A vibrant parrot with orange, yellow, and blue feathers is shown in flight against a black starry background. Below the parrot is a stylized Earth with a topographic map overlay, showing continents in shades of orange and yellow. The background is a deep black space filled with small white stars.

AMBIEnT

Affordable Microsatellite-Based Internet
Access and Environmental Monitoring

UNCOPUOS STS 14 February 2014

Team Project

International Space University

Space Studies Program 2013

Strasbourg

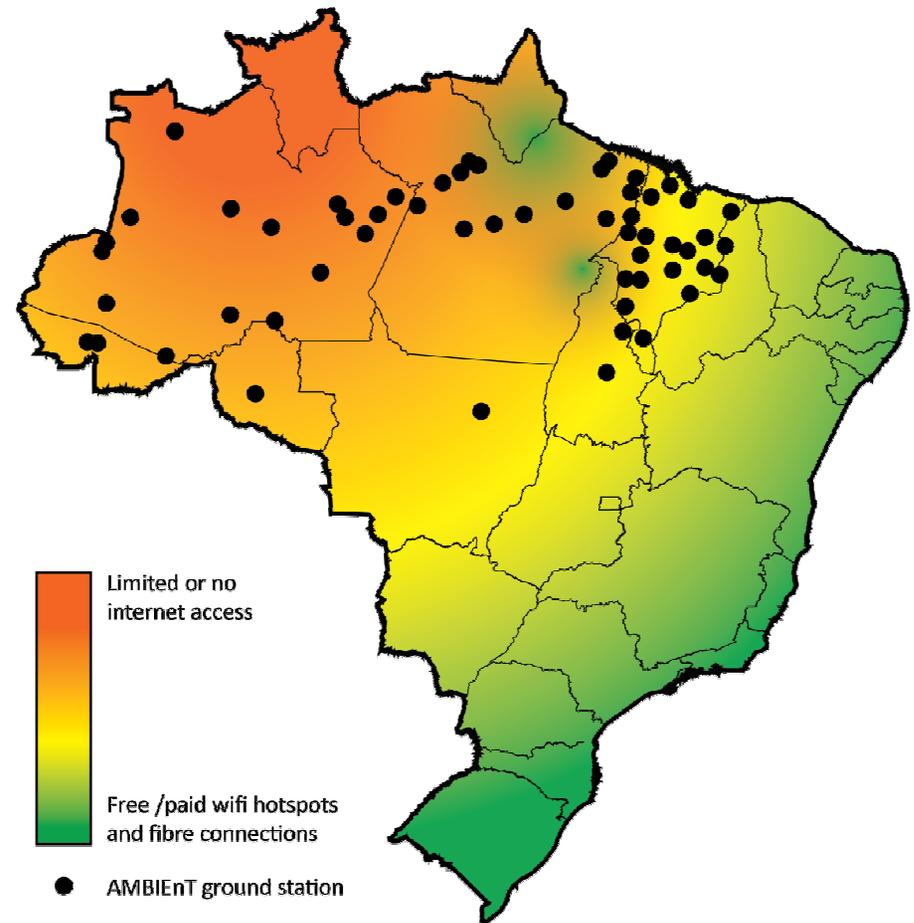
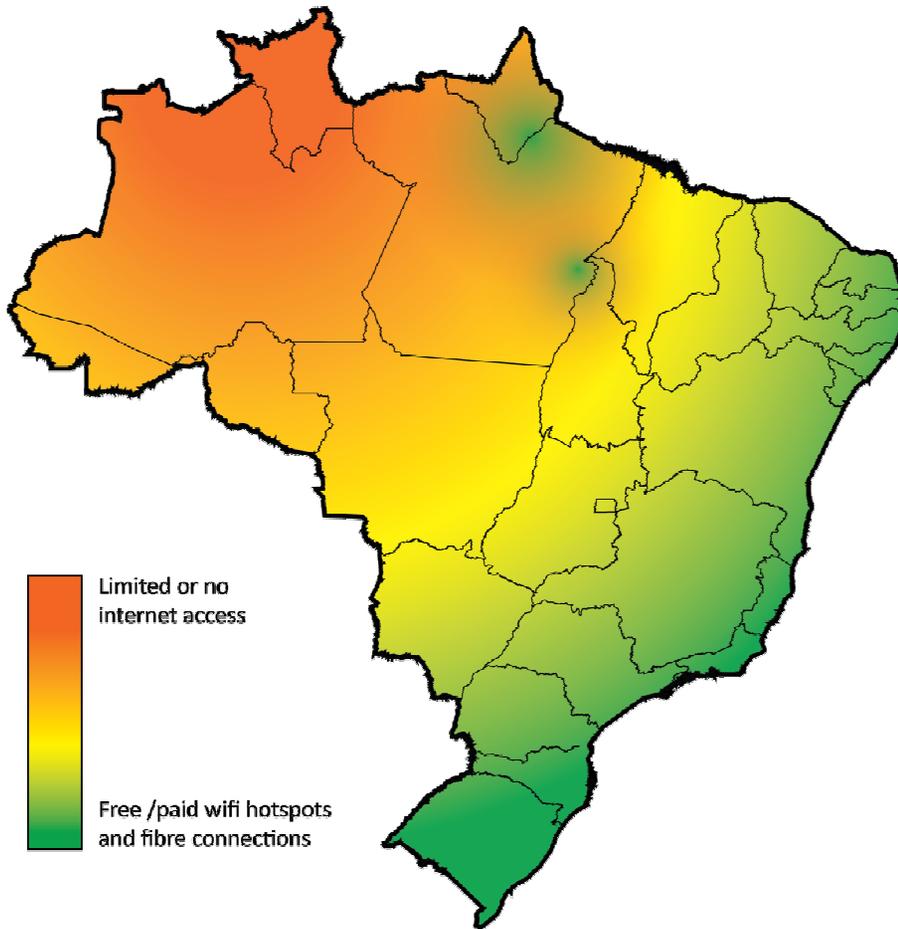


