories and a small number of strategically placed high-precision direct atmospheric measurements. There are several different approaches for top-down methods. Some of these methods include aircraft mass balance, in situ tower networks, and remote sensing. Each method presents its own strengths, weaknesses, and level of repeatability to other urban areas. The main strength that top-down methods have is measuring the concentrations directly, so it is getting an accurate level of concentrations. However, depending on the method, it can be hard to assign which sources are contributing to the overall emissions and by what magnitude. The cavity ring-down spectroscopy (CRDS) appeared in the late 1890's and is a well stablished technique used for the high precision trace gas measurements. It consists in a laser-based technique which is used to excite a ring-down cavity, in which the infrared absorption loss caused by a gas in the sample cell is measured to quantify the gas mole fraction. It generates a quasi-real-time data set, performing measurements from different species every approximately 2 seconds. This generates large data sets and to extract the best information from it, scripts from programs as R a Python must be used. In the program development, it also must be taken in account the packages and tools to applied due to the computing time. In terms of comparability, The World Meteorological Organization (WMO) has stablished a high accuracy and compatibility goals for atmospheric CO_2 and CH_4 measurements to ±0.1 ppm for CO_2 (±0.05 ppm in the southern hemisphere) and ±2 ppb for CH_4. Achieving WMO goals is not a trivial task. Atmospheric water vapor must be taking in account due to its large variability, which can cover any signal in the trace gases. There are several methods to reach the desired dryness as cooling or streaming the sampling air but the limitations and specifications of the sites conditions must be considered

and meticulously evaluated. Different urban networks have developed their own method to continuously measure greenhouse gas mole fractions across the city, including the background mole fraction measurements from all wind directions and resolving spatial patterns. The same logic follows the calibration method to be applied relying on optimizing the measurement equipment to its best response. A recent study comparing the combination of measurements and modelling with inventories result, showed that cities using only bottom-up emission inventories are under-reporting emissions on an average of 18,3% ranging from -145,5% to +63,5%. São Paulo city is among the biggest cities in the world and it can not rely only on bottom-up estimations to report and understand its emissions. We will present the current state of improvement of the São Paulo greenhouse gas network to reach the necessary confidence level to combine and compare inventories and allow to track sources in specific regions using the combination of pollutants tracers and isotopes as radiocarbon. Furthermore, we want to explore the already generated greenhouse gas database to understand specific valuable periods such as the 2020 quarantine.

Multilateral financing and environmental injustice: the struggle of Latin American social movements for environmental justice in the face of projects by International Financial Institutions

Douglas de A. Silva[1]

and Marcel Fantin[1]

This research will deal with the conflicts around the Financing of the International Financial Institutions (IFI) in development projects for cities and regions of the Global South, where it is intended to know how the Independent Accountability Mechanisms (IAMs) have acted in the resolution of conflicts caused by IFI funding to affected communities. The objective of this research is to understand the performance of IAMs in responding to complaints from communities affected by projects financed by the IFI for cities and regions of the Global South. The object of the research was defined from the Independent Mechanisms that organized several virtual meetings during the pandemic scenario of 2020 and 2021 with the objective of rendering accounts to communities and civil society organizations about the performance of the IAMs. From the research object, we selected as a case study a set of complaints sent by the affected communities to the IAMs. The investigation will be conducted through exploratory research, based on a triangulation of methods: documentary research, semi-structured interviews and action research. Document analysis will investigate primary and secondary sources. The action research will be conducted through ethnographies in the communities and through interviews with the selected actors who participated in the 2020 and 2021 virtual events, including representatives of the affected communities and the IAMs. The analysis of the results will be based on the Discourse Analysis of the interviews and documents and the action research will be evaluated by the Systematization of Experiences method, according to Oscar Jara's approach. Based on the contributions of Henri Acselrad, this work is important because it will help to understand the dialogue and investigation strategies of the Independent Mechanisms in the face of civil society claims for environmental justice.

Heritage, cartographies and the city: perspectives on the construction of "heritage atmospheres"

Camila F. Guimarães[1]

and Manoel R. Alves

The debate about cultural heritage in the contemporary context permeates the understanding of the city's production logic. Such a relationship is configured to the extent that the elements of the past preserved from the intentions of the present can be appropriated by the cultural industry. In this sense, the patrimonialized public space represents the relations and conflicts between the materiality that shapes the space, the symbolic and immaterial relations and the processes of exploitation of the urban land. In this framework, the constant transformations of public spaces are marked by consumer relations, inserting new temporalities and demands, which alter the relationship between the present and the past. Therefore, in this research, we propose the construction of methodological procedures that can help in the construction of readings of heritage territories through the identification of the elements that make up what we call "heritage atmosphere", as well as the analysis of the cartographic narratives produced. It should be noted that the concept of "heritage atmosphere" is based on the Trilogy of Spheres by the German philosopher Peter Sloterdijk, based on the understanding of heritage as a process of producing systems of social, cultural or economic immunity. Such procedures will enhance the analysis of spaces and socio-spatial practices, by allowing the inclusion of subjective and sensitive elements generated by the researcher.

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1. Instituto de Arquitetura e Urbanismo da USP.

The Sower's Tiles: talking to Sérgio Buarque de Holanda... Metamorphoses of thought...

Matilde M. A. Melo

Starting from a debate with Sérgio Buarque de Holanda's work Raízes do Brasil (Roots of Brazil) part-taken by various authors it is sought, in this study, to analyze the urban system produced by the Portuguese on the South Atlantic (Brazil and western Africa) under the "global history" perspective and systemic domination. Therefore, it is initially sought to establish a parallel between the conception and production of cities by the Portuguese Empire throughout the colonial period, collating the aspects related to: political, social and economic organization; urban structure and spatial organization, as well as the synergy among these different aspects in Portuguese colonial project. Simultaneously, it is aimed to identify and analyze the power relation that were built in the colonial cities, that granted a color characteristic to the societies constituted there, as well as evaluate the limits to which the manifest logic of a certain domination mode that "eternalized" in Brazil, supported by the patrimonialism and cordiality relations also made as a domination mechanism of the other Portuguese colonies throughout the centuries. Finally, this study intends to explain the logic of the (dis)order present in the process of constitution of the South Atlantic cities of Portuguese colonization contained in its rationalities/irrationalities, its symbolic and identification references and that propelled the globalization of the way to produce, be and live, that is, the tiles (the rational) intrinsic to the apparent irrationality or sloppiness of the "seeder's" ethic.

Hybrid processes of heritage documentation in the valorization of local built assets

Rodrigo P. Santiago[1]

Its central theme is the documentation of cultural assets through the use of data acquisition technologies, and their communication for the purposes of conservation, dissemination and heritage education. The main objective of the work is to contribute to the establishment of a protocol for documentation of cultural heritage by digital means, based on the experience of laser scanning of the old railway station of São Carlos–SP, an important architectural complex of the late nineteenth century, listed in state and municipal levels. Linked to the FAPESP research project "Documentation, Representation and Communication of the Eclectic Historic Patrimony of São Carlos through 2D and 3D digital technology", resulting from a partnership between Sapienza Università di Roma and the Institute of Architecture and Urbanism of USP, the research has as experimental field the protection policies developed by the Pro-Memoria Foundation of São Carlos, a municipal agency responsible for the defense and promotion of local cultural assets, focusing on the actions of diffusion and valuation of heritage already carried out by the institution, seeking to expand them from new layers of knowledge that can be generated by the use of data acquisition technologies. To achieve its goals, the work relies on the research environment of the Research Center for Language Studies in Architecture and the City (N.ELAC) of the Institute of Architecture and Urbanism of USP. Although linked to the disciplinary field of Architecture, this is an interdisciplinary research that seeks to establish close dialogues with other areas of knowledge, such as History, Sociology and Computer Science.

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1. Instituto de Arquitetura e Urbanismo da USP.

Computational tool based on artificial intelligence for classification of repetitive themes of the Court of Justice of São Paulo

Daniela L. Freire

This abstract describes an AI-based computational tool developed by the São Paulo Court of Justice (TJSP) in collaboration with the University of São Paulo. It's designed to classify repetitive themes in lawsuits using natural language processing (NLP) algorithms, contributing to the field of legal data science and technology. The tool addresses the Brazilian justice system's Repetitive Appeal process, allowing simultaneous handling of multiple appeals on the same legal issue. It features a web interface with five main functions: Preprocessing data, exploratory data analysis (EDA), named entity recognition (NER), text summarization, and classification. These functions prepare and analyze lawsuit data for machine learning models, helping to identify patterns, key entities, and condense extensive documents into summaries. The classification feature uses various machine learning techniques to categorize data. The tool stands out for its adaptability, supporting customization across its functions and both individual and batch processing of lawsuits. It maintains a database of previous classifications for reference. Python-based, it's versatile in deployment, compatible with different platforms like ICMC-USP clusters and Google Colab. Its modular design allows easy integration of new algorithms, ensuring ongoing improvement. The project emphasizes the iterative optimization of its models, focusing on feature selection, algorithm refinement, and improving interpretability. It leverages ICMC-USP's computational infrastructure, which includes data visualization and advanced machine learning, as well as access to CEMEAI's supercomputer. Given that automatic text classification in the legal field is an emerging area, continuous research and development are essential. This tool is a significant step towards helping legal professionals quickly identify key information, thereby improving decision-making and increasing productivity in legal contexts.

Real-time pedestrian detection and tracking system using deep learning and Kalman filter: applications on embedded systems (Jetson Nano) in robotic vehicle

Diego R. Bruno[1]

and Fernando S. Osório[1]

In this paper we present an intelligent system to help robotics vehicles in real cities and with the interaction between pedestrians, cyclists and other auto-vehicles. The Multiple Object Tracking (MOT) is a complex and fundamental problem in computer vision for robotic vehicles, being necessary to individually evaluate several objects detected at the same instant of time and provide support for decision making. To face this challenge, dedicated embedded systems in conjunction with Deep Learning algorithms are applied as powerful tools to provide real-time processing capabilities. being an essential feature for critical embedded systems applied in transit. The objective of this study is create an Advanced Driver Assistance System (ADAS) to detect and track pedestrians in complex traffic areas using an embedded system while ensuring accuracy and processing real time. To make it possible, in this work we propose an architecture for MOT involving embedded hardware based on Nvdia's Jetson Nano model and Deep Learning networks, optimizing the Deep-SORT YOLO V7 model in conjunction with the Kalman filter algorithm.

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Large user experience evaluation in interaction with Visual Analytics systems

Eliane Z. Victorelli[1]

and Maria C. F. de Oliveira

Visual Analytics (VA) systems have been adopted in increasing activities, taking advantage of the benefits of integrating automated data analysis and data visualization. Users from different areas and knowledge domains interact intensively with these systems. Ensuring their interaction is effective, pleasant, and productive is necessary. Unfortunately, we still lack reliable methods and methodologies for measuring user experience (UX) with data analysis interfaces. This proposal focuses on UX evaluation to help identify how users experience Visual Analytics systems. The study aims to provide evaluation methods and metrics to assess UX systematically. We will develop an innovative UX evaluation instrument and methodological framework considering the particularities of VA systems. By systematically reviewing the literature, we will obtain a comprehensive view of the metrics already used to evaluate UX in VA and the associated methods. We will derive a mechanism that allows the search for ways to measure aspects of user experience in Visual Analytics systems through the organization, selection, and critical review of the information obtained from the literature. Compiling the identified UX metrics will support the construction of an instrument that will allow practical evaluations of the UX in VA. The proposed artifacts will be validated in experimental studies with users, in which the instrument and the methodological framework will be employed to evaluate three Visual Analytics systems with diverse characteristics. The expected results include evaluation methods, practices, instruments, and artifacts that enhance our understanding of the positive and negative aspects of user experience when interacting with Visual Analytics systems. The results obtained can contribute to enabling the development of visualization applications that better help users discover knowledge from large volumes of data.

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1. Instituto de Ciências Matemáticas e de Computação da USP.

