



# NOVA

NOVA SCHOOL OF  
SCIENCE & TECHNOLOGY

## Presentation of PROTERRA to RILEM

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With the collaboration of  
Celia Neves and Camilo Giribas,  
1<sup>st</sup> and present Coordinators of  
PROTERRA

Online, 6 March 2024



How was PROTERRA created ? The history of PROTERRA

What is PROTERRA ?

What is PROTERRA doing ?

SIACOT's, Glossaries, Publications of proceedings, Guide books  
Workshops, webinars, videos, newsletters, Round Robin Tests

How to become a member of PROTERRA ?

# How was PROTERRA created? The history of PROTERRA

## CYTED:

Ibero-american Program of Science and Thecnology for Development, created by the governments of Ibero-american countries to promote the cooperation on subjects related to science, technology and innovation, and the harmonious development of Ibero-america



Coordinators:

- Julian Salas (1987- 1994)
- Silvio Rios (1994 -2001)
- Edin Martinez (2001 – 2006)

## HABYTED



**Sub-programs**  
(different areas and subjects)

**Thematic network** → HABITERRA (1991-1998)  
Demonstration projects  
(different subjects in the same area)

**Thematic network HABITERRA:** Sistematization of the use of earth as building material for social housing

### Organization and scope of action

- One person representing each participating country
- Academic character
- Developing training, capacity building, exchange and scientific interaction activities

### Coordinators

|                             |             |
|-----------------------------|-------------|
| Patricio Cevallos (Ecuador) | 1991 - 1992 |
| Silvio Ríos (Paraguay)      | 1992 - 1994 |
| Alberto Calla (Bolivia)     | 1994 - 1998 |

### Team

Representatives of 14 ibero-american countries (some of them still in PROTERRA)



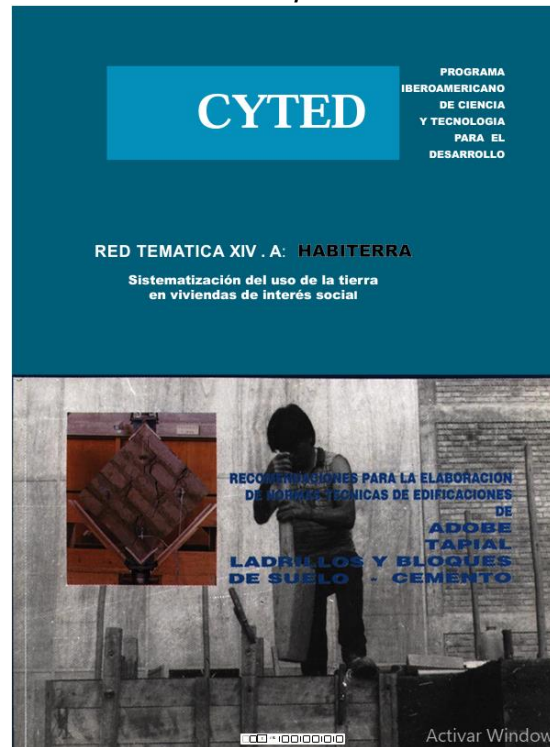
## Thematic network HABITERRA (1991-1998)

### Collection and cataloging



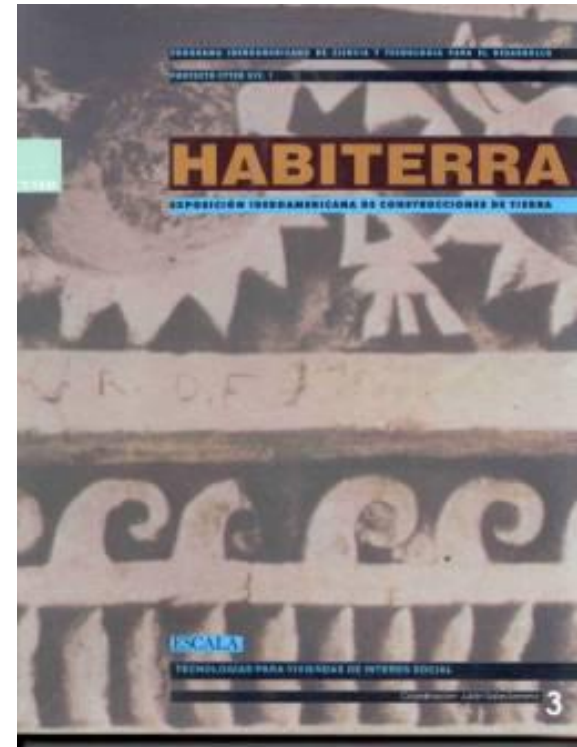
10 countries  
50 building technologies, in use  
or under research