Mission Statement

To offer **sustainable** and **affordable internet access** and **environmental monitoring** via a constellation of **microsatellites** by 2018, as a means to provide **socio-economic benefits** to the **Brazilian Amazon Region** with a future capability for global expansion to other remote areas.

<http://youtu.be/CpIPjs-vQoU> AMBIEnT Video produced by Dawoon Jung

Internet before and after AMBIEnT





Tele-education

- Partnership with municipalities
- Tele-education centres in schools or libraries
- Technical education provided

Telemedicine



Option A. Partnership with Telehealth Services

- i. AMBIEnT supplies the internet connectivity
- Telehealth services provide telemedicine.

Option B. Own platform

- i. laptop with text and voice capabilities
- ii. simple user interface
- iii. health-sensors package

Environmental Monitoring



www.flickr.com/photos/cifor/9080955745/



www.flickr.com/photos/planetobserver/4771253062/

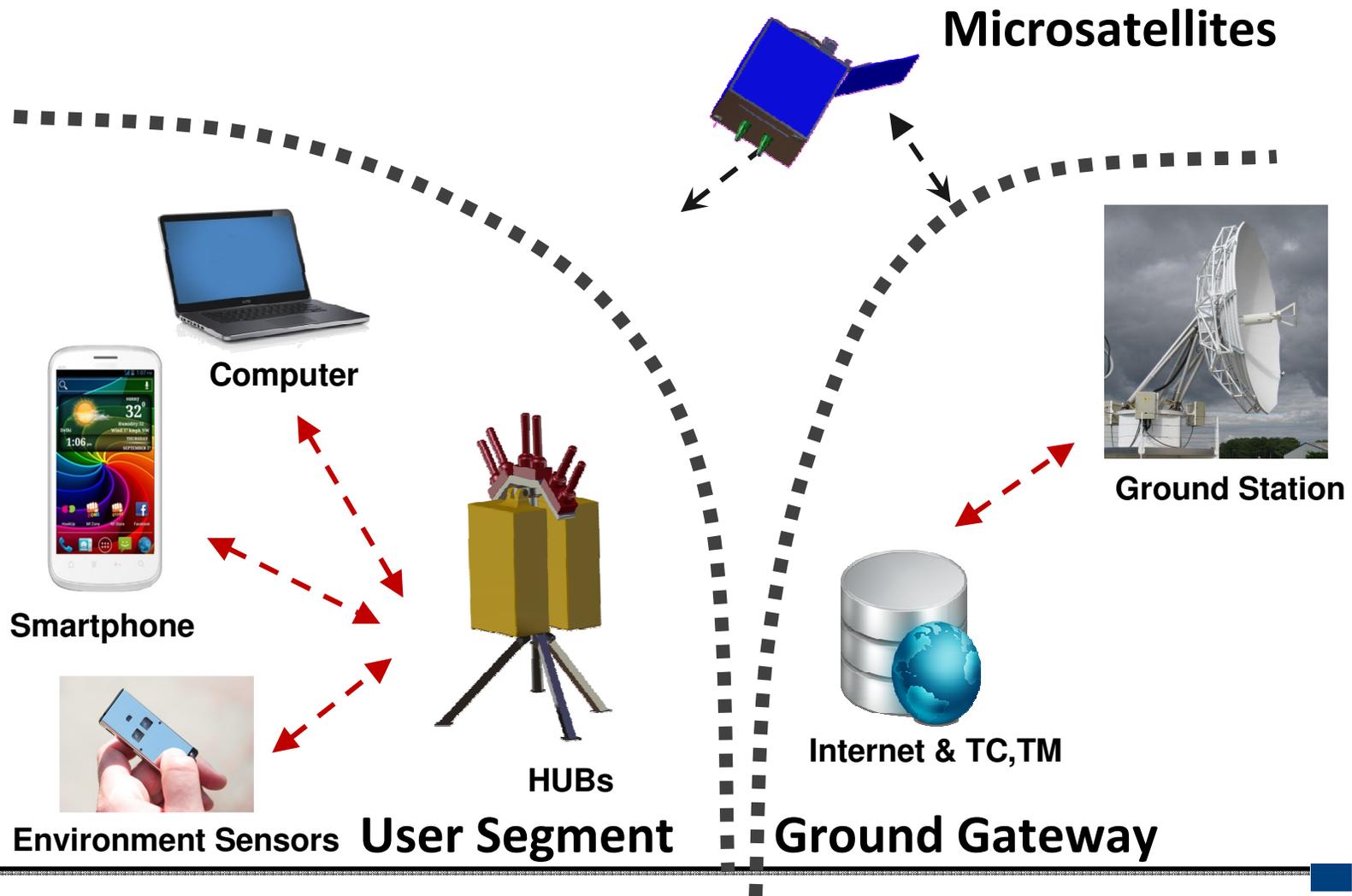
Aid in timely alerts of illegal deforestation

- Smart phone Apps
- Weather monitoring via fixed and mobile ground sensing.