The impact of ICTs on social initiatives for mapping and restoring springs, rivers, and streams in the city of São Paulo

Dayana K. M. da Silva[1]

and Pedro R. Jacobi

During the 20th century, the city of São Paulo developed based on an urbanization logic that concealed an extensive hydrographic network comprising approximately 300 watercourses. These waters were eliminated from the urban landscape and are now being unveiled through the efforts of collectives and social initiatives, facilitated by digital and network devices and architecture. The research aims to investigate the impact of Information and Communication Technologies (ICTs) in this process. It seeks to observe and describe the collectives that act in the mapping and restoration of the springs, rivers, and streams of the city. It seeks to investigate the creation processes and the uses of the devices and architectures developed to assist in the unveiling of these waters. It seeks to analyze the information and content produced and made available by the collectives in the digital environment. It seeks to examine the impact of these informations flows in the urban experience and in the perception of the waters by the actors engaged in their restoration. It seeks to verify the influence of this engagement in the formulation of projects and actions aimed at the reinsertion of rivers and streams in the urban fabric of the city. It seeks to compare the actions of the collectives with foreign initiatives of the restoration of urban rivers. The research was based on triangulation of the following qualitative procedures: (i) participant observation with the collectives (ii) documentary analysis of textual production and sound, imagery and audiovisual records produced and published by collectives on the sites, interactive platforms, mobile applications and social networks; (iii) semi-structured interviews with the idealizers and mobilizers of the collectives, developers of the devices and architectures used, users of the platforms and participants of the proposed activities, public managers responsible for environmental and water policies of the city. It is expected to deepen the understanding of the role of digital networks in the processes of social engagement, collaborative and distributed generation of information and resignification of urban territories, taking as a basis the problem of urban rivers.

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1. Instituto de Estudos Avançados da USP.

Thinking about territorial planning from the Sustainable Development Goals: a debate on local government as a promoter of sustainability

Fábio Bacchiegga[1]

and Maria da P. Vasconcellos

The Proposed Constitutional Amendment (PCA) 188/2019 provides for the extinction of municipalities with up to 5,000 inhabitants that, by June 2023, are unable to prove that municipal taxes make up 10% of the city's total revenues, ignoring other transfers and transfers such as those from the Union in what was considered a situation of "financial sustainability", according to the Ministry of Economy of the Jair Bolsonaro government (2018–2022). In this article, we will work on the impact of this PCA on small municipalities, taking as an example those present in the Metropolitan Region of Vale do Paraíba and North Coast, to discuss their insertion in the urban network, seeking to reflect on how both the traditional territorial ordering and the network and the bases of PCA188/19 are managed by strong economic technicality and financialization, ignoring other aspects such as access to social rights, popular participation and, mainly, the bases of sustainability of small cities. We propose here the insertion of the logic of the Sustainable Development Goals (SDGs) as guiding axes of public policies for the promotion of a sustainable urban network and a new vision of cities with less than 5,000 inhabitants that have ecological riches shared with the entire urban network, such as water resources, arable land, and native vegetation that must be preserved and enhanced in the logic of regional territorial planning.

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1. Instituto de Estudos Avançados da USP.

Engaging urban publics with issues of shared concern: an action research in a civic laboratory in Jaraguá do Sul

Laryssa Tarachucky[1]

and Maria da P. Vasconcellos[1]

Citizen participation in the development of urban solutions is a subject that has been receiving increasing attention in major spaces of dialogue about the future of life in cities. It is, for example, a recurrent theme in the New Urban Agenda, adopted by the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) and, more recently, in the Brazilian Charter for Smart Cities. Among the emerging responses to the need for participatory practices for the design of urban solutions are spaces called civic laboratories. Civic laboratories are new forms of institutions that provide spaces for meeting and collaborative learning within a culture of openness, accessibility, and reappropriation of the city. They are, therefore, integrating spaces situated outside the commercial logic that promote meaningful encounters between a diversity of urban actors and stimulate them to act cohesively and critically in improving community life through the use of digital resources and the employment of design strategies. One of the mechanisms often cited as fundamental to the quality and sustainability of projects developed in civic laboratories is the sustained engagement of urban publics. However, it is also one of the main challenges faced by the ones involved in the orchestration of their processes. The research reported here presents the preliminary results of an action research that seeks to outline guidelines for the sustained engagement of urban publics with the development of solutions for issues of shared concern. We do this by systematizing the implementation process of LabIC Novale, a civic laboratory based in Jaraguá do Sul.

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1. Instituto de Estudos Avançados da USP.

Tools to produce indicators for resilient cities

Fabiana L. e S. Ferreira[1]

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The occurrence of extreme weather events, due to global warming, is increasing the vulnerability of human settlements and ecosystems. Incorporating the concept of resilience into urban policies is essential to reduce the risks associated with possible shocks and tensions, and to ensure the recovery of affected systems. This research aims to assist the development of urban policies though the measurement and monitoring of environment and climate change indicators for resilient cities, described in ABNT NBR ISO 37123, in compliance with sustainable development objectives 11 and 13. The method is based on the concept of spatial dependence and includes the use of free software and databases, meteorological data, satellite images, and socio-environmental datasets to produce and monitor resilience indicators over time. The study area is the Vale do Paraíba and North Litoral of the São Paulo Metropolitan Region, and it can be adapted to any location of interest. Some initial results were consolidated by the production of four indicators of environment and climate change, approved and certified by ABNT for São José dos Campos in 2022: magnitude of urban heat islands, frequency of extreme cold and heat, and city surface covered by materials with high albedo.

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Entrepreneurial ecosystem and local innovation in municipalities

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The focus of the ecosystem lies in the synergy and complementarity among its elements. Therefore, the relationship between entrepreneurial ecosystems, elements, and companies may no longer be considered linear (YANG; ZHANG, 2021). Some authors argue that although research on entrepreneurial ecosystems is still in its infancy, several studies demonstrate that a thriving entrepreneurial ecosystem enables entrepreneurship and subsequent value creation at the regional level (STAM; VAN DE VEN, 2021). Most theories and findings about entrepreneurial ecosystems are based on studies of ecosystems located in large urban and regional centers, often in developed countries. Policymakers (and some researchers) have started to pay attention to business ecosystems located in smaller cities. In some cases, these entrepreneurial communities are the subject of research because they are located in small and medium-sized cities (ROUNDY, 2017). Scholars of regional entrepreneurship have sought to answer an important question: why do certain regions have higher levels of entrepreneurial activity than others? In previous studies, researchers mainly focused on the characteristics of individual entrepreneurs. However, the individual perspective is insufficient at the regional level. The diverse socioeconomic and institutional contexts across regions need to be taken into account (XIE et al., 2021). The present postdoctoral project aims to understand the development of the entrepreneurial ecosystem and its evolution into an innovation ecosystem in municipalities. Regarding the approach, the research is primarily qualitative (GIL, 2010) as it takes into account the dynamic relationship between the real world and the subject (DA SILVA; MENEZES, 2005). Regarding the choice of research method, multiple case studies were employed to gain an understanding of contemporary events, identify and describe relevant variables related to the subject, and characterize the dynamics of the relationships among them (YIN, 2015). The first stage will involve conducting an in-depth literature review on the topics under study. The purpose of the search is to identify the main bibliographic and descriptive sources of the concepts that will be analyzed. The second stage will involve the use of secondary data obtained from official websites of the cities Ibitinga (SP) and Três Lagoas (MS), as well as from official organizations that

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provide socio-economic information about the cities and through the database. Finally, as the third and last stage of data collection, the research will include in-depth interviews with key stakeholders of the entrepreneurial ecosystems being studied. The expected outcomes of this project are: Elaborate a diagnosis of the performance of the municipalities of Ibitinga-SP and Três Lagoas-MS, especially regarding the context of entrepreneurship and innovation; Map the innovation opportunities in the municipalities; Conduct engagement workshops to sensitize stakeholders in each studied ecosystem for the implementation of a real diagnosis of the municipalities; Generate information through a report of recommendations for policymakers regarding the key guidelines for each analyzed ecosystem; Contribute to theories and discussions on the orchestration of entrepreneurial and innovation ecosystems by analyzing the participatory process to enhance the local innovation environment; Publish and participate in scientific events related to the topic to disseminate the research findings; Participate in research groups associated with universities and organizations related to the studied topic with the aim of sharing knowledge and experiences.

Women's right to the city: a comparative study between São Paulo and Mexico City

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and Janina Onuki[2]

One of the most urbanized regions in the world, Latin America has 80% of its population living in cities. In this way, the main problems that affect the quality of life of the population arise in the urban level, so it is not possible to ignore the importance of local governments and local public policies in guaranteeing citizens' rights. However, the analysis and reformulation of urban policies must consider the gender perspective, since cities are not experienced in the same way by men and women, and nor by all women in the same way. Capitalist urbanization is sustained by the sexual division of labor, which has direct impacts on urban design and development, with repercussions on how women have their right to the city guaranteed. This interdisciplinary research across different fields of social sciences and political science, especially international relations, feminist studies, urbanism, and public policy analysis, seeks to analyze political-institutional and social advances and flaws in terms of promoting and guaranteeing gender in two Latin American metropolises: São Paulo and Mexico City. The cities were chosen not only because of their similarity in population size, but also because of the recurrent violation of their women's right to the city. Thus, based on a comparative process tracing of the two cities, key actors in each context will be interviewed, with the aim to producing future practical recommendations to advance gender equality in Latin American urban centers.

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Mapping the challenges and opportunities of cities in the State of São Paulo in achieving the Sustainable Development Goals

Lira L. B. Lazaro[1]

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Cities face many challenges in achieving the Sustainable Development Goals (SDGs) established by the United Nations. These challenges and opportunities are related to social, environmental, and economic aspects. Cities are highly vulnerable to several factors, such as climate change, uncontrolled urbanization, disaster risks, water and food insecurity, pollution and air quality, social inequalities, and exclusion, which can affect their sustainability and resilience. The resolution of urban problems depends on universal public policies adapted to each specific case. These policies play a crucial role in creating socially fair and equitable cities that minimize their environmental impact. This study aims to build indicators for the 17 SDGs to assess the challenges and opportunities faced by cities in São Paulo. The main themes addressed are inequality and poverty, environmental degradation, public transport, and mobility, access to basic services, crime and violence, governance and participation, innovation and technology, and partnerships and financing. Our analysis uses Machine Learning algorithms, specifically LIME (Local Interpretable Model–Agnostic Explanations) and SHAP (SHapley Additive exPlanations). These techniques help identify which municipalities stand out positively or negatively concerning each challenge and opportunity. Combining these Machine Learning model interpretation techniques with socioeconomic indicators and the difficulties selected will enable a comprehensive overview of progress in implementing SDGs by cities in São Paulo. These analyses can help identify the most effective public policies and strategies to face each municipality's challenges and specific goals. The results can also be used to support public policies to direct investments, resources, and efforts to address the identified challenges, aiming to improve indicators related to the achievement of the SDGs.

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Eco-efficiency in the management of urban solid waste in the municipalities of the metropolitan region of Vale do Paraíba and North Coast

Marcela B. de Moraes[1]

and Amarilis L. C. F. Gallardo[2]

This project seeks to study the problem of eco-efficiency in the management of urban solid waste in the face of this disorderly growth. Therefore, the general objective of this project is the relationship between integrated management of urban solid waste and eco-efficiency in municipalities in the Metropolitan Region of Vale do Paraíba and North Coast. For this, the methodological procedure will be based on a qualitative and quantitative approach, of the descriptive-exploratory type. The data collection procedure will be in three phases. The first will use a document analysis; the second phase a closed questionnaire with the inhabitants of the cities studied and the third phase a semi-structured interview with public managers. The data analysis procedure will be in two stages. In the interviews, two sensemaking techniques will be used: narrative technique and visual mapping and for the questionnaires, structural equation modeling will be used using the SmartPLS software. Among the expected results for this project, it is expected to develop a proposal for indicators for eco-efficiency in the integrated management of urban solid waste, as well as a conceptual model that highlights the relationship between eco-efficiency and urban solid waste; to generate publications and participation in specialized technical-scientific events, originating from the results obtained from research and from technical and scientific information, in order to compose a network of information on the treated topic, making available and disseminating knowledge and methodology and contributing to proposals for public policies in the area of solid urban waste for the municipalities of the Metropolitan Region of Vale do Paraíba and North Coast.

1. Universidade de São Paulo; Universidade de Taubaté.
2. Universidade de São Paulo; Universidade Nove de Julho.

Evaluation of housing policy with Strategic Environmental Assessment: studies for the city of São Paulo

Rosane S. Keppke[1]

and Alves, E.[1]; Falcetta, F.[1]; Feche, E.[1]; Lucchese, C.[1]; Takiya, H.[2]; Gallardo, A. L. C. F.[1, 2]

The research results from the cooperation agreement between the Public Policy Observatory of the São Paulo Court of Auditors (TCM) and the USP Institute for Advanced Studies. Its objective is to subsidize TCM's operational audits on the "Housing" function of the budget system. Being applied research, the methodology consists of bringing together experts from both institutions to 1) learn about the technical and scientific literature on the subject, 2) identify and analyse the relevant variables and necessary data on Housing, Sanitation and the Environment, according to the Strategic Environmental Assessment; 3) hold focus groups with stakeholder representatives; 4) prepare a baseline report; 5) prepare a purposeful report suggesting key indicators. The analysis focuses on budget data because, on the one hand, they reveal the priority agendas. On the other hand, they make it possible to formulate indicators that are "measurable, available, relevant, comparable, periodic and disaggregate" (BRASIL, 2018, p. 32). With the expected results, it is possible to set up a "Housing Policy Radar" as a control panel that allows monitoring based on historical series resilient to political and programmatic discontinuities.