### Standardization/Normalization



Recommendations for the  
elaboration of technical standards  
(adobe, rammed earth, CEB)

### Dissemination



Ibero-american Earth Construction  
Exhibition



RILEM in this period (late 80 and 90's):

The **TC 96-EB - Earth construction** was created

It was followed by the **TC 153-CEB - Building with earth – Compressed earth block technology**, starting in 1992

In turn, followed by the **TC 164-EBM - Mechanics of earth as a building material**, starting in 1994

(all in **Cluster – Others**)

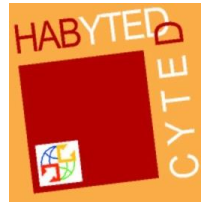
The 1st RILEM recommendations on rammed earth was from 1997

## Proterra (2001-2006)



1984  
21 countries

XIV.



Sub-programs  
(different areas)

- 1...
- 2...
- 6. **Proterra**
- 7...
- 8...

Thematic network (HABITERRA 1991 – 1998)  
**Demonstration project** (Proterra 2001- 2005(6))



**Coordination**  
Célia Neves, Brazil (2001-2006)

## Demonstration research project Proterra (2001-2006)

### Objectives

- Promote demonstration projects with earth for building
- Advise entities dedicated to the construction of social housing
- Advise on the development of standards for earth building
- Training and transfer of knowledge for earth building



### Activities – Year 1

- Add experts to the Proterra project
- Organize available knowledge
- Identify appropriate tools to encourage the use of earth for social housing
- Organize the **first SIACOT – International Seminar for Architecture and Construction with Earth**



## Demonstration research project Proterra (2001-2006)

**100 people**

58 members, 11 collaborators, 13 observers and 18 representatives of 15 "friendly" institutions

**4 assemblies**

Brazil, Spain, El Salvador, Portugal

**4 SIACOT's**

Brazil, Spain, Argentina, Portugal (this one in 2005)

**9 demonstration projects**

1070 people were involved

**39 Proterra expositions**

5190 visitors

**23 workshops and courses**

1990 people participated

**27 publications**

7 printed books, 15 CDs, 2 e-documents and 3 catalogues



**CYTED**

**HABYTED**

**PROTERRA**

PROYECTO XIV. 6

Tecnologías de Construcción con Tierra

HABYTED Subprograma XIV  
Tecnología para Viviendas de Interés Social

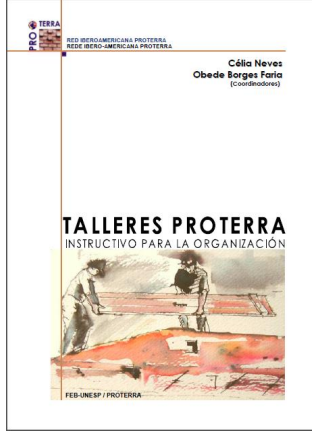
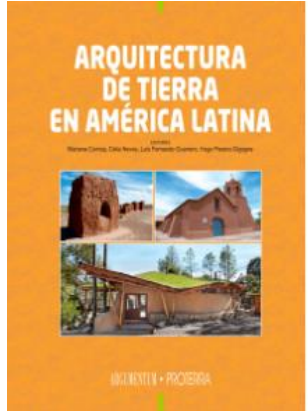
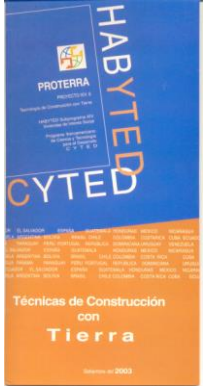
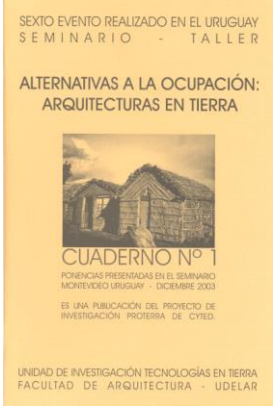
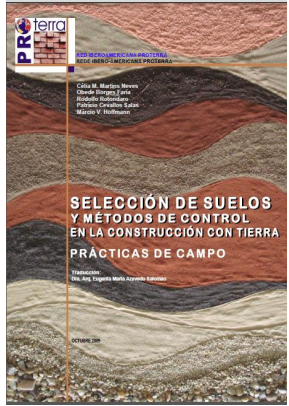
Programa Iberoamericano  
de Ciencia y Tecnología  
para el Desarrollo  
C Y T E D