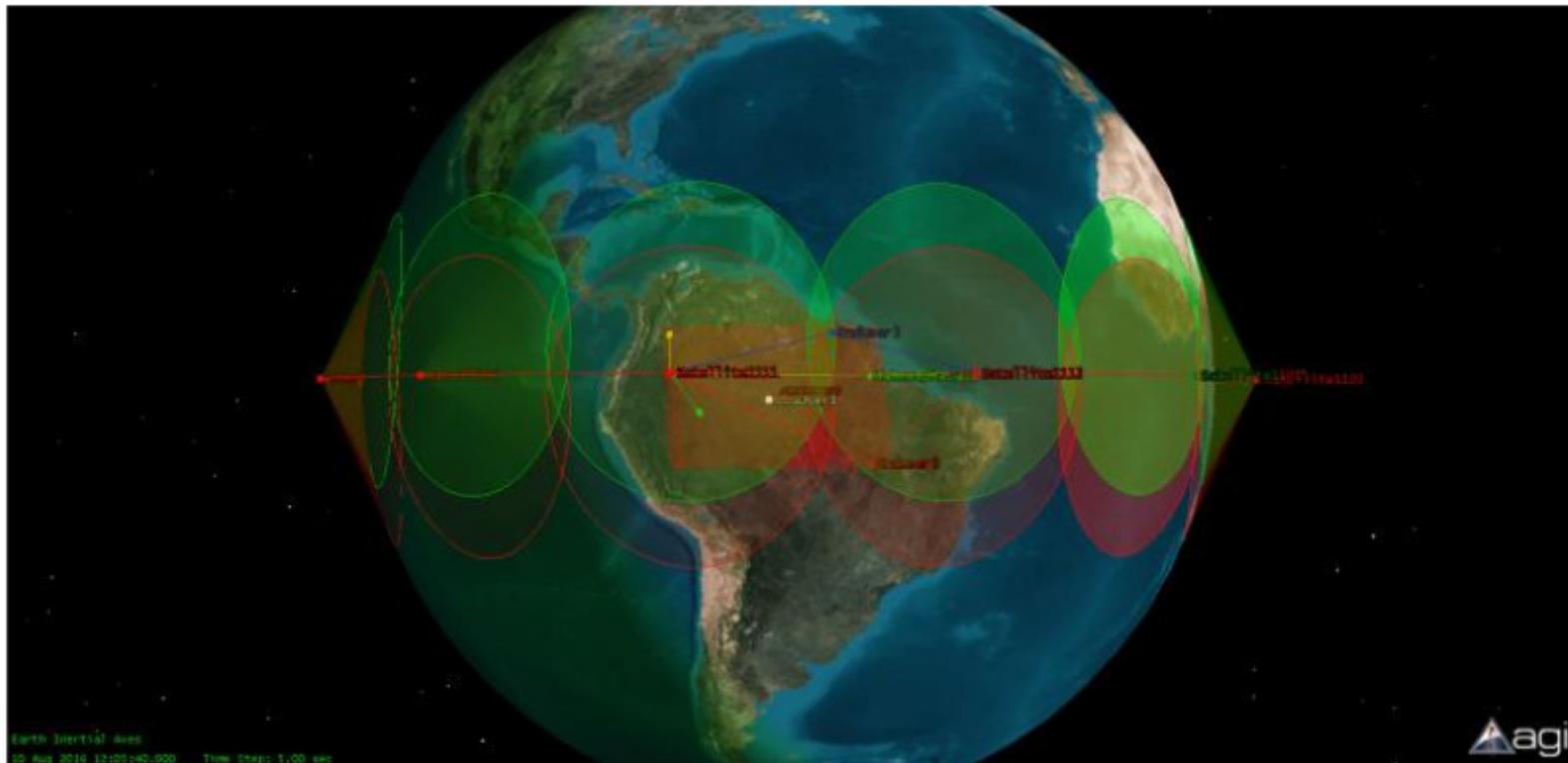
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System Architecture