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Event tourism in the public policies of cities: an analysis from the context of the city of Joinville (SC)

Yoná da S. Dalonso[1]

As with other economic activities, tourism needs to be planned harmoniously in order to benefit the tourist destination in question and its residents. Therefore, local or regional spaces stand out as elements of great importance for the implementation of strategies in the pursuit of sustainable development, in view of a global perspective. The resources available for the development of tourist activity are specific to each space and must be evaluated within the scope of their own region. With regard to public tourism policies for the events tourism segment, it is possible to identify both positive and critical opinions regarding the destination where these events take place. Seeking to understand the impact of event tourism on improving the quality of life in cities, destinations have invested in research. In this sense, realizing its relevance, this study aims to understand the influence of events in the construction of public policies in the city of Joinville, SC, Brazil. From the use of the qualitative research method, through the application of a questionnaire to stakeholders related to the events tourism segment, as well as by the analysis of official and strategic documents of the city, it is intended to elucidate the effective impact of events tourism in the implementation public policies aimed at improving the quality of life of residents of the city of Joinville (SC).

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The water sustainability of the University City Armando de Sales Oliveira, University of São Paulo

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and Ricardo Hirata[1]

The University City Armando de Salles Oliveira (CUASO) of the University of São Paulo (USP) is supplied by SABESP's public water utility. This creates a vulnerable situation for USP in the face of chronic water shortages, such as the previous occurrences in 2014 and 2015 – and which may be repeated in the future with the worsening of the problems associated with global climate change. Despite this, the campus has six deep tubular wells for groundwater supply. These wells can meet 70% of the CUASO's water demand ($0.79 \, \text{Mm}^3$/a), reducing water costs by almost R$ 6 mi/year, and saving water for the rest of the neighborhood. The CUASO has a large green area, so the rainfall aquifer recharge was estimated at $0.93 \, \text{Mm}^3$/a (≈ 250 mm/a). The construction of two or three wells could meet the total water demand on the campus; and to do so in a sustainable way, it will be necessary to increase the aquifer recharge, bearing in mind that in addition to the extractions, the aquifer discharge regulates the level of the water of the campus Olympic streak. Artificial aquifer recharge could increase water availability and bring other benefits. The recharge could be done by inducing excess rainwater infiltration into green areas or by treating the sewage and infiltrating it into the aquifer through specific techniques that would also improve the final effluent treatment. These techniques could be associated with Sustainable Urban Drainage Systems (SuDs) and Nature–based Solutions (NbS), creating more research and biodiversity opportunities. These actions would enhance the economic, social, and environmental sustainability and improve ecological indicators of USP, making the university more resilient to global climate change and following the UN's Sustainable Development Goal Target 6.5 recommendations of integrated water resource management.

1. Instituto de Geociências da USP.

2. USPSusten – Superintendência de Gestão Ambiental da USP.

Roman Palestine, cultural interactions and archaeological contexts in the Ancient Mediterranean: Architecture and Numismatic representations in the Samaria

Vítor L. S. de Almeida

This postdoctoral project aims to investigate the archaeological contexts integrated with the multiple intercultural, social, religious and economic processes concerning the province of Palestine during the Roman period (I BCE – II CE), more precisely, the region of Samaria. The general goal connects to studies related to recent debates about the Ancient Mediterranean and cultural and symbolic negotiations between Rome and local populations. In this way, the project is divided into three stages that complement each other: 1) It aims to analyze and catalog the bibliographic material referring to Samaria and Ancient Palestine and the occupation of the Romans in the region, in addition to the opening within the scope of LARP – Laboratory of Archeology of Provincial Rome –, under the supervision of Professor Vagner Carvalheiro Porto, a line of research related to the region, aiming at future research and the expansion and coalition of projects related to the Roman provinces in the Ancient Mediterranean. 2) Internship and training at the University of Bristol, England, under the international supervision of Professor Tamar Hodos, specialist in Archeology of the Ancient Mediterranean, Ancient Palestine and studies concerning cultural contacts in the Mediterranean. The goal of this postdoctoral internship is to access specific bibliography concerning the archaeological discipline, excavation reports, textual sources and specific documentation on the themes: Roman Samaria, Roman Palestine, Ancient Mediterranean and Roman and Israel Archaeology. 3) A fundamental part of this project will be the carrying out of excavations in Tel Dor, Israel, inserted in the scope of the Project already in progress "Cultural Contacts in Judaea–Palaestina of the Roman Period: Studies of the Urban Network and the Monetary Circulation in Tel Dor, Israel", coordinated by Professor Porto and sponsored by FAPESP.

COMBATE ÀS DESIGUALDADES

Smart budget: Zero-Based Budgeting (ZBB) applied to the Brazilian public sector

Licurgo J. M. de Oliveira[1]

The work proposes approaches related to the introduction of new technologies, such as blockchain, machine learning and big data, to challenge a new and vast field of research that will impact the execution of public policies and the performance of control bodies. The use of these technologies can improve the transparency and quality of public spending, for example, by ensuring that what was authorized in the budget allocations allocated to a public work will not be unduly altered, or by providing the search for patterns that point to the occurrence of possible errors, flaws and deviations in the execution of public contracts, in addition to the probability of non-compliance, all of this taking into account the volume, complexity and variety of data handled. The question that drives the study is to find out whether the Brazilian budgetary practice of allocating public spending is able to adequately identify and provide for the demands of the social classes most desiring public investments, and whether a new public budgeting model should be used, such as Zero Based Budgeting (ZBB). The study aims to propose a conceptual model for evaluating and controlling the quality of public expenditures related to the cycle of planning, execution and inspection of public policies, through blockchain technologies, machine learning and big data, in addition to the Zero-Based Budgeting technique. The incorporation of such technologies to state agencies can contribute to increasing the quality and effectiveness of control, resulting, for example, in greater availability of public resources for investment in strategic areas for society and with reduced waste. It is expected to contribute to discussions aimed at improving the legal instruments aimed at the effectiveness and control of public policies in Brazil.

1. Escola de Artes, Ciências e Humanidades da USP.

Evaluating open-source facial recognition software in public security: effectiveness and observations on ethnicity

Methanias C. Júnior[1, 2]

and Luan B. B. de S. Costa[3]; Éverton C. S. Recchi[3]; Luciano V. de Araújo[1]; Ana C. Bliacheriene[1]; Fátima de L. S. Nunes[1]

Context: In the criminal investigation environment, there is often a lack of information about a particular suspect, demanding instruments capable of searching for information based on limited evidence. Facial recognition, utilizing archived photos and/or real-time image capture, acts as one such instrument. Objective: This study aims to analyze the facial recognition results of the an open-source and free product, evaluating its effectiveness through acceptable accuracy and sensitivity rates for investigators, with the intention of exploring its potential application in the field of public security. Additionally, an analysis of efficacy by ethnicity was performed, which discussed solutions to avoid racism. Method: A controlled in vitro experiment was conducted, employing a dataset of approximately 20,000 authentic photographs of incarcerated individuals from the prison system of the state of Sergipe, Brazil. Results: The effectiveness results obtained indicate that the open-source and free Face Recognition tool holds potential for identifying individuals in the context of front-view photos of inmates in the prison system and similar Public Security Management applications. Upon completion of the tests and taking into account statistical significance, the software successfully identified incarcerated individuals using their images, achieving an average accuracy rate of over 84.8%, a sensitivity rate of over 89.9%, and an fβ-measure of over 82.5%, in line with the established criteria. It is worth mentioning that replications of this experiment may also validate a better average for the accuracy rate, which reached, for many cases, the final level of 90% and even 100%. Conclusion: The effectiveness results demonstrate the potential suitability of the facial recognition tool for identifying individuals, particularly within the context of front-view photos of inmates in the prison system and similar Public Security Management applications. However, the study also revealed a higher rate of false positives among Black individuals, emphasizing the importance of addressing potential biases and refining the technology to ensure equitable treatment across all ethnic groups. This study also contributes to ongoing discussions on harnessing the benefits of technology while mitigating potential negative consequences in law enforcement contexts.

1. Escola de Artes, Ciências e Humanidades da USP.
2. Universidade Federal de Sergipe.
3. Ministério Público.

International transfer of public policies and Brazilian foreign policy: a case study of the United Nations peacekeeping operation in Haiti (2004-2017)

Rodrigo F. Gallo[1]

The objective of this research is to investigate the use of Brazilian public policies as a resource of Brazilian foreign policy in the context of the United Nations peacekeeping operation in Haiti (2004-2017). The work allows understanding how the domestic agenda can be articulated to the logic of international cooperation for the promotion of socioeconomic development, within the logic of the international transfer of public policies. The hypothesis of the study is that Brazil took advantage of the window of opportunity opened by MINUSTAH to approach Haiti and transfer to the Caribbean country a set of 114 public policies in the period – most of them directly or indirectly linked to the primary causes that generate conflicts, such as poverty and misery. This effort turned Haiti into one of the main destinations for Brazilian cooperation at the time. From the methodological point of view, this research is being carried out based on the process tracing method, with the support of case study methodologies (Peacekeeping operation in Haiti), document analysis (database of the Brazilian Cooperation Agency) and technical semi-structured discursive interview with public and foreign policy makers). The main finding of this research is that Brazil actually took advantage of the fact that MINUSTAH opened a window of opportunity to work with external actions to transfer public policies, taking a set of initiatives to Haiti, especially in the areas of Agriculture, Health and Development. In this way, we conclude that the operation made it possible for foreign policy to adopt the transfer of public policies within the list of actions, mainly because at the beginning of the mission there was a broad internal coalition aimed at promoting economic and social development at the domestic level, also creating conditions for the internationalization of such strategies.

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1. Universidade de São Paulo; Instituto Mauá de Tecnologia.

Desigualdade no acesso a água, esgotamento sanitário e coleta de resíduos: estudo de potenciais métricas para os Objetivos do Desenvolvimento Sustentável

Tiago B. Cetrulo

Postdoctoral research results report bases for further analysis of SDG sanitation indicators, aiming at the incorporation of the monitoring of inequality of access. To foster this discussion, inequality measures were adapted and applied in the Metropolitan Region of São Paulo. Considering the results, we argue, firstly, that inequality must be within the SDG indicator system and not analyzed in sporadic and isolated disaggregations. The incorporation of inequality values in the SDG system of indicators can avoid creating perverse incentives for UN member states to prioritize actions that enable them to report better coverage rates to the detriment of other factors, in this study discrimination due to socioeconomic conditions. Second, we argue that even the current method used by the UN, disaggregation by wealth quintiles, does not allow for robust conclusions about the proportion of poor people who are confronted with poor sanitation. Failures were also identified regarding the desirable quantitative characteristics in this monitoring method. Thus, improvements are needed in measures to monitor inequality in access to water supply, sewage and solid waste collection. With the case study, the potentialities and inconveniences of some tested measures were presented, but it can be concluded that: if decomposition of measures into other population classes is required, generalized entropy measures are the best choices; If the goal is to incorporate value judgments, the only normative measure is the Atkinson index; On the other hand, the concentration index was identified as the most appropriate measure, because it captures inequalities well, communicates easily and is the only one that makes it possible to distinguish the direction of inequality. In addition, it is the measure that best meets the principles for sustainability assessment and measurement (Bellagio STAMP and ODS).

An examination of the adoption of open science practices in Brazil, Mexico, Portugal, and Spain and their Global North counterparts

Christopher D. Fradkin

This project examines the adoption of open science practices among the top-performing scientific journals of Brazil, Mexico, Portugal, and Spain. Adoption among these Ibero-American journals is referenced to adoption among their top-performing Global North counterparts. The project focuses on "primary" and "secondary" indicators. "Primary indicators" are drawn from the eight Transparency and Openness Promotion guidelines of the Center for Open Science: (1) citation of data, code and materials; (2) transparency of data; (3) transparency of code; (4) transparency of materials; (5) transparency of design and analysis; (6) pre-registration of studies; (7) pre-registration of analysis plans; and (8) replication. "Secondary indicators" include such open science-related variables as continuous publication, preprints, open peer review, ORCID author identifiers, and DOI identifiers. Data was compiled from publically available indexing databases, including Web of Science, SCOPUS, and SciELO. Between-groups analyses estimated differences in the adoption of open science measures among the top-performing Ibero-American journals and their Global North counterparts, as well as differences across scientific fields (e.g., engineering vs. medicine). The project is conducted at the Escola de Comunicações e Artes at the Universidade de São Paulo (USP), under the supervision of Dr. Rogério Mugnaini.