**Técnicas Mixtas de Construcción**  
con  
**T i e r r a**

Julio del 2003

# How was PROTERRA created ? The history of PROTERRA

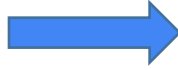
## Publications of Proterra



# What is PROTERRA ?

## PROTERRA - Ibero-American network of architecture and construction with earth (2006-.....)

Demonstration  
research project  
Protterra 2001 - 2005(6)



**PROTERRA**  
Red Iberoamericana de Arquitectura y  
Construcción con Tierra /  
Rede Ibero-americana de Arquitetura  
e Construção com Terra  
Iberian peninsula countries + American countries  
Spanish and Portuguese speaking countries



Statute and  
Regulations

4 September 2006 (1st version)  
24 September 2011 (2nd version)  
8 June 2020 (in force)



**Scientific Council**  
3 members + 2 external experts

**Consultive Council**  
5 members

### Coordinators

|                                 |                    |
|---------------------------------|--------------------|
| Célia Neves (Brazil)            | 2006 - 2008        |
| Luis Fernando Guerrero (México) | 2008 - 2011        |
| Mariana Correia (Portugal)      | 2011 - 2014        |
| Hugo Pereira (Chile)            | 2014 - 2017        |
| Delmy Núñez (Salvador)          | 2017 - 2021        |
| <b>Camilo Giribas (Chile)</b>   | <b>2021 - 2025</b> |

In RILEM, after almost two decades without addressing earth construction, in 2016 the **TC 274-TCE - Testing and characterization of earth-based building materials and elements** was created and worked with 32 members (Cluster E – Masonry, timber and cultural heritage)

What is PROTERRA ? <https://redproterra.org/es/miembros/>



## PROTERRA - Ibero-American network of architecture and construction with earth (2006-.....)

### OBJECTIVES:

Generation, dissemination and transfer of knowledge, as well as construction practice, for new buildings and the preservation of cultural diversity in terms of material and intangible heritage around architecture and construction with earth

