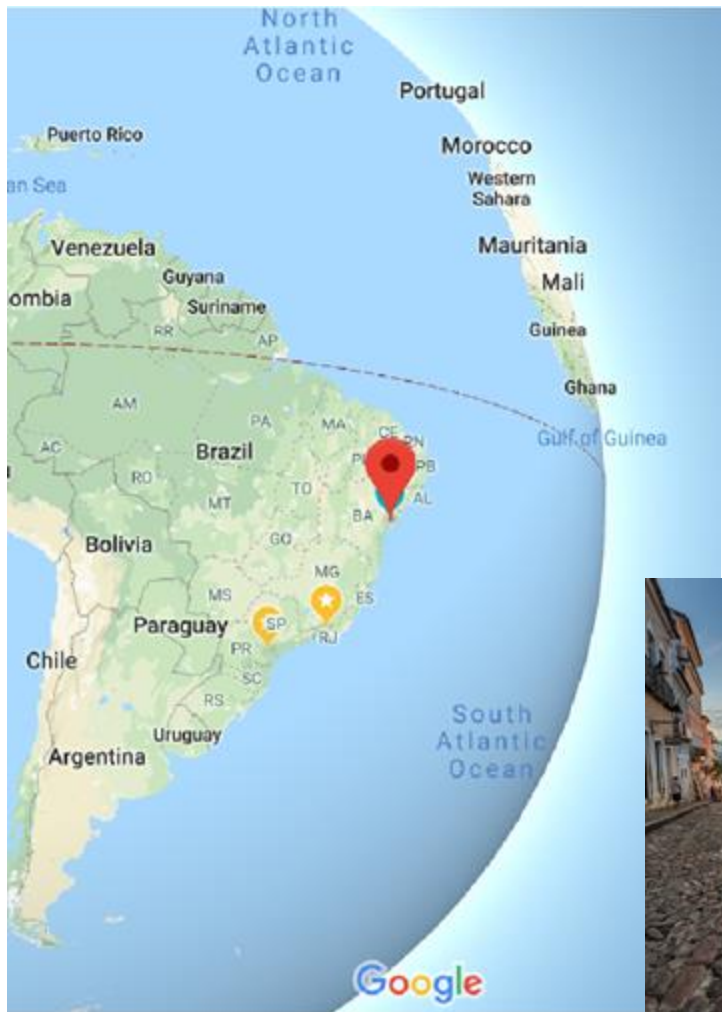


# Collaborative Mapping of Deprived Areas to Tackle Health, Racism and Mobility issues

<https://uploads.knightlab.com/storymaps/512d5175641496552ba831def26de95b/formacao-patricia/index.html>

Dr. Patricia Lustosa Brito





Coordinates: 12°58'29"S 38°28'36"W

**Country** Brazil  
**Region** Northeast  
**State** Bahia

**Founded** 29 March 1549

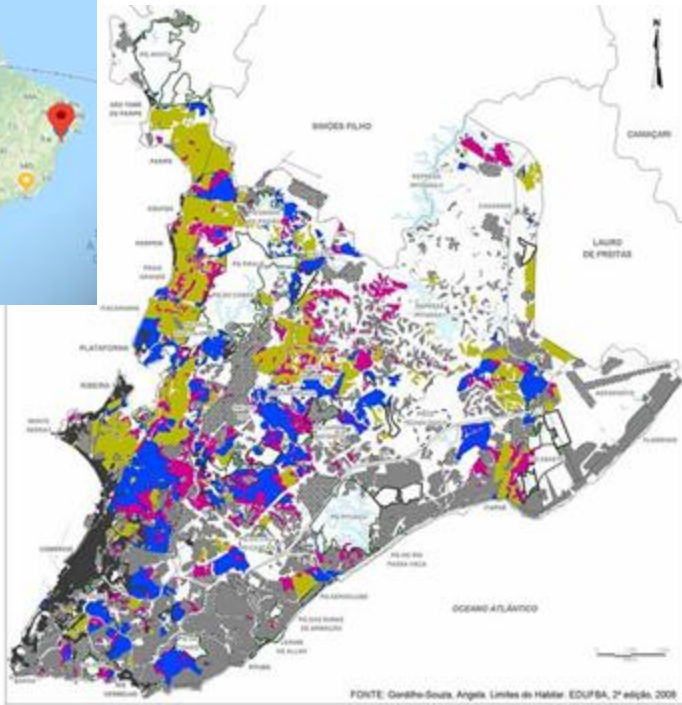
**Population (2020 <sup>[4]</sup>)**

- **Municipality** 2,886,698 (4th)
- **Density** 4,187/km<sup>2</sup> (10,840/sq mi)
- **Metro** 3,919,864 (7th)<sup>[1][2][3]</sup>
- **Metro density** 891.3/km<sup>2</sup> (2,308/sq mi)