Athlete sport club: a research on Sport for Development and Peace and athletes who associate their image with initiatives in this sector in Brazil

Billy Graeff[1]

and Renato F. R. Marques[2]

The SDP field has been progressively involved in global development and local and international aid policies, and actions and tools linked to it have been considered increasingly relevant in contexts that are especially important in relation to such policies (UNGA, 2015). This article investigates the relationship between athletes and former athletes and initiatives linked to Sport for Development and Peace (SDP). To do so, initially, we present an approach to the referred field and some peculiarities of the sector in Brazil. The conducting research question is: why and how do athletes and former athletes invest time, material, and symbolic resources in sports social projects? The methodology used in this research was qualitative and the tools utilised were the semi-structured interview, and the focus group. The research results show that there is an almost insurmountable block in the narratives when one seeks to know anything that goes beyond the social value of sport, perceived as a universal justification for practices and significances in the studied context. We understand that our research has produced satisfactory results, which contribute to a better understanding of the themes it addressed, and we also recognise that we have found a barrier that needs to be explored, the modus narrandi. What we mean by modus narrandi in the context of the SDP in Brazil is a narrative resource that is used by field agents to justify certain actions or positions, using unquestionable 'true facts' or 'maxims' and, thus avoiding or failing to address other issues.

1. Universidade Federal do Rio Grande.
2. Universidade de São Paulo.

Restoring national security in times of disaster

Luiza R. A. Cunha[1]

and Hugo Yoshizaki[1]; Irineu de B. Junior[2]

Tragedies mark the last century's history, impacting society's security. Among the different stakeholders involved in disaster response actions, the military is one of the leading and essential stakeholders due to their readiness, logistical capacity, and sustainability of their actions. In addition to military response capacity, disasters lead to situations that interfere with the population's security, requiring greater participation by the military in actions to mitigate their impact on societies. In Brazil, National Security is defined as the condition that allows the preservation of territorial integrity and the guarantee to citizens of the exercise of constitutional rights and duties. Amid this scenario, this research aims to analyze the literature on using the Brazilian Armed Forces in national disaster cases, generate hypotheses aimed at national security, and validate the hypothesis through System Dynamics simulation models. To this end, the literature regarding three emblematic operations in response to different disasters in Brazil was analyzed. Operation Carro-pipa in response to droughts, Operation Acolhida in response to the Venezuelan migratory movement, and Operation Serrana in response to rains and landslides in the mountainous region of Rio de Janeiro in 2011. Based on the literature, different hypotheses were raised and tested. The result emphasizes the context dependency of each hypothesis, the importance of risk management and humanitarian operations, and the discussion of a new perspective that could be considered for national security.

1. Universidade de São Paulo.
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Place matters: spatial-temporal distribution of the levels of food insecurity vulnerability in the intra-urban areas of the São Paulo Metropolitan Region

Joice G. Gomes[1]

and Silvia H. G. de Miranda[1]

Food insecurity (FI) is a consequence of poverty and is closely linked to the second Sustainable Development Goal (SDG). However, due to its multidisciplinary nature, it is also connected to other objectives. This research aims to develop a spatial–temporal model using readily available data from various sources to identify FI vulnerable intra–urban areas, with the São Paulo Metropolitan Region (SPMR) serving as a case study. Two indicators are proposed to measure FI. The first indicator assesses household food insecurity by considering socioeconomic factors, the food environment, and health outcomes such as hospital admissions due to malnutrition and obesity, both of which are manifestations of FI. The second indicator measures the degree of urban integration among residents by considering access to public schools (that provide food for children), health clinics, social assistance centres, transportation stations (for improved job opportunities), as well as popular restaurants and free fairs. These facilities represent the presence or absence of state support within the territory. These indicators are calculated using various methods and overlaid onto the spatial basis provided by the IBGE's statistical grid, resulting in the FI Vulnerability Index. This allows municipalities to aggregate the results according to their specific administrative scales, such as neighborhoods, sub–districts, districts, or the entire municipality. This index reveals nine levels of vulnerability to FI. In 2010 out of the nearly 19 million urban residents in the SPMR, over 1.2 million people were identified in the worst degree of FI. The model is also being replicated for the years 2000 and 2022, enabling the observation of spatial changes in FI over a span of 22 years and understanding how public policies implemented at different levels of government have impacted different areas. The study also maps the existing and potential food production in rural and intra–urban areas for the 39 municipalities between 1997 and 2017.

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1. Escola Superior de Agricultura Luiz de Queiroz da USP.

Educação antimachista: desnaturalizando o machismo estrutural

Helio C. Hintze

O objetivo deste projeto de Pós-doutorado é propor metodologia para a formação de Educadores da Educação formal e não formal, a partir da perspectiva de uma Educação Antimachista, usando os Diálogos de Saberes como percurso metodológico na busca de novas perspectivas para a compreensão humana e produção da vida digna. Objetivos específicos: Produzir fundamentação teórica dos pilares metodológicos da Educação Antimachista; investigar o estado da arte da produção antimachista; investigar como os aparelhos de produção de subjetividade capitalista elaboram, comunicam e trabalham no sentido de naturalizar as práticas machista em nossa cultura; propor reflexões críticas sobre Ética, Educação e Diálogo e seus desafios na contemporaneidade, especialmente no que tange às questões do enfrentamento do Machismo; propor contradiscursos à produção social/subjetiva machista, por meio da Educação Antimachista, elaborando métodos e técnicas de ação para a formação de Educadores na educação formal/não formal, a partir da metodologia dos Diálogos de Saberes (atuando em Ensino, Pesquisa e Extensão). Este projeto de Pós-doutorado se justifica por procurar contribuir com as mais diversas lutas contra todas as formas de violência (simbólicas e físicas) que têm sido perpetradas contra pessoas por questões de gênero. Espera-se com este trabalho, colaborar com a produção de uma Educação Antimachista a ser trabalhada na formação de Educadores em todos os âmbitos da Educação formal e não formal. Investigamos a linguagem em busca das marcas da naturalização do machismo estrutural em busca de elementos que nos permitam produzir reflexões que nos permitam a elaboração de metodologias de desnaturalização do machismo.

Abusive practices and clauses of health plans: violations of the consumer-patient's right to medical assistance

Marli A. Sampaio[1]

The growth of litigation for the right to health challenges the regulatory and supervisory power of the National Supplementary Health Agency (ANS) to (at least) pacify relations between consumers and health plan operators. This study analyzes denials of health treatment coverage due to legal and contractual restrictions as the main triggering causes of these disputes. It also analyzes the appropriation of the principles of bioethics and biolaw, when the claimed treatment is claimed to be experimental. Although the study works with secondary data collection, it is not a quantitative research. The junction between a qualitative approach and a hypothetical–deductive method resulted in the construction of the study in the stages of: bibliographic review, data collection and critical analysis. Data were obtained by applying questionnaires to 1030 judgments of the Court of Justice of the State of São Paulo (TJ–SP) between 2019–2022. Following the proposed methodology, by submitting the judgments to the scrutiny of the theoretical argumentation, the study proved the following hypotheses: (i) In 92.9% of the analyzed judgments, the TJ–SP upheld the first instance sentences, invalidating the denials of coverage as unfair terms or practices; (ii) During the period, there was no publication of ANS regulations mitigating or ruling out denials of coverage. It is concluded that despite efforts, especially by the Judiciary, to invalidate the denials, even so, operators create new restrictions on health treatment, without this resulting in the application of sanctions by the ANS. The ANS breaches its institutional duty, violating the right to medical care and the human dignity of the patient–consumer.

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1. Faculdade de Direito da USP.

Interfaces das perícias técnicas envolvendo incêndios e explosões, com o Direito Civil

André L. G. Scabbia[1]

and José L. G. de Almeida[2]

All expertise must follow the principle of cooperation, as described in the CPC (2015) [1], of Article 6: "all the subjects of the process must cooperate with each other in order to obtain, in a reasonable time, a fair and effective decision on the merits." The investigation requires enforcement with essential requirements and methodology, starting with collection data, consolidation of information, record of notes, photographs, drawings, audio and video recordings, critical and reasoned analysis of data and records, to then reach the conclusions, which will be presented in a document called an expert report or technical report. The methodology recommended by NFPA 921 [2] for fire investigation has seven steps, which the data collection step is the basis of the entire investigation. Given the importance of collect data for the development of an expert engineering works, as well as fire and explosion investigations, the article proposes a method based on the application of the 5W1H tool, as proposed by CARDOSO (2017) [3], which is composed of six questions: What – Who – Why – When – Where – How. Some authors, in a complementary way, use the 5W2H, as how much. The method used here is subdivided into eight steps, that is a mixture of the issues raised in the criminal investigations, NFPA [2] and SCABBIA; MOREIRA & ALMEIDA (2022) [4]. The initial step consists of an exploratory study aimed at identifying typical Risk Scenarios that cause fires or explosions, as established by LEES (2005) [5] and in the ABNT NBR ISO 31000: 2018 [6], considering: (i) context establishment, (ii) risk identification and (iii) risk analysis. In the activity of establishing the context, compare the definitions of how and why to carry out investigations, also using the concepts from Engineering and those expressed in Civil Law, based on different authors (BRANDIMILLER, 1996 [7]; DEL–CAMPO [8], 2008; PRESOTTO et al 2017 [9]. Regarding the place of the accident happened, the publication of SILVA (1992, 1997 and 2001) [10 to 12], RODRIGUES (2000) [13] and the UNIVERSITY OF SHEFFIELD (2007) [14] present a theoretical framework on the dynamic behavior of structures, even after the action of fire, which facilitates the expert or investigator to have a notion of the fire epicenter, and allows to identify, even in the initial phase, Accidental Hypotheses. The paper of SHIELDS & SILCOCK (1987) [15] present case studies

1. Instituto de Pesquisas Tecnológicas da USP.
2. Faculdade de Direito da USP.

that describe how to do a fire investigation. The model developed by REASON (1990) [16] and adapted by ORTIZ (2018) [17] and ORTIZ & SCABBIA (2022) [18] for questions of investigations allows understanding how risks can materialize in accidents, such as fire and explosions, revealing the faults that can arise in defenses. To conduct a fire and explosion investigation, you can use the principles proposed by DEL–CAMPO (2008) [8], which is based on criminal proceedings, and follow the doctrine of BRANDIMILLER (1996) [7]. It was relevant that the professional (Expert Engineers, Consultants or Investigators) has full knowledge of the subject in which he is evaluating, regardless of his engineering background, in addition to understanding the investigative methodology that always seeks to determine the root cause of the claim. Regardless of the questions that must be answered in the investigation process, the root cause must be sought, even if it takes months to collect data and analyze the information, because you cannot generate a wrong, erroneous and superficial report. All expertise must be based on technical standards and legislation related to the subject of the claim, highlighting that such activity is of paramount importance for clarifying the facts and supporting the principle of full defense in accordance with the Brazilian Federal Constitution.

Public policies on labor migration in countries on the Latin American Integration Route – RILA

Isabelle D. C. Santos[1]

The Latin American Integration Route – RILA – involves four countries in South America, that is, Brazil, Paraguay, Argentina and Chile, with the aim of strengthening relations between States in different spheres, linking the Atlantic Ocean to the Pacific. Such international legal cooperation will have impacts not only economically, but in different spheres and that encompass issues that permeate cultural, legal, environmental, migratory aspects, among others that can affect local, regional and even global trade. Thus, there is the scope of developing research with the aim of addressing, based on law and public policies, labor migration, and possible violations of the human rights of migrants for work involving the four countries, since the movement of people in the region will affect both the States and the social protection of individuals. Thus, knowing what the labor standards are, as well as the most essential national Public Policies for working migrants, and how to implement them in the respective countries is another issue to be addressed. It is noteworthy that the current treatment of the bioceanic road route lacks a more in-depth analysis, in view of the numerous complexities present and the future for its implementation, especially with regard to the legal and political viability of reformulating and/or creating public policies that deal more specifically with migrants on work. The aim is to analyze the challenges that permeate labor migration in the countries under study and that are part of the RILA, as the region is the main gateway to trade and development with other locations on the planet, such as China and the western United States of America, which creates expectations on different fronts. To this end, the investigation will be carried out using an exploratory and systematic qualitative method, based on national and foreign doctrines, national and international legislation, academic databases, as well as official and unofficial websites.