140 Members

15 Friendly instituciones (such as RILEM)

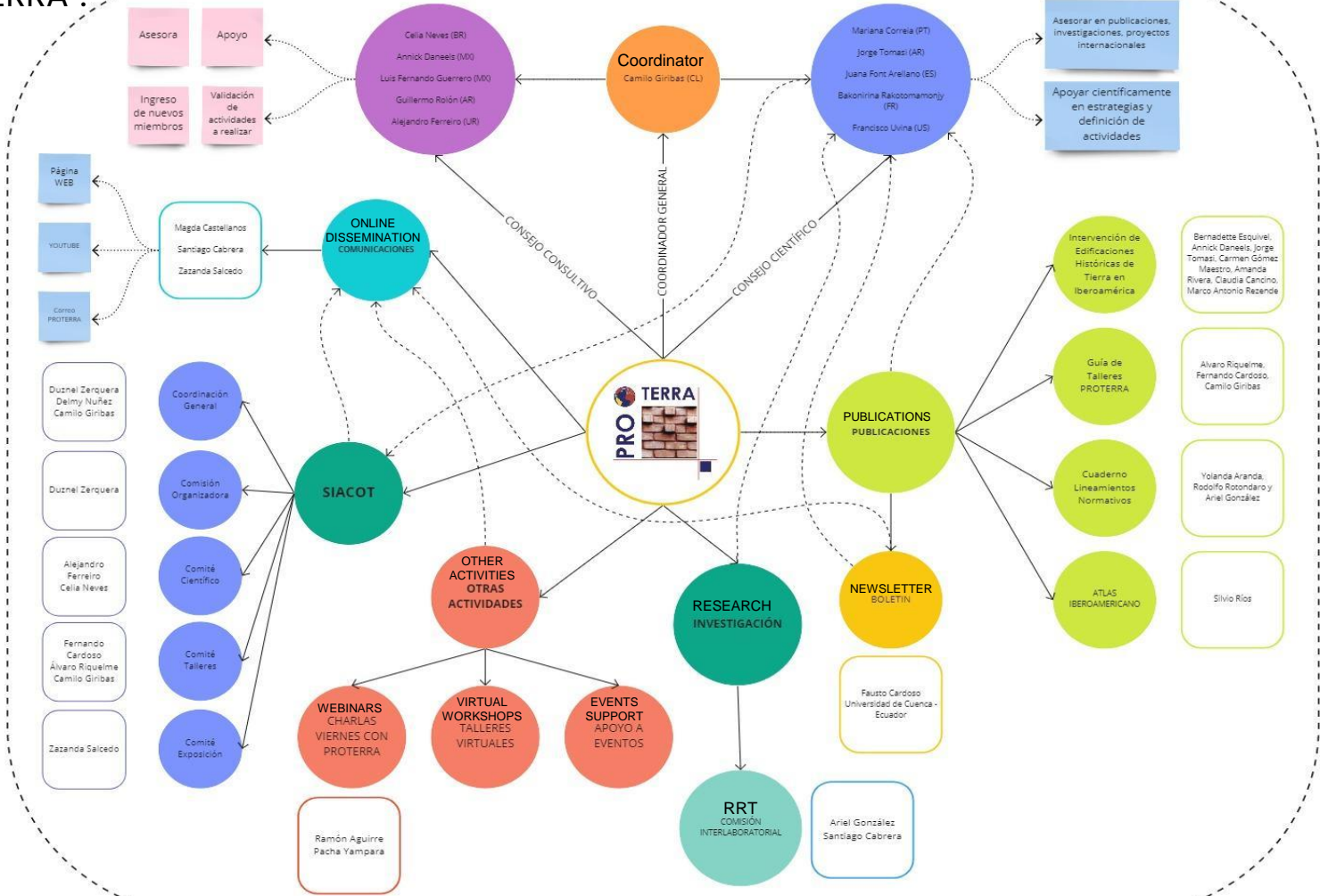
4 Associated networks

Oficial languages:  
Spanish and Portuguese

<https://redproterra.org/es/>




# What is PROTERRA ?



# What is PROTERRA doing ? SIACOT – International Seminars on Architecture and Construction with Earth

ANAIS

1 Seminário Ibero-Americano de Construção com Terra



16 a 18 de Setembro de 2002  
SALVADOR – BAHIA – BRASIL

ACTAS DEL II SEMINARIO IBEROAMERICANO DE CONSTRUCCIÓN CON TIERRA

ESCUELA TÉCNICA SUPERIOR DE ARQUITECTURA DE MADRID  
18 Y 19 DE SEPTIEMBRE DE 2003



PROYECTO PROTERRA - CYTID  
CENTRO DE INVESTIGACIÓN DE ARQUITECTURA TRADICIONAL (CIAT)

|              |           |                       |           |
|--------------|-----------|-----------------------|-----------|
| PRESENTACIÓN |           | CONFERENCIA INAUGURAL |           |
| 1ª SESIÓN    | 2ª SESIÓN | 3ª SESIÓN             | 4ª SESIÓN |