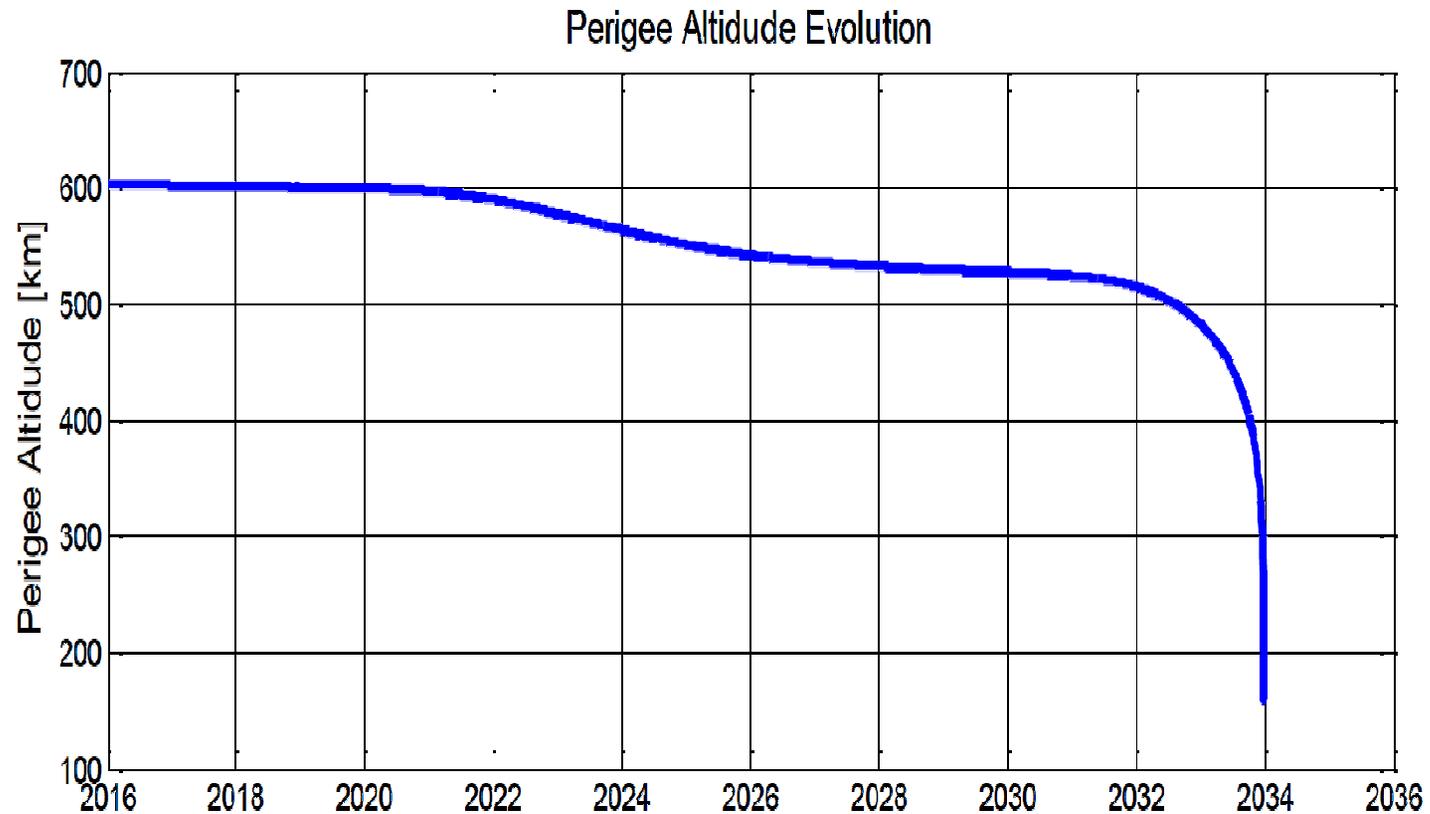
Satellite Constellation

- 12 satellites, 600 km, inclination 0°





Deorbit and Orbit Mitigation



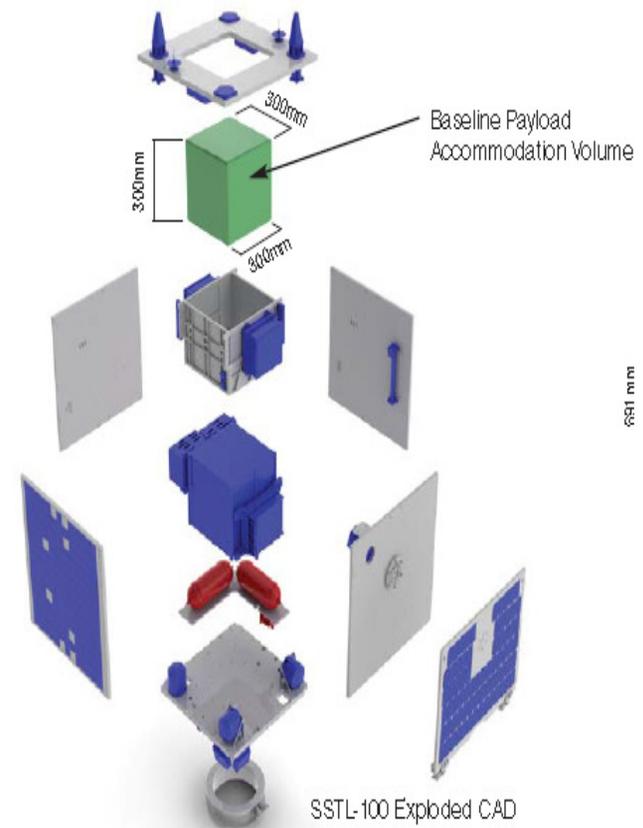
Deorbiting time 18 years, satisfy space debris mitigation guidelines (UNCOPUOS, 2010, IADC).

Payload Characteristics

AMBIEnT Design

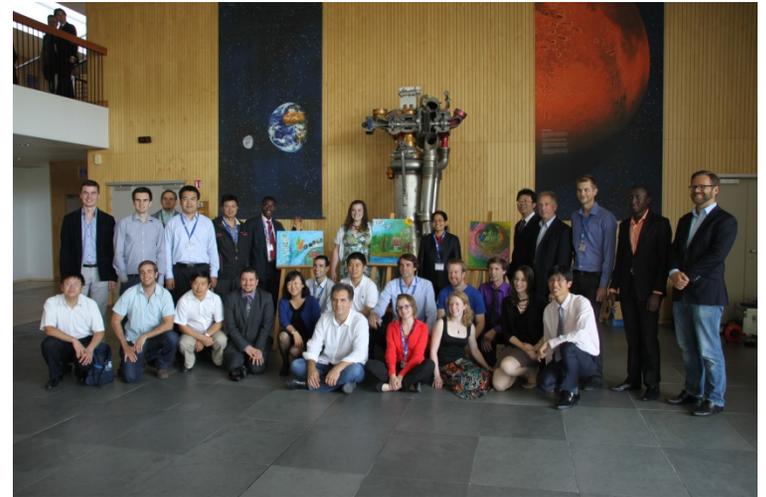
- Mass each 100 kg
- 0,40 x 0,40 x 0,70
- X-Band
- 48,000 households
- 110 ground stations
- Total cost over 10 years \$260 Mio
- 6-7 years operational time
- Piggyback launch
- Business Model
- Risk Analysis

SSTL-100



Wrap-up - What makes us unique

- **Innovative Low Cost Solution**
- **Packaged solution**
 - Telemedicine
 - Education terminals
 - Mitigation of illegal logging
- **Value of Proposition of AMBIEnT**
- **Possibility of microfinance**
- **Sustainability**



Team AMBIEnT Foto: Timmermans

AMBIEnT



*Affordable Micro-Satellite Based Internet
Services and Environmental Monitoring*