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From San José to Brasília: the inter-American system and the protection of trade union rights in Brazil

Renan B. Kalil[1]

Approved in 2017, labor law reform altered labor regulation in Brazil. One of its main consequences was the weakening of labor unions, which negatively affects the organization of workers. In the same year, the Inter-American Court of Human Rights underwent a shift in its jurisprudence and adopted a systematic interpretation of regional treaties to protect labor rights. This is the main reason why, in the past six years, the Court has issued several opinions that have strengthened the development of inter-American standards in this subject: judgments in previously unexplored contentious cases (such as the right to strike in the case of former employees of the Judiciary v. Guatemala) and bold advisory opinions (such as those on freedom of association, collective bargaining, and strike with a gender perspective). Nevertheless, the adoption of inter-American standards, which are legal obligations identified through the interpretation of articles of the American Convention, is still limited in Brazil. The objective of this research is to address the development of these standards concerning freedom of association, collective bargaining, and strike action. It is a prescriptive study that aims to systematize these standards to contribute to the implementation of conventionality control by labor institutions, particularly labor inspectors, labor prosecutors, and labor judges, to harmonize domestic law with the American Convention and advance towards the goals of labor law. We have adopted an analytical-descriptive method, consolidating the Court's positions on trade union rights. We present initial possibilities in which the inter-American standards contribute to promoting freedom of association, collective bargaining, and strike action, which obviously does not exhaust the potential offered by inter-American norms. Thus, a path is envisioned to reverse the current trend of deteriorating working conditions in Brazil.

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1. Faculdade de Direito da USP.

Translation, law and feminism: rewriting as a way of resisting

Alessandra R. de O. Harden[1]

and Fabiana C. Severi[2]

The research project out of which this presentation arises is located in the intersecting between Translation Studies and Law Studies, and it is more specifically concerned with elements common to both feminist translation studies and feminist legal theory. As it is not possible to separate the use of language from the social construction of reality (BERGER; LUCKMANN, 2004), the focus here is placed on the phenomenon of translation as a tool capable of influencing social reality by promoting different ways of acting and being in the world. As such, my discussion in this presentation is based on the translating of texts deemed relevant by the research group Direitos Humanos, Democracia e Desigualdades ("Human rights, Democracy and Inequality", whose leader is Prof. Fabiana Severi) to inform its activity of rewriting judgments (judicial decisions) from a feminist and/or antiracist perspective. Such translations were done within the conceptual framework linked to another official research group, dedicated to the area of Translation Studies: Tradução como Ferramenta de Resistência e Inclusão ("Translation as an instrument of resistance and inclusion", founded in the University of Brasilia and of which I am the leader. For this Congress, my aim is to discuss these translations against the background of the concept of rewriting as explained by André Lefevere (1992), who is famous for his work on literary translation. The concept is applied here both to the translation of legal and scholarly texts and to the writing of new "fictional" judgments inspired in real judicial decisions relevant to the Brazilian society. As a theoretical notion, Lefevere's rewriting can help us to understand the strengthened and essential role played by those involved with the intellectual task of imagining and bringing into life both texts and social realities, be that in different languages or/and in new legal and historical worlds.

1. Universidade de Brasília; Faculdade de Direito de Ribeirão Preto (USP).
2. Faculdade de Direito de Ribeirão Preto (USP).

Law n. 11.340/2006 as an instrument for implementing gender equality and the human right to development

Welington O. de S. dos A. Costa[1]

and Fabiana C. Severi[1]

This Post-Doctoral Project starts from the problem arising from gender inequality and, consequently, the violation of the human right to development and equality. For this purpose, the provisions contained in Law n. 11.340/06, the Maria da Penha Law, whose object is the broad protection of women victims of domestic violence. The research in question will be developed from the dynamics of the application of legislation in step with what establishes the objective for sustainable development n. 05 of the 2030 Agenda, which aims to achieve gender equality and empower women and girls. As intended results, it is intended to demonstrate how the offense to gender equality entails offense to human rights related to it, as well as the fundamental role of the Maria da Penha Law in solving the problem. In methodological terms, the research, bibliographical and documentary, exploratory, will be developed from the deductive method, under the snowball technique. The documental analysis will be carried out over 02 (two) years, the postdoctoral period, culminating in the publication of articles in prestigious academic journals and in the related area. Likewise, the proposing academic will actively participate in the Graduate and Graduate Program of the University of São Paulo, Ribeirão Preto campus, teaching, under supervision, classes, lectures and guiding research assigned to him, in addition to participating in academic events and other projects, in the form of the work plan proposed with this project.

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Ethics in the autonomy of the will

Guilherme L. Leoni

Ethics has been seen as a social fraying that denotes the response to a justification to cultural acts of a certain population as centralizing acceptable conducts, even if these actors are aware that the acts practiced under the eyes of society are of dubious morals. The recent crises accelerated by corruption have made it increasingly a subject of great social spectrum and common sense regarding the rescue of integrity and how this concern is possible to justify the real need for this reunion with an integral culture and to sustain a globalized society in all its effects, such as plurality, diversity and equality. To exercise the will with real subjective autonomy is to show oneself free from the social impositions of groups that exercise effective domination, either by economic or political influence, even if they are not the majority but that end up influencing the choices that define the guidelines of society. These influences lead to popular opposition to the normative systems that denote yearnings gathered throughout history, eventually bringing a dissonant social impression, as well as pouring into the pattern of the average man who stands out, for example, to the customary popular clamor for the lack of sanctioning laws for the evils that have repercussions in the media. The average man stands out the citizen who, because he does not know the rules imposed and enforceable *erga omnes*, uses his ignorance to justify his own erroneous conduct.; it is the person who alleges and cries out against something without foundation or is silent when existing rules are imposed on him and that he "did not know" or when he uses rules that benefit him, even if they are contrary to what I thought was wrong; It is someone who fails to seek the motive of the facts to impose his moral rules against the acts committed by others or to justify his failure by seeking to impose guilt on the fact of a third party. Is the State the normative function of the will, without the absolute exercise of the individual? If positive the answer to the question, how to sustain the autonomy of the will for the dignified exercise of life well normalized and guaranteed by the Federal Constitution of 1,988 in its article 1, item III.

Handcuffing at the moment of arrest and transportation of arrestees

Vitor F. Gonçalves

The present paper comments on the subject of the use of handcuffs by the police in Brazil. It tries to demonstrate how over the centuries Brazilian criminal procedure, regardless of what formally stated the law, has been characterized by class privileges and has reflected the culture of a nation deeply affected by centuries of slavery. Nevertheless, recent legislation passed by the Brazilian Parliament has enforced the Istanbul Protocol, a manual approved by the United Nations to help countries effectively document cases of torture, inhuman or degrading treatment. Acting accordingly, the National Council of the Public Ministry has recently directed Brazilian public prosecutors to actively investigate cases of torture, inhuman or degrading treatment using the groundwork provided by the directives of the Istanbul Protocol. The paper brings into attention that handcuffs may be used to facilitate acts of torture, or that an incorrect use of handcuffs may actually constitute torture, as the indiscriminate publicity of the image of the arrestee may be degrading to his dignity as a human being, considering the absence of a prior defense. Moreover, as the use of handcuffs in Brazil must be an exception, the paper emphasizes that handcuffing black or brown citizens mostly because of the color of their skin also constitutes a degrading treatment that must be investigated and sanctioned. The paper details the signs that Prosecutors must search for and procedures that they must obey, with the use of recent medical theory and the guidelines of the Istanbul Protocol.

Praising Goddesses: closure and decolonization in accounting academic production

Sandra M. C. da Silva[1]

It is possible to follow the mobilizations of the social fabric to question the racism that afflicts black people. It is a movement of open social condemnation of the most different forms of racism. In the academy, with the advance of studies and recognition of the social markers of difference, the procedures using traditional methodologies of data survey and/or construction of evidence do not account for the emergence of innovative and sophisticated forms as an expression of prejudice and racism that are embodied in everyday behaviors of discrimination, both at the institutional and interpersonal level. These new forms of expression of prejudice and racism require new theorizations, as well as, variations in the analyses of evidence from studies, which confront the empirical support that underlies each of the chosen theories. In view of these different forms of expression of prejudice and racism, I will use applied research methodologies for the analysis of racism to evaluate the existence of racialized processes of exclusion via the phenomenon of "closure". This social phenomenon refers to exclusionary practices through which specific groups organize themselves to monopolize social and economic rewards, closing off opportunities to other non-hegemonic groups. The selected approach is qualitative. In developing the research, I will assume a counter-colonial feminist stance. With this, I will exalt, as a theoretical perspective, the production of black intellectuals. The purpose of the research is to bring to light the academic productions of black women who have not obtained the due recognition in accounting. To this end, I have opted for the snowball technique, used in social research. Thus, through this project, I propose to identify and analyze the types of violence and subjectivities that operate to (re)produce "closure" and, with it, erasure and silencing in the careers of black female academic accountants.

1. Universidade Estadual de Feira de Santana.

The malandragem and black masculinities as keys to the understanding of constructions of images of control, in Rio de Janeiro of the post-abolition (1889-1930)

Alessandra T. de Souza

I analyze black masculinities in Rio de Janeiro of the First Republic in an intersectional perspective, contemplating the relations of race, class and gender. The focus of the debates will be through the constructions of images of control that revolve around the concept of malandragem in line with the productions that contemplate racial issues in the context of post–abolition. I evaluate how the various forms of subordination interact in shaping stereotypes of people who are dangerous to black men. Considering how the historicity of the concepts of vadiagem, malandragem and malandro are part of the discursivity that underlie physical, cultural and symbolic persecutions of black masculinities. I understand black masculinity as a fundamental issue of the present and lacking an analysis from the historical perspective of how it was constructed and is still sought to legitimize diverse violence against these black men and those that they themselves produce in society, especially as companions of women and parents of black children.

Gender violence in the academic environment: a comparative study among Brazil and Chile

Carolina dos S. Bezerra-Perez[1]

and Heloisa B. de Almeida[2]

This project aims at carrying out a comparative study on violence against women in the academic environment comparing different contexts among universities in Brazil and Chile. An ethnographic work will be done in order to conduct a data collection on two fronts. On the first one, concerning the motivation for denunciations, actions to promote the listening, and the mobilization of victims in movements, collectives or associations, semi-structured interviews will be used to describe the reports. On the second front, institutional responses will be researched, as well as whether universities were able to effect prevention, education and communication policies aimed at fighting gender inequality. I will research if there are specific mechanisms or bodies to investigate the complaints and whether sanctions or penalties are applied to perpetrators. The several reports and studies on this topic point to a reproduction of violent processes and actions against the victims, generating the revictimization of women who decide to denounce, with drastic consequences to the academic environment, which becomes violent and hostile to women. Finally, it is necessary to treat this phenomenon as a Human Rights issue, which requires attention to data on abandonment and evasion by these women, and to the silences, illnesses and traumas, which researchers, students, professors and staff are subject.

1. Universidade Federal de Juiz de Fora.
2. Universidade de São Paulo.

Reforms in Brazil's social programs and the deactivation of political public spaces: solidarity, poverty, and political mobilizations

Denise De Sordi[1]

The research "Reforms in Brazil's social programs and the deactivation of political public spaces: solidarity, poverty, and political mobilizations" investigates the relationship between the changes of meanings around Social Rights, expressed in the successive reforms in the social programs of the New Republic period, and the deactivation of the public space as a way to translate social demands and manifestations for better living conditions as individual needs. The hypothesis is that when the political forms of mobilization that claim social rights changed by erosion of Brazil's democracy between 2016–2022, there was a breakdown of public references, promoting resignifications around social solidarity and themes such as poverty and social mobilizations. From the perspective of the theoretical approach of Sociology for conceptions of work and solidarity, the research proposes to systematize new forms of mobilization carried on by the Homeless Workers' Movement (MTST, acronym in Portuguese) on Solidarity Kitchens, highlighting that the free food distribution for impoverished workers functions as a form of political and social mobilization, reactivating the public sphere and social questions. Furthermore, food security and sovereignty promoted by the Solidarity Kitchens allow understanding of the crucial aspects of the fight against poverty and hunger, linking rural and urban workers and creating new technologies for social programs against poverty from side to side. These two aspects combined articulate the social aspects of social solidarity, interfering and mediating the political forms which reproduce poverty and inequalities. Thus, the research is in the second phase, with an extension of fieldwork, deepening the previous results and integrating the systematization of living conditions of rural workers and their production, considering the chains of supply to Solidarity Kitchens, both as a potential aspect of social politics and programs that seek to integrate rural and urban production and consumption to alleviate poverty.