El Seminario Iberoamericano de Construcción con Tierra  
Escuela Técnica Superior de Arquitectura de Madrid (18 y 19 de septiembre de 2003)

3er Seminario Iberoamericano de Construcción con Tierra  
SIACOT

LA TIERRA CRUDA EN LA CONSTRUCCIÓN DEL HÁBITAT

MEMÓRIA

PROTERRA  
Proyecto XIV.9

CRÍATTC  
FAU - UNT

DEL 10 DE SEPTIEMBRE AL 12 DE OCTUBRE DE 2004



IV SEMINÁRIO IBERO-AMERICANO DE ARQUITETURA E CONSTRUÇÃO COM TERRA


III SEMINÁRIO ARQUITECTURA DE TERRA EM PORTUGAL

**MEMÓRIAS**

7-12 outubro 2005  
Monsaraz, Portugal

V SIACOT  
V Seminario Iberoamericano de Construcción con Tierra

INCHUSA - CRICIT - MENDOZA - ARGENTINA



16 al 18 de Junio de 2006

1º SIACOT  
I Seminario Argentino de Arquitectura y Construcción con Tierra


CONSTRUIR CON TIERRA, AYER Y HOY

## TerraBrasil 2008



VII Seminário Iberoamericano de Construção com Terra  
II Congresso de Arquitetura e Construção com Terra no Brasil

VIII SEMINARIO IBEROAMERICANO DE CONSTRUCCIÓN CON TIERRA



III SEMINARIO ARGENTINO DE ARQUITECTURA Y CONSTRUCCIÓN CON TIERRA

ARQUITECTURA DE TIERRA Y HÁBITAT SOSTENIBLE

CRÍATTC - FAU - UNT  
8 al 10 de Junio de 2009  
Tucumán - Argentina

6º SEMINÁRIO ARQUITECTURA DE TERRA EM PORTUGAL

9º SEMINÁRIO IBERO-AMERICANO DE ARQUITETURA E CONSTRUÇÃO COM TERRA

**MEMÓRIAS**

20-23 fevereiro 2010  
Coimbra, Portugal




10º seminario iberoamericano de arquitectura y construcción con tierra

8 al 11 de noviembre - Salto  
12 y 13 de noviembre - Canelones-Maldonado  
Universidad de la República  
Facultad de Arquitectura  
2010-URUGUAY

OPCIONAL Maldonado, sábado 13 de noviembre:  
visitas a obras + exposición + conferencias


X SIACOT URUGUAY




TERRA 2012 | 12th SIACOT PROCEEDINGS

11th International Conference on the Study and Conservation of Earthen Architectural Heritage  
12th SIACOT Ibero-American Seminar on Earthen Architecture and Construction


Edited by:  
Mariana Correla, Pamela Jerome  
Marcial Bondet, Maddalena Achenza



**28 al 30 AGOSTO 2013**  
Centro de Extensión Duoc UC, Edificio Covadonga, Valparaíso.



**13° SIACOT Valparaíso-Chile**  
Material Universal, Realidades Locales  
13° Seminario Iberoamericano de Arquitectura y Construcción en Tierra (SIACOT)



**Duoc UC**  
ICOMOS Chile  
PCV

Facebook: [www.facebook.com/siacotchile2013](https://www.facebook.com/siacotchile2013)  
Twitter: [www.twitter.com/siacotchile2013](https://twitter.com/siacotchile2013)  
Website: [www.siacotchile2013.cl](http://www.siacotchile2013.cl) | Email: [contacto@siacotchile2013.cl](mailto:contacto@siacotchile2013.cl)



**PRO TERRA**

## ARQUITECTURA DE TIERRA: PATRIMONIO

y sustentabilidad en regiones sísmicas

14° Seminario Iberoamericano de Arquitectura y Construcción con Tierra (SIACOT), San Salvador, El Salvador, Centro América

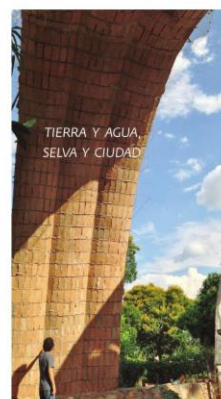


**tierra. sociedad. comunidad**  
15° Seminario Iberoamericano de Arquitectura y Construcción con Tierra  
Cuenca - Ecuador, Noviembre 2015