**Race and ethnicity in Salvador**

Ethnicity	Percentage
Pardo (Multiracial)	51.7%
Black	27.8%
White	18.9%

# Salvador - Brazil

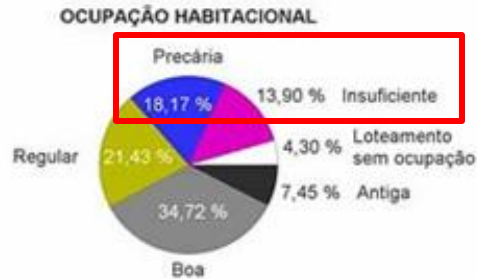


FORTE: Gordilho-Souza, Angela. Limites do Habitar. EDUFBA, 2ª edição, 2008

**LEGENDA**

**OCUPAÇÃO URBANA E CONDIÇÕES DE HABITABILIDADE**

Antiga (presença de cortiços)	Regular
Bom (legalizada/infraestruturada)	Precária
Loteamento sem ocupação	Insuficiente
Grandes equipamentos	
Represas e lagoas	
Parques	
Sistema viário principal	



GORDILHO-SOUZA, Angela. (2008). *Limites do habitar: segregação e exclusão na configuração urbana contemporânea de Salvador e perspectivas no final do século XX*. Salvador, EDUFBA.



Goal of today's presentation:  
Present some projects that we are involved...  
Ask some questions about how can we move forward...



Undergraduate course  
of Cartography and  
Survey Engineering



HEATH related application -  
Primary care

## ACS Salvador Mapeia Digital

Train Community Health Agents (ACS) to use  
digital mapping for their work



First class – 2020

Became a every semester  
activity at a main class for  
all undergrad students take  
it at their first semester  
(Politecnic school and  
Nurcery School)

Profile (what worked)

All training materials are available  
at Youth mappers at ufba website:  
<https://sites.google.com/view/youthmappersufba/capacita%C3%A7%C3%B5es/acs-mapeia-digital?authuser=0>

## AVAILABLE DATA

ViconSAGA LOGO



Google Maps  
Google Streetview  
Free, Open  
Desktop/mobile  
Online/offline  
Form creation  
Attaching fotos, Files



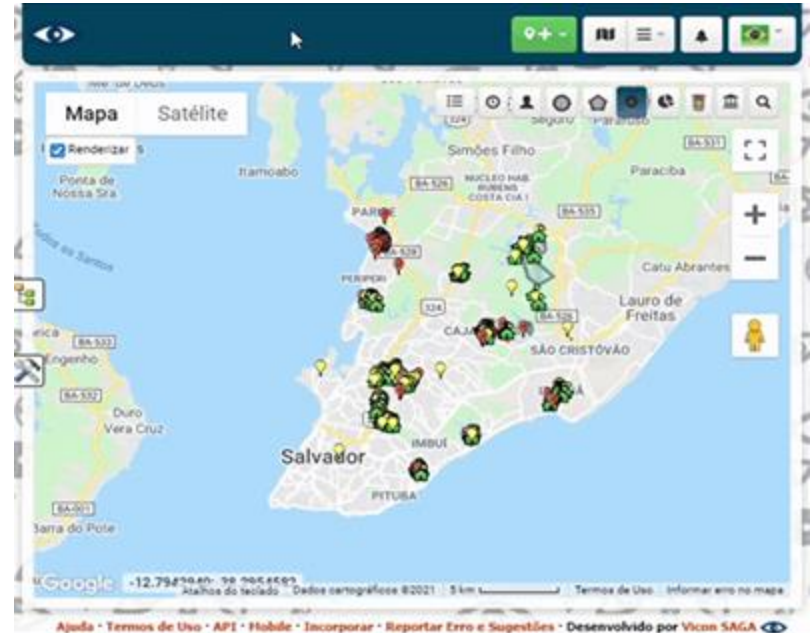
## DATA - KNOWLEDGE - PARTICIPATION

ACS Perspective

- Agente Actuation microárea
- Health facilities
- Reference points
- Vulnerabilities
- Positive features

- Form creation
- We need more time with ACS
- City Heath Department dis not institucionalized the Digital mapping procedures