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1. Faculdade de Filosofia, Letras e Ciências Humanas da USP.

Contrasts in Brazilian linguistic historiography: the evidence of the feminine

Julia Lourenço[1]
and Cristina Altman[1]

From the theoretical-methodological perspective that considers gender, the traditional conception of scientific neutrality and objectivity are strong points of inflection, since these values are also strongly anchored in a certain point of view. The imbrication between feminism and science promotes, for example, a greater interest in building socially situated knowledges, that is, those that resort to history, social relations, and the world to better understand the phenomena they analyze. From this point of view, the subjects' experiences are sources rather than obstacles in the scientific process and contribute to the promotion of a more critical scientific perspective. Thus, the "point of view epistemology" (HARDING, 1993) seeks, therefore, to review the theoretical and epistemological bases in which a particular scientific thought arises and, in view of this, to promote the understanding that points previously considered marginal also participate in the norms of research. In this sense, based on the assumption that linguistic historiography "has as its object the history of the processes of production and reception of linguistic ideas and the practices resulting from them" (ALTMAN, 2012), we intend with this research to exercise scientific reflection from another point of view on the same object. Based on a feminine perspective, we intend not only to highlight the great highlights of the discipline in Brazil, but also to put back the women in this history. This proposal is based on the observation that the available literature on the theme, with this specific clipping, is still not sufficient in Brazil and that, although diversity and pluralism are fundamental in science, these same values are not often observed when its historiography is developed., Our objective is not to question the relevance of the research that men have developed in Brazilian Linguistics, nor to contradict the historiographical work that has been developed so far. Our scientific view is more directed to the observation of the "increased interest both in linguistic historiography and in the status of women" (FALK, 1999) and to the possibility of building a feminine linguistic historiography in Brazil, which repositions the women, researchers and professors, who participated, and still participate actively in scientific movements and in the development of the discipline in the country.

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1. Faculdade de Filosofia, Letras e Ciências Humanas da USP.

Transnational dialogues in the feminist press: letters, gender and politics in Brazil at the end of the 19th century

Laila T. C. e Silva[1]

and Gabriela P. Soares[1]

From two Brazilian feminist newspapers, A Família and A mensageira, it appears that the birth of Brazilian feminism was closely linked with the feminist press, literature and a wide network of international dialogue, notably European and, especially, Parisian, composed by "women of letters", or intellectuals engaged in politics and in the conquest of women's rights. In this context, the Brazilian feminist Josephina Álvares de Azevedo (1851–1913) stood out and her international engagement, with visibility in Paris, via the feminist journal of the Belgian international organization for women's rights, Le droit des femmes: revue internationale du movement feminine, Paris. (1869–1891). The research will trace the networks of these dialogues and exchanges of ideas, shedding light on the beginnings of the women's movement in Brazil and its mutual impact on Latin America, Europe and the United States, establishing the importance of literature as a space for the elaboration of projects and actions. policies, with a view to the effective participation of women as citizens, workers and intellectuals engaged in the nascent Brazilian republic and in the formation of the women's movement in the 19th century.

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1. Faculdade de Filosofia, Letras e Ciências Humanas da USP.

Interpretation from portuguese into Brazilian Sign Language (Libras) during the Covid-19 pandemic: an analysis based on three emerging speech genres

Marcus V. B. Nascimento[1]

The Covid-19 pandemic impacted the world of work and gave rise to a double scenario for Libras interpreter's: (i) the adaptation of face-to-face work to remote work; and (ii) the emergence of new contexts as a field of work. This research aimed to analyze discourses by Libras-Portuguese interpreters who worked in the pandemic from the discursive genres conference, class and musical lives. It was based on the methodology of self-confrontation, developed in the context of the French Clinic of Activity and Libras interpreters were placed face to face with their performance in order to observe, describe and analyze the discourses established in their interaction with their activities. The analysis was based on Dialogical Discourse Analysis and Sign Language Translation and Interpretation Studies from the crossing of vertical axes, when self-confrontations were observed individually, and horizontal axes, when they were articulated from the exotopic position of the researcher. It was observed that the interactional dynamics in the analyzed genres imposed new concerns on interpreters regarding the use of Libras by a linguistic exploration of referential spaces due to the structure of remote interpretation and the alternation of speakers in the interactional dynamics of genres. The interpreters argued that the fact that the Libras interpretating, in the three genres, were displayed through a screen imposed a more significant use of the intermediate signaling space. However, a difference was noticed in the live musical genre, as the performers needed to create collective agreements strategies to deal with the constraints imposed by the interactional unpredictability established between the live participants and which affected the organization of the team. In view of the results, it is possible to infer skills that were built during the performance of these professionals in the remote modality, such as the use of language from the limitation of the exhibition space, such as windows, and forms of teamwork.

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1. Universidade Federal de São Carlos.

Family agriculture cooperatives as a strategy for socio-territorial rural development

Maria J. de S. Barbosa[1]

and Júlio C. Suzuki[2]

Family agriculture cooperatives, as a rural development theme, is considered a territorial organization strategy in Baixo Tocantins. In this context, it is about systematizing knowledge about this socioeconomic reality and organizational management of the territory mobilized by family farming cooperatives. The configuration of knowledge about the Baixo Tocantins micro-region in order to understand the organizational strategy of cooperativism as a collective subject capable of productively mobilizing this territory, insofar as they mobilize technical, institutional, political and economic networks aimed at endogenous/ rural development in the face of the socio-environmental impacts caused by large exogenous development projects (Tucuruí Hydroelectric Power Plant, the ALBRAS-ALUNORTE mining-metallurgical complex, oil palm agrodiesel, for example), with loss of biodiverse resources, bearing in mind that these changes in land use have repercussions on multidimensional problems. Rural cooperatives, formed by family farmers, act against these problems, triggering the dynamics of associated and self-managed work as a strategy for the permanence of the local population, where the low level of education makes it difficult to access specialized services and innovation to add value to natural products. In this space, sustainable development actions take place, through ancestral and agroecological practices, as a mitigating action for the low installed technical capacities. Cooperatives, therefore, have managed to maintain a level of resistance and generation of work and income, under the effects of socio-productive insertion, in synergy with sustainable socioeconomic practices, valuing natural resources, moving webs immanent to endogenous society. Becker (2010, p.21) emphasizes that in contemporary society it is necessary to understand the territory as a space where social practice is closely related to spatial practice, as it is built from a movement of appropriation of a space, which sets limits to its own power, as it is constituted by the use and experience of subjects who interact, not always by consensus. It identifies the importance of "experiences associated with the biosociodiversity of the Amazon – well expressing the regional heterogeneity – and they represent new territorialities resistant to expropriation, whether indigenous subjects, rubber tappers or small

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1. Universidade Federal do Rio de Janeiro.
2. Universidade de São Paulo.

producers". The author recognizes that the experiences of local populations are constituted by ecosystems that require adaptations "...technical, social and political productive structure, as well as diverse partnerships (Idem)". One of the dynamics of local populations has been the organization of cooperatives, which guide socioeconomic practices leveraged by local cultures, that is, traditional populations (indigenous, riverside, quilombola and family farmers), supported by networks of cooperation, intercooperation and reciprocity. These subjects have sought to overcome this reality, to the extent that products, before being used domestically by these populations, have gained relevance as they are recognized for their edible and medicinal substances.

Economic redistribution and severe polarization: a comparative analysis of Latin America (1990-2019)

Pedro M. R. Barbosa[1]

In the literature, the most influential theory on the phenomenon of political and social polarization points out that its roots are related to the deepening of economic inequality in democracies. This postulate, however, contrasts with the movement observed in the first decade of the 2000s in Latin America in which polarization advanced in a context of reducing inequality in the region. Considering this, the present research proposes to investigate an alternative explanation that, instead of the increase in inequality, polarization is related to the advance of redistribution exercised through social policies in democratic contexts. The hypothesis is, that in unequal societies such as Latin American ones, political actors that promote redistribution acquire broad electoral advantages, given the high electoral demand for economic redistribution.

1. Universidade de São Paulo.

Digital colonialism in the Global South: society of the spectacle or surveillance society?

Souzana Mizan[1]

and Lynn M. T. M. de Souza

Western epistemological approaches have traditionally constructed a celebratory discourse on technological development by promoting "hyperbolic narratives of the big data revolution" (Milan & Treré, 2019, p. 320). Besides, Big Data theories have been using conceptual frameworks that perpetuate scientific approaches whose production is situated in the Global North, but are endorsed as being universal. Moreover, this dominant epistemological approach is contextual and designed to serve the interests of the industry, governments and science of the geographical place it is framed, that is of the Global North. In this paper, we call for an epistemological change in the positivist take on Big Data and we challenge its seemingly universal and beneficial mindset. We seek to show that the theories on digital literacies although they have been considered to be critical of traditional literacies have not touched upon the realities of digital capitalist colonization of the Global South. The presentation tackles digital colonization by presenting and analyzing the coloniality of knowledge, of power and of being in the Global South. The coloniality of knowledge manifests itself through the colonization of education and common sense in the Global South. The coloniality of power emerges in the form of digital capitalism, platform capitalism and surveillance capitalism. And finally, the coloniality of being materializes in the shape of digital influencers who are marketing themselves. We seek to contest and de-Westernize the discourses on digital literacies by revealing the opacity of power they create.

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1. Universidade Federal de São Paulo.

Diversity and equity in early childhood care

Jaqueline L. Santos

and Alexandra V. M. Brentani

Early Childhood has gained notoriety in social policies over the last few decades. In Brazil, for a long time, this field was not part of public social assistance policies and actions aimed at children focused on education (day care, preschool). When the international debate on the subject arrives in the country, it is strongly influenced by the field of biological sciences, which comes to think about fundamental skills and competences for the different stages of development of children, but which still does not have a diversified look at the experiences of families and parenting considering the diversity of multiple territories. For this reason, popular organizations and those of traditional peoples and communities, although they have been acting for a long time in defense of the rights of their family members, still do not occupy space in this new public debate on early childhood and their ways of knowing and care are disregarded in the protocols that have been assumed by this area and by the public policies in progress. There is a consensus that early childhood is a primordial phase for development, a stage where the pillars of an individual's trajectory are established. In this way, several subsidies were prepared to guide the performance of programs and institutions aimed at the care of children that are based on universal biopsychic aspects identified by the sciences. However, elements that are related to social and cultural experiences and that even reflect this universality, do not gain prominence in the methodologies and standards that have been developed and adopted for child care. This means that the diversity and specificities of children are still not taken as a starting point in the actions directed to them, but rather the standards established by the biological sciences for the field of interactions and care. It is necessary to overcome this problem and think about how history and social and cultural experiences are reflected in the trajectory of these children. In other words, how can different cultural groups contribute to the development of biopsychic aspects based on their traditional practices? How does the development of biopsychic aspects take place from the world view of traditional peoples and communities? How can the fields of science that guide early childhood today consider these multiple experiences as contributions to thinking about children's development methods? Seeking to answer these questions, this study, focused on communities and traditional peoples, aims to contribute to the steps still needed in the field of early childhood. From this problematization, the perspective is adopted that although the characteristics of the development of the human body are indeed universal, the ways of stimulating them have different contours and steps depending on the sociocultural context in which people are inserted.

Life stories of immigrants or refugees living in the city of São Paulo, Brazil: the right to come and go and repercussions on bodily identity markers

Cleber T. Cirineu[1]

Migration is a complex economic, political and social phenomenon. In this sense, it is important to highlight that Brazil experienced a strong immigration process that resulted in important transformations and changes both at the social, political and economic levels. This study assumes that the phenomenon of immigration and the search for refuge in another country can impact the life stories and have significant implications for the bodily identity markers of this population. Objective: To analyze the life stories and the repercussions on the body identity markers of immigrants or refugees, from an occupational perspective and the Theory of Daily Life. Methodology: The research will be performed using a qualitative method that will use a narrative approach through the analysis of the life stories of ten immigrants or refugees living in the city of São Paulo, Brazil. For the interpretation of the material produced through the stories, the Collective Subject Discourse (DSC) will be used, which is an approach proposed by Lefèvre and Lefèvre. For the accomplishment of this research, it is intended to use a schedule in twelve months. Theoretical Foundation: As a theoretical foundation for the development of the research, the philosophical framework of Theory of Everyday Life by Agnes Heller will be used, supported by different theories of Occupational Therapy, as well as different perspectives that address the body and body identity.