**SIACOT - ECUADOR**

**PRO TERRA**

Asociación de Tierra  
FLUC



TIERRA Y AGUA, SELVA Y CIUDAD

Seminario Iberoamericano de Arquitectura y Construcción con Tierra  
**24 al 28 OCTUBRE**  
Asunción 2016

**16° SIACOT** ASUNCIÓN 2016



**SIACOT COLOMBIA 2023**

Seminario Iberoamericano de **Arquitectura y Construcción con Tierra**


**9-12 NOVIEMBRE**  
**BOGOTÁ TIBASOSA**

## 17° SIACOT Tierra Identidades

Seminario Iberoamericano de Arquitectura y Construcción con Tierra

**Memorias**

Colaboran:  
Celia Nevea  
Zorandeo Salcedo Guzmán  
Cecilia Borgez Fariña



**PRO TERRA**  
**ip**  
**CDA**  
**OMA**  
**TERRA**



**SIACOT 2018**  
Tierra, Cultura, Hábitat Resiliente y Desarrollo Sostenible

**18° Seminario Iberoamericano de Arquitectura y Construcción con Tierra**

Organizado por la Red Iberoamericana PROTERRA y el Centro de Investigación e Ingeniería de la Universidad de San Carlos de Guatemala

**CONFERENCIAS**

- Investigación, construcción e intervención en zonas sísmicas.
- Formación y transferencia de tecnología de construcción con tierra
- Material tierra y culturas constructivas
- Arquitecturas contemporáneas en tierra resiliente y sostenible
- Patrimonio y conservación de las construcciones con tierra

**TALLERES**

- Identificación de tierras
- Adobe
- Bloques
- Tapal
- Revestimientos
- Pinturas
- Tierra vertida

**22 OCT.**  
La Antigua, Guatemala

[www.instagram.com/proterra](https://www.instagram.com/proterra) | [www.facebook.com/proterra](https://www.facebook.com/proterra) | [www.twitter.com/proterra](https://www.twitter.com/proterra) | [www.proterra.org](https://www.proterra.org)

## 19° SIACOT VOLVER VII a la TIERRA

2019 Oaxaca, México del 15 al 18 de octubre

Conservación sostenible del paisaje: Tierra y Agua

**40 CONFERENCIAS**

**16 TALLERES**

Asociado por la Red Iberoamericana PROTERRA y organizado por el Instituto de Biotecnología y Tecnología Regional del Estado de Oaxaca, México

## 20° SEMINARIO IBEROAMERICANO DE ARQUITECTURA Y CONSTRUCCIÓN CON TIERRA (20° SIACOT)

REVIVE LA TIERRA

El encuentro en Trinidad, Cuba del 4 al 9 de abril de 2022

Asociado por la Red Iberoamericana PROTERRA y ORGANIZADO POR LA SECRETARÍA DEL GOBIERNO DE LA CIUDAD DE TRINIDAD Y EL VALLE DE LOS ENRIQUETES, CUBA, CON COORDINACIÓN DE BARRIO, CALABAZA, MÉDICO, BARRIO Y BARRIO

Cooperativa Nacional de Artes e Iniciativas del Comercio mediante Centros de Investigación, Creación Artística e Innovación 2012-2014

Escuela Taller de Colombia

**CONFERENCIAS**

- VIDA
- Cultura
- Centro Cultural
- Misereor
- UNIVERSIDAD DEL BARRIO
- ARQUITECTURA Y CONSTRUCCIÓN CON TIERRA
- ARQUITECTURA
- ICSA Regional Bogotá
- ICSA Regional Santander
- Cooperativa de Estudios Urbanos CUESCA
- PRO TERRA
- Escuela Taller de Bogotá
- UNIVERSIDAD NACIONAL DE COLOMBIA