487 Registros
<input checked="" type="checkbox"/> Acúmulo de lixo (114)
<input checked="" type="checkbox"/> Área de alagamento (5)
<input checked="" type="checkbox"/> Comorbidades por rua (59)
<input checked="" type="checkbox"/> Equipamento sociocomunitário (231)
<input checked="" type="checkbox"/> Esgoto a céu aberto (13)
<input checked="" type="checkbox"/> Microárea ACS (35)
<input checked="" type="checkbox"/> Unidade de Saúde (30)



HEATH related application -  
Epidemiology

## Perceived risco x Objective risk

## Community based interventions

Project conducted by Collective  
Health Institute of UFBA

Focus Youth people  
Challenge - Academic SDI



[https://map.openaerialmap.org/#/-38.47274780273437,-12.912213836789748,15/square/21102102121001202?\\_k=qjagr1](https://map.openaerialmap.org/#/-38.47274780273437,-12.912213836789748,15/square/21102102121001202?_k=qjagr1)

University + Youth + Residents + Zoonoses control center employee



OpenAerialMap

3 images within selected grid square

Marechal Rondon Neighborhood -  
2019-05-20 / 3 cm  
Anderson Freitas



Alto do Cabrito Neighborhood - Sal.  
2019-07-16 / 4 cm  
Anderson Freitas



Alto do Cabrito Neighborhood - DSM  
2019-07-16 / 7 cm  
Anderson Freitas



Search location or co



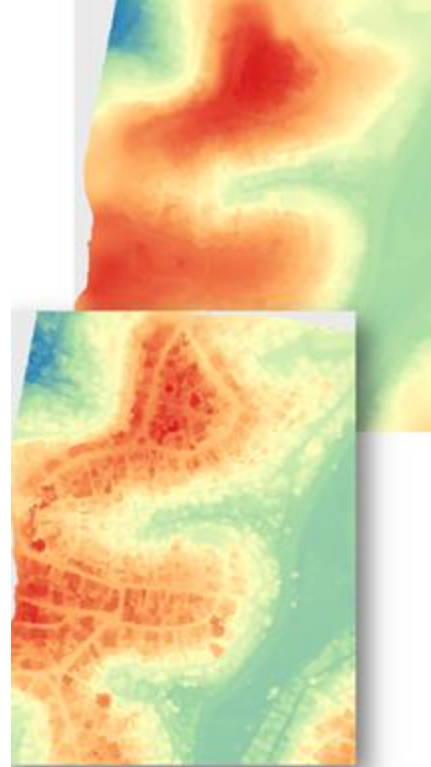
BILL & MELINDA  
GATES foundation



# Aerialphotographic survey with drone~ - study area scale



Vectorização das edificações em software SIG para verificação das



- Negotiate with community leaders which area can be mapped and when (police also use drones)
- Make clear images will be open at the internet
- Confidence in the project - no direct impact
- How (and why) can Community members use themselves benefit more directly of drone images?

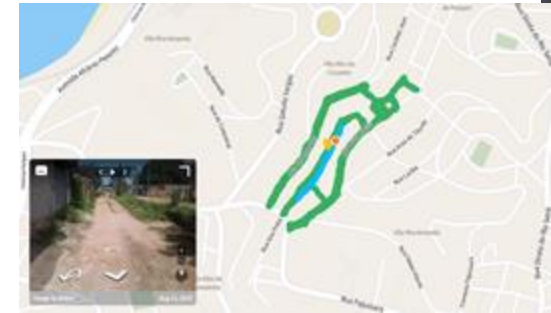
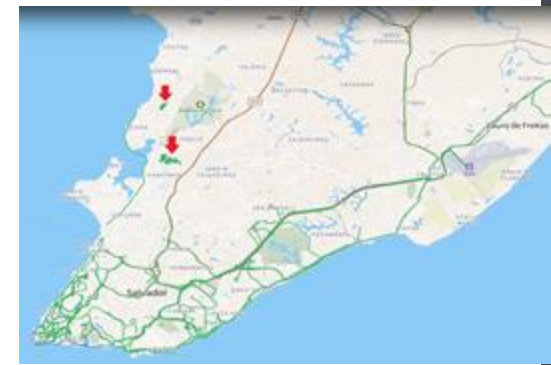


# Open access georeferenced ground photographs



360° PL

- Active
- Negotiate with community leaders which area can be mapped
- Make clear images will be open at the internet
- Interested because they are not at google streetview



<https://www.mapillary.com/app/user/tbltisc?lat=-12.90994411233899&lng=-38.47080130118002&z=17&pKey=2833601493573008&focus=map>

Includes:  
development Interface for  
ViconSAGA, gamification,  
User centered Design

courses and regular activities  
with groups at the  
communities

Usability test > how to  
improve tool from user  
perspective

How to measure

- tools appropriation?
- built up knowledge about  
community territory?