1. Faculdade de Medicina de Ribeirão Preto (USP).

Social inequalities in health in the city of São Paulo: measurement, monitoring and analysis

Edige F. de S. Santos[1]

and Camila N. Monteiro[2]; Elaine C. T. Oliveira[1]; Katia C. Bassichetto[3]; Margarida M. de A. T. Lira[4]; Samantha H. Farias[5]; Diama B. Vale[5]; Marília Louvison[1]; Moisés Goldbaum[6]; Marilisa B. de A. Barros[5]; Chester L. G. Cesar[1]

Objectives: To assess social inequalities in health, including the use of health services, preventive practices for detecting cancer, and also to analyze trends in mortality rates according to strata of social vulnerability in the city of São Paulo. Materials and methods: Population–based cross–sectional study, carried out with data from 2003, 2008 and 2015 from the ISA–Capital Survey. The outcome variables were the proportion of mammography, Pap smears and Prostate Specific Antigen (PSA) tests and related to the use of health services in the two weeks prior to the survey due to the presence of some disease. Inequality was measured by the level of education. Prevalence Ratios were estimated using Poisson regression. For mortality data, an ecological time series study was performed. As a measure of inequality, rate ratios (RR) were used. For trend analysis, the Prais–Winsten regression model was used. Data analysis was performed using Stata 14.0 software. Results: Inequalities were observed in access to cancer screening, being more expressive for mammography and PSA exams, while social inequalities were not observed in the use of health services, for issues related to demand, access, satisfaction and resolution. The inequality of homicide mortality in males increased significantly, while in females the inequality remained stationary. Conclusions: The inequalities observed in access to cancer detection tests were influenced by the level of education. The results show advances in the use of health services, as well as a strong concentration of the unified health system (SUS) use by the population with less education. The increase in inequality observed among men points to the need to strengthen multisectoral public policies to reduce social inequality and the determinants of violence, leaving the health sector to produce knowledge to show who these people are and where they live.

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1. Faculdade de Saúde Pública da USP.
2. Hospital Sírio–Libanês.
3. Faculdade de Ciências Médicas da Santa Casa de São Paulo.
4. Projeto Temático "Desigualdades Sociais em Saúde nos municípios sedes de duas metrópoles paulistas: mensuração, monitoramento e análises", Campinas, SP, Brasil.
5. Universidade Estadual de Campinas.
6. Faculdade de Medicina da USP.

The challenges of Participatory Action Research on community responses to the COVID-19 pandemic in times of philanthrocapitalism

Pamella L. N. Pereira

and Deisy de F. L. Ventura; Denise Gastaldo; Anne-Emanuelle Birn; Kamila B. A. e Silva

Objective: To analyze the application of the Freirean Participatory Action Research methodology in a community in São Paulo where a philanthrocapitalism political-economic logic is dominant. Methodology: For the development of this research, we are using Freire's methodology of Participatory Action Research. As a starting point, we took the following leading question: how to establish decolonized relationships with community members for the development of Participatory Action Research, in a context where community activism is influenced by the discourse of social entrepreneurship and, in the field of public health, through the private financing of assistance initiatives, reproduces characteristic ideas of philanthrocapitalism? To answer this question, over the past year, student-activist residents of the Jardim Colombo community (Favela de Paraisópolis) have been mediators between the researchers and the territory, in order to define whether the community was interested in carrying out action research on the memory of the COVID-19 experience. The results presented here come from five meetings between researchers and community-dwelling activists. The analyzes were carried out by three authors (PL, DV, and KB). The project is duly approved by the USP Ethics Committee. Results: In a context of saturation of residents and community activists in relation to research and interventions that seek to extract knowledge apart from social struggles, without recognizing the knowledge of the investigated subjects and reinforcing a colonial vision – by denying the ontological condition of excluded subjects producers and owners of knowledge –, we sought to describe how the dialogue with the community was established so that the action research could be developed. Through a Freirean dialogical perspective, we maintain that the horizontality of the dialogue was established thanks to the presence in the project of a researcher from the popular classes, who was a catalyst for the already existing contact with activist-residents of the territory. This network of relationships, belongings, and identifications is permeated by several public policies with a structural impact, the most important of which is the system of racial and social quotas in universities. This system made it possible for a researcher-doctor, coming from a peripheral region of Rio de Janeiro, and formed by one of the first universities to implement the racial quota system in Brazil, to be carrying out research in a peripheral community in São Paulo, where there are people with excellent university education provided by the same system, and with the ability to intervene in their own reality actively.

Another key issue is the meeting between the general interests of the project and the interests of the community with regard to the development of durable, transparent, democratic, community-based public health policies. Possibilities of cooperation with different units of the University of São Paulo can also be explored within the scope of university extension projects. These interests intensified after the COVID-19 experience, as the response model to the pandemic based on collecting donations from the private sector quickly weakened, due to the decrease in contributions over the months, as the pandemic dragged on. and naturalized with potential donors. In this work, we describe how the research group that investigates the difficulties faced by residents of Jardim Colombo during the pandemic was formed, with emphasis on the description and problematization of horizontality in the dialogue with the community, taking into account the existence of pre-established social hierarchies established between the knowledge produced by the university and the knowledge constructed by residents of peripheral communities.

Prevalence and spatial distribution of food insecurity in students at a Brazilian public university during the Covid-19 pandemic

Alisson D. Machado[1]

and Dirce M. L. Marchioni[1]

The COVID-19 pandemic has exacerbated food insecurity, particularly in populations such as undergraduate students, who were deprived of policies such as university restaurants. The prevalence of food insecurity tends to show vast spatial variability, and tracking the places at greater risk of this phenomenon is relevant for directing policies. Thus, we investigated the prevalence of food insecurity and its spatial distribution among university students residing in the municipality of São Paulo during the COVID-19 pandemic. We used data from the participants of the BRAZUCA-COVID study. We adopted as an inclusion criterion to live in São Paulo at the time of data collection, which we conducted through the application of an online questionnaire between September and November 2020. The level of food (in)security was estimated by the Brazilian Food Insecurity Scale, and the district of residence was identified through the address provided. We classified the participants into nine groups according to their place of residence. We included 916 participants in these analyses. The prevalence of food insecurity was 28.3% – 19.5% for mild food insecurity, 5.1% for moderate food insecurity, and 3.7% for severe food insecurity. Regarding spatial distribution, the prevalence of food insecurity was 8.5% for the Center-South Region; 23.6% for the Northeast; 24.2% for the West; 25.3% for the City Center; 30.7% for the Southeast; 37.5% for East 1; 43.4% for the Northwest; 45.0% for East 2; and 50.0% for the South Region. We found that almost a third of the participants were on food insecurity. The percentage of university students experiencing food insecurity was higher in the regions farthest from the center, suggesting that intervention measures and student policies can be directed preferentially to these locations.

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1. Faculdade de Saúde Pública da USP.

The Faculdade de Saúde Pública as (another) memory place

Carla L. Porto[1]

Based on interviews carried out in one of the at the Faculdade de Saúde Pública (FSP/USP), the institution where this research it is been conducted, some reflections emerged on its socio-historical role, in a scenario of narrative disputes between the institutional and official memory and those considered "deviant" in the context of the history of leprosy. Particularly in the case of compulsorily institutionalized subjects, throughout the 20th century. The objective is to identify how prophylactic isolation measures have impacted the lives of thousands of people separated from their families by the State. In addition to the social stigma attached to the disease and its traumas, it is interesting to analyze, through interviews with some of these historical subjects, how they deal with this difficult past. With the interviews, a new narrative about the Faculdade de Saúde Pública (Faculty of Public Health) emerges, this time as a place of memory. It is intended to disseminate and discuss the results obtained with the community of researchers in the Social History (the field of memory, social representations and their identity aspects). Above all, the History of Health and Collective Health, in order to deepen the debate on the subject within the scope of individuals and not just institutions, however, without disregarding their role in this context. To analyze these sound recordings, theoretical-methodological contributions from the history of diseases and Health, from Oral History, were considered, giving to Collective Health studies a new historiographical and methodological possibilities.

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1. Faculdade de Saúde Pública da USP.

Trend of Covid-19 in the City of São Paulo, between 2020-2022

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and Claudio Leone[2]

Introduction: The COVID-19 pandemic showed greater dissemination in large metropolitan areas, such as New York, London, Paris, São Paulo, among others. It is possible that in each city, different urban structures also played an important role, along with other factors, in the advance of the pandemic. Thus, it is important to verify how the urban structure is locally related to the spread of Covid-19. Objective: To analyze the evolution of COVID 19 in the City of São Paulo, according to the Regional Health Coordination, from 2020 to 2022 Method: Study of population-based time series with official public data. Collected on March 1, 2023, considering cases of COVID 19 and deaths in the period 2020-2022. Population data were extracted from the population website of the São Paulo health department and included the division of Regional Health Coordination (CRS) of the municipality of São Paulo. For statistical analysis, the Prais-Winsten regression model was performed, from which it was possible to calculate the percentage variation of daily change (DPC) of rates, classified as increasing, decreasing or stationary. Result: In the analyzed period (2020-2023) the city of São Paulo registered that 17% of its total population was infected at least once by the SARS CoV-2 virus, with death in 0.4% of its total population. When comparing the differences between the CRS, it can be seen that the North had a higher lethality at the beginning of the pandemic, decreasing significantly over the period. And CRS Central, in the year 2021, showed a different growing trend from other regions. Regarding mortality, the North, Central and West CRS showed a decreasing trend for all analyzed periods (2020, 2021 and 2022) different from the East, Southeast and South CRS which in 2020 showed a stationary trend Conclusion: Vaccination had effects in reducing lethality and mortality. In the incidence it was possible to visualize the importance of social isolation and lockdown. The City of São Paulo, in general, showed a strong spatial interdependence when analyzing the grouped concentrations of incidence and mortality by COVID-19. However, territorial disparities, determined by subdivisions by Regional Health Coordinations, demonstrate unequal impacts and we found a relationship between the effects of COVID-19 related to sociodemographic characteristics, demonstrating that vulnerable groups are more affected by the pandemic.

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Black memories

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Prêmio Pós-Doc USP

In this research we analyze the black territories, such as houses, backyards and others cultural spaces that emerged in the countryside of São Paulo in the post abolition, as forms of resistance to urban legislation and urban projects that promoted the spatial segregation of the city's poor, notably black men and women more specifically. A dialogue is established with authors as Günter Weimer, Clóvis Moura, Hampate Bâ, Fábio Velame, Henrique Cunha Jr., Raquel Rolnik, José Tavares de Lira and others for the register the black men and women trajectories and their identitary relations with the domestic space and the city, evidencing their religious and cultural practices and the ways of living in the society. These spaces and trajectories are registered through architectural surveys and oral history with the conducting interviews, documentary and photographic surveys. In this way it is considered the black territories as spaces of the resistance loaded with africanities and as afro brazilian cultural heritage.

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Redistribution and recognition: some contributions to the fight against inequality in Brazil

Fábio L. F. N. Franco

Throughout the history of Brazil, public policies to tackle inequality have focused on income redistribution policies, as is the case of the Bolsa Família program. However, the pluralization of the dimensions of inequality to include, besides economic inequality, regional, epistemological, racial, gender, and ontological inequalities reveals the need to supplement redistributive policies with policies of recognition, capable of dialoguing with the struggles for recognition that are spreading across the country. In this sense, our research conjugates matrices of reflection that incorporate contributions from Critical Theory with intersectional and Marxist theories. Among the reference bibliography are Nancy Fraser, Gayatri Spivak, Patricia Hill Collins, Angela Davis, Bernard Harcourt, Sueli Carneiro, Axel Honneth, and others.

Educação do Campo e o professor de Língua Portuguesa do Colégio José Marti, no Paraná

Juliana A. B. Menezes

A pesquisa traçou o Perfil Docente de Língua Portuguesa que atua no Colégio Estadual José Marti, no assentamento 8 de abril, em Jardim Alegre, no Paraná. Buscou compreender o interior da prática educacional dessa escola. Para isso, a metodologia utilizada foi a pesquisa documental e bibliográfica, com caráter qualitativo através da aplicação de questionário, análise do PPP – Projeto Político Pedagógico e do Material das Olímpiadas de Língua Portuguesa, ano 2014, momento em que a aluna Valdirene foi premiada nacionalmente com o seu texto, em tal projeto. Com isso, esperamos contribuir para a ampliação do debate da importância de políticas públicas voltadas ao campo, bem como a importância de fornecer ferramentas para a formação do professor que atua no campo junto da escolha do material didático utilizado. Em suma, com a pesquisa realizada foi possível perceber que a Educação do Campo apesar de ainda ser um desafio para as comunidades do campo, notamos a relevância do perfil do professor junto de seu material didático na valorosa contribuição para resgatar memórias dos assentados e firmar sua história de luta contra uma sociedade que pouco tem valorizado o ser em detrimento do ter. A escolha do material didático e o perfil do professor são primordiais na luta contra o capital. Nesse sentido, uma sociedade do futuro que luta pela agroecologia requer assegurar não só os meios de produção, sobretudo, o acesso a práticas de leitura emancipatórias. Assim, contribui também para o objetivo de desenvolvimento sustentável (ODS): 1. Erradicação da pobreza e 4. Educação de qualidade.