## 22nd SIACOT - La Serena, Chile - November 2024

<https://redprotterra.org/es/22-siacot/>





What is PROTERRA doing? **Publications** → <https://redproterra.org/es/publicaciones-proterra/>

2005



2009



**Glossary** → <https://redproterra.org/es/terminologia/>

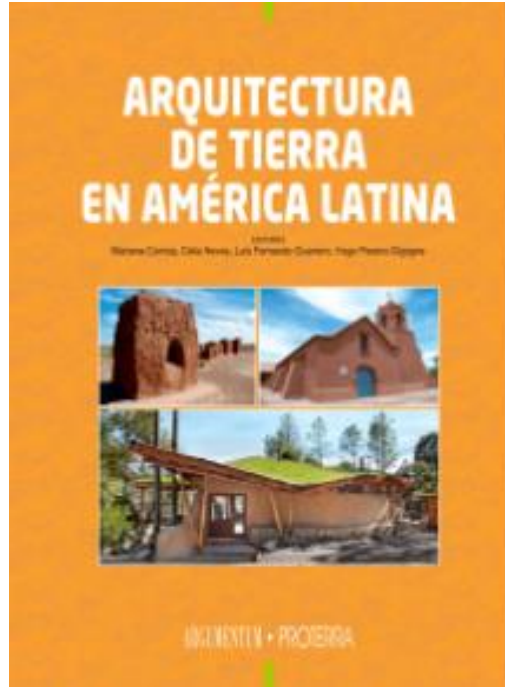
2002/2003



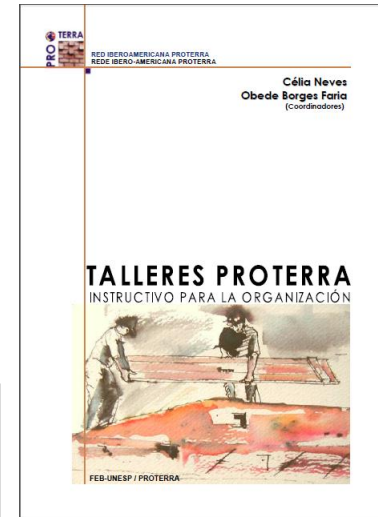
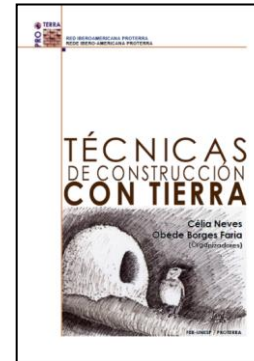
2015 - actual



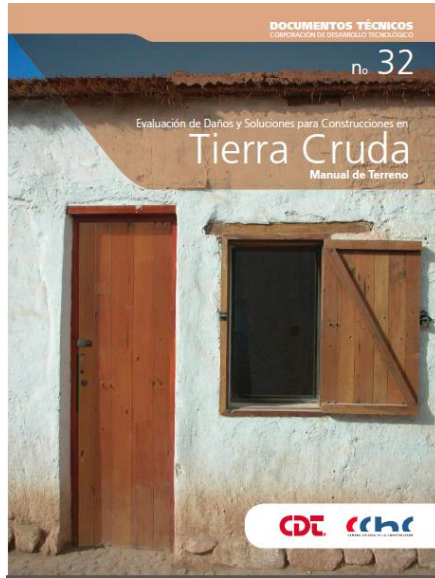
2016



2011



2012



2019





**BOLETIM 11 ANO 2006**  
Jan/Jun 2006

**EDITORIAL**

O PROTERRA está em fase de transição: concluiu sua etapa de Projeto de Investigação do CYTED – Programa de Ciência e Tecnologia para o Desenvolvimento, mas segue como a Rede Ibero-americana PROTERRA. Este número traz notícias de eventos realizados em Venezuela, Uruguay e Colômbia, ainda como PROTERRA/CYTED, e, já como REDE, do VI SIACOT em Argentina. Informa também os próximos eventos programados em Brasil e Nicarágua.

E mais, o Boletim informa várias atividades que estão desenvolvendo seus integrantes: investigações, projetos e construções, e cursos de pós-graduação.