Chair
Marco Chamon



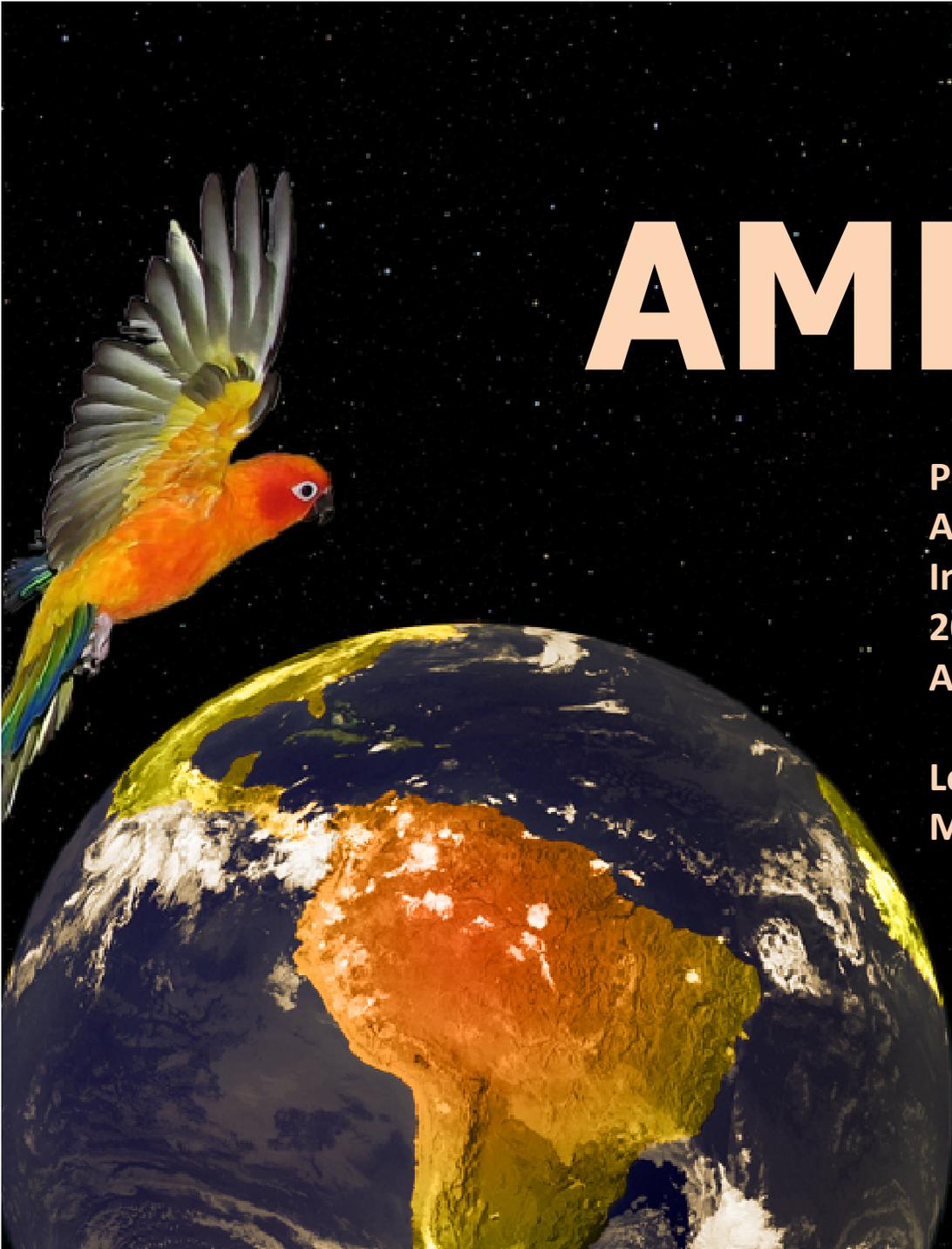
Co-Chair
Walter Abrahão



**Teaching
Associate**
Raycho Raychev



Emerging Chair
Dag Evensberget

A vibrant sun parrot with orange, yellow, and blue feathers is shown in flight against a black starry background. Below the parrot is a topographic map of Earth, showing the continents in shades of orange and yellow, with the oceans in dark blue. The map is positioned as if it were a satellite view of the planet.

AMBIEnT

Presented by:

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2013 Alumni

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