Multi-objective optimization based on multi-hazard risk mapping for agricultural areas considering IoT, climate change scenarios, and blockchain technology

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and Alexandre C. B. Delbem[2, 3]; Antônio M. Saraiva[2, 4]; Eduardo M. Mendiondo[2, 5]

Global warming has led to an increase in extreme climate events, such as floods and droughts. These events cause crop losses, environmental damage, soil nutrient loss, and economic and social impacts in agricultural areas, impacting the whole food supply chains. Few research studies address the impacts of those extreme climate events on farms, considering multiple hazards, heterogeneous data, and different sustainability metrics. This work's main objective was to propose a data-driven system for multi-objective optimization of agricultural areas based on multi-hazard multi-risk mapping of agricultural areas, considering different climate change scenarios and multiple stakeholders. The system comprises ten main components encompassing the whole data lifecycle: heterogeneous data collection; data preprocessing, storage, and feature engineering; hazard-specific and artificial intelligence models; multi-hazard risk model; first zone ranking; multi-criteria decision-making; sustainability KPIs; final zone ranking; stakeholder evaluation and interaction; and decision-making. Its main applications to this moment are: (i) using it for identifying the 5 most important variables based on a dataset of 78 variables from 3 different databases for evaluating hunger in São Paulo; (ii) evaluating spatial distributions of variables and multi-objective optimization results for hunger in São Paulo; (iii) allowing for the identification of productivity zones and the impacts of droughts in sugarcane and soybeans, considering multi-objective optimization and different scenarios and inputs; (iv) evaluating crop insurance premiums for sugarcane in the state of São Paulo; (v) providing relevant information for weather index insurance design and evaluation; (vi) providing a framework for evaluating climate shocks on crop insurance; and (vii) evaluating the impact of using different data sources (mainly in-situ and gridded data). Additionally, a framework to use blockchain to store data and model properties was proposed to guarantee safety, quality, and replicability.

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Experiences of motherhood among enslaved, freed and free women in times of slavery (São Paulo, 1740-1888)

Enidelce Bertin[1]

The question of how slavery affected gender relations, and conversely, how relations between slaves shaped gender relations, has mobilized historians in various fields of historiographical work. The experiences of enslaved women with respect to issues such as pregnancy, childbirth, postpartum recovery, breastfeeding, infant mortality, and the separation of enslaved children from their mothers (whether by sale or manumission) are important themes that require further investigation. Based on evidence from owners who freed enslaved women because they had given birth to multiple children, this project focuses on examining and reflecting on a range of issues that affected the lives of enslaved and freed women: vulnerable motherhood, control over their bodies, reproductive labor, and the precariousness of their achieved freedom. The proposal for the postdoctoral internship at IEB focuses initially on two research fronts, each with a documentary corpus: the unpublished letters of manumission registered in São Paulo for the period between 1740 and 1888, and other documentation, including various official documents and lawsuits. The enslaved maternal womb that generates slaves is the common problem among these types of documents in different periods. Given the importance of the principle partus sequitur ventrem in maintaining the institution of slavery over time, identifying manumissions of women with or without children is key to analyzing the strategies of the dominant class in managing heritage and control over enslaved populations. Moreover, women's manumissions reveal important nuances of motherhood conditions under slavery. Our project aims to recover the stories of enslaved, freed, or tutored women, to reveal their experiences, even if only in fragments. In addition to providing a better understanding of slavery conditions in urban areas, this research will also shed light on how gender relations affected the lives of those who were subjected to slavery. Going back to the eighteenth century is essential as there have been relatively few studies of manumissions from this period, despite its rich (but understudied) documentation. Therefore, we will include manumission notary records from the 1st, 2nd, and 3rd Notary Offices of the Capital, which have not yet been published.

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Impacto da emergência da COVID-19 sobre desigualdades de gênero na vida cotidiana de jovens do ensino médio

Jan Billand[1]

O gênero enquanto categoria de análise tem sido usado inconsistentemente na área da saúde, sendo recomendado levar em conta "não só as diferenças sociais e culturais entre homens e mulheres, ou entre masculinidades e feminilidades, mas também o entendimento de como se produzem essas diferenças como desigualdades de poder". Pesquisas recentes evidenciam que a emergência da pandemia de COVID-19 teve no Brasil e no mundo impactos mais graves para moças e mulheres, ressaltando a necessidade de aprofundar nossa compreensão das articulações entre resposta social a agravos em saúde e marcadores sociais de desigualdade. Com base em 3 grupos focais online realizados em agosto e setembro de 2021, buscamos compreender como o contexto do primeiro ano da pandemia de COVID-19 produziu ou afetou desigualdades de gênero nas experiências de 17 jovens do ensino médio de escolas públicas brasileiras do Estado de São Paulo. Organizamos os resultados nos seguintes eixos temáticos: (1) Quem estuda, quem faz trabalho doméstico? O peso das expectativas parentais em tempos de ensino remoto emergencial; (2) O que impede moças de saírem de casa: medo da violência sexual versus prevenção da COVID-19; (3) Corpo mole, corpo fora, corpo fechado: masculinidades entre a ética do cuidado e o negacionismo da COVID-19; e (4) Por que as amizades entre moças não resistiram ao distanciamento? Em síntese, embora a emergência sanitária da COVID-19 no Brasil produziu normas e discursos não explicitamente endereçados em termos de gênero, a forma como ressaltou a vulnerabilidade de "corpos que importam" ofereceu oportunidades para responsáveis de famílias patriarcais de consolidarem o seu controle sobre a sexualidade e o trabalho doméstico de moças e mulheres; simultaneamente, essa situação exigiu novas estratégias defensivas e discursos ideológicos legitimadores dos privilégios da masculinidade hegemônica. Esses resultados abrem perspectivas para formular ações programáticas em saúde promotoras de equidade de gênero.

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New Familial Minority Stress Theory:
a longitudinal study with same-sex parented families

Mário A. Tombolato[1, 2]

and Isabel C. Gomes[1]; David M. Frost[2]

Research on same-sex couples and same-sex parented families consistently points to their continued experiences of stigma, prejudice, and discrimination despite recent improvements in the social and policy climates of many countries. Minority Stress Theory is the predominant model in the social sciences, used to guide research into the implications of stigma for the well-being of sexual and gender minority individuals. Couple-Level Minority Stress (CLMS) Theory was developed to explain the impact of stigma on the well-being of same-sex couples. However, the theory does not account for the experience of stigma within same-sex parented families and its implications for the well-being of parents and children. This study extends CLMS theory to the family-level. Drawing on data from a qualitative longitudinal study of Brazilian same-sex couples and their children, we illustrate CLMS experience and processes in how the well-being of families is shaped by cultural, social, and economic factors, as well as by the particularities of the historic moment in which they are inserted. Specifically, we illustrate the role of increased visibility of same-sex parented families in Brazil – a recent social reality permeated by controversy – which creates unique family-level experiences of minority stress related to prejudice and discrimination. The new Familial Minority Stress Theory offered in this chapter is a useful tool to generate new research questions and guide further research into social scientific investigations into the legitimation and acceptance of the plurality of family forms existing in the context of rapid social and policy change.

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Restorative justice and psychoanalysis: the subject of the unconscious in groups of men accused of violence against women

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Inserted in the theme of violence against women, presents research that aims to highlight the importance of listening to the subject of the unconscious in reflective groups of men accused of violence against women in Brazil. Paying attention to the singular and social aspects of these groups, we sought to answer: what can psychoanalytic listening do in criminal jurisdiction in reflective groups of men accused of violence against women? To do so, first, were recovered basic elements of restorative justice, and then clinical–psychoanalytical elements handled in listening to the groups were analyzed. This is research that adopted the deductive method of approach from an empirical procedure. There was indirect documentation (bibliographic research) and direct documentation (field research). With the research carried out, among others, we concluded that the psychoanalytic listening showed the participants' misunderstanding regarding the verbal, psychic and/or moral character that violence can assume, as well as being able to confirm aspects of gender inequality from unconscious formations produced in the analyzed groups.

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Security governance in Latin America: new agencies in conflict and peace formations
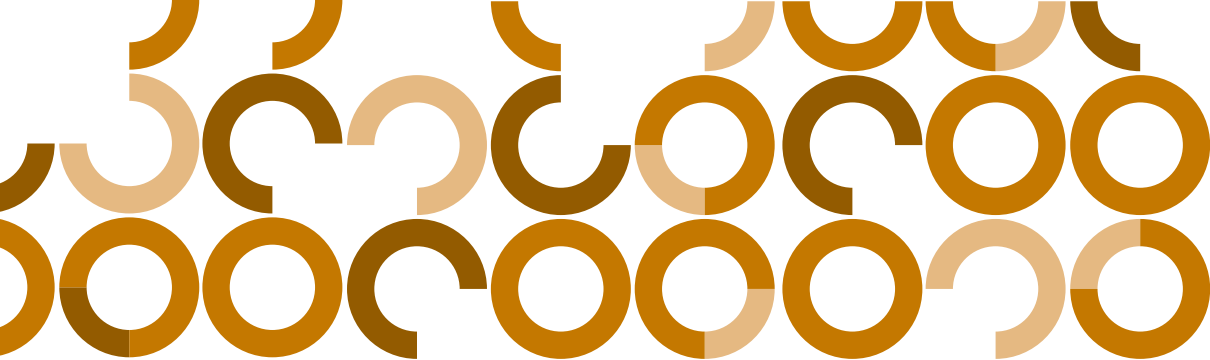
Camila de M. Braga[1]

The work will address how the dynamics of security governance in Latin America, and in particular, Central America borderlands have changed before and after the Covid-19 pandemic, mapping the structure and actors involved, as well as the process by which systemic changes have been produced within the isthmus's region, including those associated with the emerging presence of non-state armed actors and the contemporary migration crisis. This exploratory and qualitative research involves field missions to several borderlands in Latin America but will mainly focus on the dynamics within the Northern Triangle of Central America (NCA), including Guatemala, El Salvador and Honduras. The work is divided in four parts: firstly, it will address the notions of peace and conflict formation as distinct security governance dynamics, providing for the discussion of hybridity within Latin American borderlands. The second part addresses the research's first phase involving fieldwork missions in South American borderlands, synthesizing their main findings. The next part addresses the first phase of fieldwork research in the NCA and Mexico, conducted in 2020 and focusing on State and civil society practices and their responses to the present humanitarian emergency, i.e. the Central American migration flows towards the US border. Then, we go back to explore the pandemic scenario in the NCA and México (2020-2022), focusing on how these dynamics have changed during and after the pandemic hit the continent, and analyzing three emerging issues: the transnational organized crime reorganization and expansion to other areas; the rise in conflict and violence dynamics associated to state and non-state armed groups (NSAG), and, the subsequent increase in internal displacement and immigration. The fourth section analyses the emergency of NSAG, their influence on security governance dynamics, and civil society and state responses to their emergence and rising power within the subregion. The research presents a possibility for mapping hybrid security governance in a regional context, providing some insight into how to approach Latin America's so-called complex emergencies to foster peace and social resilience through a more holistic and multi-stakeholder approach.

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Josué de Castro and the environmental issue

Marina G. de Mendonça

At the moment when 50 years have passed since the death of Josué de Castro, it appears that his work remains extremely current, especially if we consider that the world is experiencing a vertiginous rise in food prices, generating hunger or food insecurity for more than 2 billion people across the planet, as denounced in the latest reports by the Food and Agriculture Organization of the United Nations (FAO). This situation constitutes fertile ground for the resumption of easy and inhuman solutions to the problem, embodied in neo-Malthusian ideas, defended by certain environmental groups. However, for Josué de Castro, the neo-Malthusians do nothing more than blame the hungry themselves for hunger, advocating racist, imperialist and neocolonialist solutions with a view to maintaining the living and consumption standards of the populations of developed countries.