Nas seções Aconteceu e Acontece, registram-se eventos em que participam membros de PROTERRA, principalmente como palestrantes ou professores, e outros eventos de nosso interesse.

Neste Boletim, constata-se atividades em quase todos os países Ibero-americanos e, em algumas seções, os planos que de concretizam para o futuro de PROTERRA.

Nada disso poderia acontecer se não fosse este grupo de profissionais e instituições que acreditam e, voluntariamente, trabalham para o avanço da tecnologia e Implantação da Arquitetura e Construção com Terra em Ibero-América. É importante: PROTERRA continua a crescer: novos profissionais e instituições vão se integrando continuamente a PROTERRA, como se registra na seção Jefecca informa.

Salvador, julho 2006  
Celia Martins Neves  
Coordenação PROTERRA  
cneves@superig.com.br

**Nicarágua 2006**

Dulce Guillén e Andrés Escudero, membros do Proterra, **INVUR** e Sofonias, instituições amigas do Proterra, e mais quatro universidades nicaragüenses programam a realização de um Workshop sobre Arquitetura e Construção com Terra durante a II Feria de Arquitectura Rural, que será realizada de 23 a 27 de outubro. Em seguida, se programa uma reunião sobre normas de terra, coordenada por Kurt Rininger, coordenador do Grupo Sofonias.

Dulce (ramdul@bw.com.ni) convida todos proterras a participarem destas atividades

**TerraBrasil 2006**  
Novembro 2006  
Ouro Preto, Minas Gerais, Brasil  
Leia mais na página 8  
**¡¡¡ VAMOS PARTICIPAR!!!**

1



**BOLETÍN 62**  
OCTUBRE - DICIEMBRE 2019



**Artículos y noticias de los miembros de la Red Iberoamericana PROTERRA de:**  
México, Bolivia, Portugal, Colombia, Uruguay, Brasil, Ecuador, Nicaragua, Argentina, Guatemala, Chile, España.  
[www.redproterra.org](http://www.redproterra.org)

1

# Viernes de charlas con PROTERRA

Conversaciones con conferencistas de Iberoamérica



Rosario Etchebarne  
Arquitecta Uruguaya  
<http://www.tierraalsur.com/>



Arquitecta Lourdes Abad Rodas  
Arquitecta Ecuatoriana



Pacha Yampara Blanco Arq. MSc.  
Bolivia



Camilo Giribas C.  
Arquitecto Chileno



Rodolfo Rotondaro  
Argentina



Alejandro Ferreiro  
Arquitecto Uruguayo



Nancy Camacho  
Arquitecta Colombiana



Pilar Díez Rodríguez  
Arquitecta Española



Dulce María Guillén Valenzuela  
Arquitecta Nicaragüense

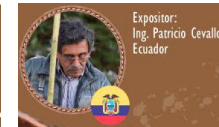


Mariana Correia  
Arquitecta portuguesa



Natalia Jorquera  
Arquitecta chilena

## Conferencias organizadas pela Universidad Mayor de San Andrés, La Paz, Bolivia



Apart from SIACOT's, which always include workshops and visits to earth constructions, partners organize hands-on workshops, expositions, visits, round robin tests



## How to become a member of PROTERRA ?

<https://redproterra.org/es/candidatura/>

According to the Statute of PROTERRA, the candidate interested in joining PROTERRA must share the mission of the Network and demonstrate having international experience on earth construction and architecture, especially in the area of Ibero-America

The candidate person or institution must submit their application to the PROTERRA Coordination Camilo Giribas (info@redproterra.org):

- Referring to the most important activities that he/she has carried out or currently carries out in the field of architecture and construction with earth
- Mentioning the reasons why running as a candidate and how foresees the contribution to the Network
- Indicating the name of a PROTERRA member who supports the candidacy
- Attaching the CV

After acceptance, there is no fee for the voluntary work but effective contribution is requested !





**Thank you for your attention!**

[paulina.faria@fct.unl.pt](mailto:paulina.faria@fct.unl.pt)

[info@redproterra.org](mailto:info@redproterra.org)