# Applications related to Racism and Social vulnerabilities

## Empretecendo as ruas - (Blackening the Streets workshop)

- workshops with undergrad and grad students (so far)
- use Google MyMaps suggest where should be a name they consider important to honnered
- search names at google and OSM
- contribute at OSM



# Applications related to Racism and Social vulnerabilities

## Census of Population at street situation

Census planing - ViconSAGA training groups that work with this population, access data about their main work location

KOBOtoibox – census – allows more complex questionnaires and store point location (Mobile GPS our map indicated)



paper and tablets



## EveryWhereSheMaps Mulheres do Calafate

Group of women of Calafate neighborhood

- Interest of older women
- Topics they decided to
- Surprise with GoogleStreet view
- difficulties with things that are basics at the academy (such as copping a URL)



# Mapping Deprived areas - Applications in Mobility

Mapeia Jovens - Federação, Alto da Sereia, Pestalosi

Goals:

Accessibility to their school

Transportation issues to most visited places

Share stories online



# Envolviment of Under Grad and Grad Students importance



Teaching  
Researching  
Extention

- mapathons,
- internal training,
- research scholarships (most are volunteers)
- events participation support





FRANZESCO COLLIART DANIEL UNSECA • CAMILA REIS • GILDETE BARROS • IANÊ DA SILVA DE SÁ • IARA OLIVEIRA • CRIS DOS PRAZERES • VEJÔNICA PARENTE • ALAN BRUM



# CAPES PRINT

Pró-Reitoria de Ensino e Pós-Graduação | UFBA

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Modernity And The Challenges Of Brazilian Development



Art, The Poetics Of Differences, And Subjectivity



City, History, Culture And Power



Applied Data Science



Psychosocial Dynamics In The Inclusion/Exclusion Processes



## Technology Development Towards Intelligent And Sustainable Cities



# PPEC

Programa de Pós Graduação em Engenharia Civil



Diversity, Integrative Research, And The Relationship



Education, Citizens, And Environments In The Perspective



Energy, Environment, Technology And Society



Studies On Theory And Practice Of Management And Organization



Industry 4.0



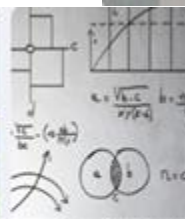
Innovation And Sustainability Of Nutrition Systems In The Global



Innovations In Health And In The Environment As Strategies



Investigations On Geosciences



Mathematical, Statistic, And Computational Models



Nanoscience And Nanotechnology



Reduction Of Extreme And Lasting Social Inequalities



Restrictions To Economic Development And To The Reduction Of Inequality





### Split-site PhD Program (Sandwich)

Aims the realization of internship for research development in foreign higher education institution, by students regularly enrolled in graduate course in Brazil, in which the student after the Study Period abroad, within the regulatory deadline established by Capes, returns to Brazil to conclude and defend its thesis (From 3-12 months).

### Visiting Professor Abroad

Aims visits realization and orientations, teaching in courses and classes, as well as the development of research activities, in foreign higher education institution and in institutes or research centers and development abroad, being destined for lectures or researchers with employment relationship with Higher Education Institutions (From 3-12 months).

### Visiting Professor in Brazil

Aims to attract renowned lectures and researchers acting and residents abroad to deliver courses, trainings, lectures or in-person seminars (From 15 days to 12 months).

### Work Mission

Aid for work missions abroad, in framework of projects of research projects in international cooperation or individual missions (From 7-21 days).

### Qualification

Technical, scientific or pedagogical capacity development for institutional strengthening through the human resources qualification.

# Other Brazilian research fundings

- CAPES
- CNPq ([Universal open until 07/aug](#)) -
- State agencies ([Fabesb at Bahia](#), [FAPESP/UKRI](#), [FAPESB/UoB](#)-ate 31jul)
- Foundations (FioCruz, Vale, others)
  
- PS: Projects involving Northeast institutions may be prioritized in some calls

# Many thanks to



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PrInt



UFBA  
Universidade  
Federal da Bahia



UKRRIN  
UK RAIL RESEARCH AND  
INNOVATION NETWORK